

FILE

EXETER

ASSOCIATES, INC.

CONSULTING ECONOMISTS

10480 Little Patuxent Parkway

Suite 300

Columbia, Maryland 21044

(410) 992-7500

(410) 992-3445 FAX

jmierzwa@exeterassociates.com

Thomas S. Catlin
Steven L. Estomin
Dwight D. Etheridge
Jerome D. Mierzwa
Christina R. Mudd
Kevin L. Porter

REF: 3544

December 8, 2015

Mr. Roger Sarver
Public Utilities Commission of Ohio
180 East Broad Street, 3rd Floor
Columbus, Ohio 43215-3793

Re: Duke Energy Ohio, Inc.
Management and Performance Audit of
Gas Purchasing Practices and Policies
Case No.15-218-GA-GCR

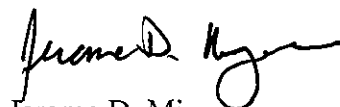
RECEIVED-DOCKETING DIV
2015 DEC -9 PM 2:37
PUCO

Dear Mr. Sarver:

Enclosed are four bound copies and one unbound copy of our report on the management and performance audit of Duke Energy Ohio's gas procurement practices and policies for the audit period September 2012 through August 2015. Our report consists of six chapters addressing various aspects of our audit. Our conclusions and recommendations are provided in separate sections at the end of each chapter and are also presented in the Executive Summary at the front of our report. Our workpapers are provided, as required.

We appreciate the opportunity to have conducted this audit and to be of service to the Commission Staff.

Very truly yours,



Jerome D. Mierzwa
Vice President

JDM/cc

Enclosures

This is to certify that the images appearing are an
accurate and complete reproduction of a case file
document delivered in the regular course of business.
Technician MN Date Processed DEC 09 2015

**REPORT TO THE
PUBLIC UTILITIES COMMISSION OF OHIO
on the
MANAGEMENT AND PERFORMANCE AUDIT
OF GAS PURCHASING PRACTICES AND POLICIES OF**



DUKE ENERGY OHIO, INC.

CASE NO. 15-218-GA-GCR

DECEMBER 2015

Prepared by:

EXETER

ASSOCIATES, INC.

10480 Little Patuxent Parkway, Suite 300
Columbia, Maryland 21044

TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	v
1. INTRODUCTION	1
1.1 Corporate Affiliations and Ownership	1
1.2 Structure of Audit Report	2
2. BACKGROUND DESCRIPTION AND OVERVIEW	4
2.1 Duke Energy Ohio, Inc.	4
2.2 Markets Served by Duke Energy Ohio	8
2.3 GCR Rate Comparison	11
3. MANAGEMENT AND ORGANIZATION	13
3.1 Gas Resources	13
3.2 Gas Supply Planning Committees and Groups	15
3.3 Affiliates Engaged in the Sale of Gas in Ohio	15
3.4 FERC Participation	16
3.5 Conclusions and Recommendations	18
3.5.1 Organizational Structure	18
3.5.2 Affiliate Relationships	18
3.5.3 FERC Participation	18
3.5.4 KO Transmission FERC Base Rate Case	18
3.5.5 KO Transmission Capacity Entitlements	19
4. GAS SUPPLY PLANNING	20
4.1 Overview and Summary of Audit Period Capacity and Gas Supply Resources	20
4.2 Detail of Audit Period Capacity and Gas Supply Arrangements	25
4.2.1 Firm Transportation Service	25
4.2.2 Peaking Service	29
4.2.3 Storage Service	31
4.2.4 Asset Management Agreements	33
4.2.5 Gas Supply Arrangements	34
4.2.6 Local Ohio Production	37
4.3 Percentage of Income Payment Program Customers	37
4.4 Balance of Capacity Resources and Requirements	38
4.4.1 Design Day Capacity Resources and Requirements	38
4.4.2 Winter Season Capacity Resources and Requirements	41
4.4.3 Annual Capacity Resources and Requirements	42

TABLE OF CONTENTS (cont'd)

	<u>Page</u>
4.4.4 Load Duration Curve	42
4.5 Diversification of Capacity and Gas Supply Resources	44
4.6 Continuation of Merchant Function.....	45
4.7 Conclusions and Recommendations	46
4.7.1 Interstate Pipeline Capacity Entitlement Changes	46
4.7.2 Citygate Purchases	46
4.7.3 Design Day Forecast Model.....	46
4.7.4 Design Day Coverage	47
4.7.5 Day Prior and Day After Planning.....	47
4.7.6 Propane Capacity Analysis	48
5. AUDIT PERIOD CAPACITY UTILIZATION AND PROCUREMENT ACTIVITY	49
5.1 Summary of Purchases	49
5.2 Capacity Utilization and Gas Supply Procurement Strategy	50
5.3 Gas Price Volatility Mitigation – Hedging Plan	53
5.4 Storage, Peaking, and Propane Operations	54
5.5 Capacity Release and Off-System Sales Activities	57
5.6 Gas Price Locational Differentials.....	57
5.7 Lost-and-Unaccounted-for and Company-Use Gas.....	59
5.8 Conclusions and Recommendations	61
5.8.1 Audit Period Purchases	61
5.8.2 Lost-and-Unaccounted-for Gas	61
6. TRANSPORTATION SERVICE.....	63
6.1 Firm Transportation	63
6.1.1 Background and Participation.....	63
6.1.2 Rate Schedules	65
6.1.3 Capacity Assignment and Propane Facilities.....	65
6.1.4 Deliveries by Suppliers	68
6.1.5 Balancing Requirements	68
6.1.6 Imbalance Resolution.....	70
6.1.7 Operational Flow Orders.....	70
6.1.8 Gas Firm Equations and Monitoring of Imbalances	72
6.2 Interruptible Transportation Service	72
6.2.1 Background	72

TABLE OF CONTENTS (cont'd)

	<u>Page</u>
6.2.2 Balancing Requirements	73
6.2.3 Negotiated Rate Customers and Curtailment.....	74
6.3 Audit Period Imbalances.....	75
6.3.1 Firm Transportation Imbalances	75
6.3.2 Interruptible Transportation Imbalances	75
6.4 Electric Department	75
6.5 Conclusions and Recommendations	78
6.5.1 Capacity Assignment	78
6.5.2 Enhanced Firm Balancing Service.....	78
6.5.3 Interruptible Transportation Service	78
APPENDIX A Audit Period Purchased Gas Activity	
APPENDIX B Scope of Work Company-Specific Audit Requirements	

LIST OF TABLES

	<u>Page</u>
Table 1. Summary of 2014 System Throughput	9
Table 2. Annual Throughput, Customer, and Consumption Statistics.....	10
Table 3. Operating and Weather Statistics.....	11
Table 4. Comparison of DE-Ohio GCR Rates and SSO Rates of Other Major Ohio Utilities.	12
Table 5. Summary of Firm Capacity Contracts	24
Table 6. Summary of Firm Maximum Daily Quantity Contract Changes.....	24
Table 7. Summary of Term Gas Supply Maximum Daily Contract Quantities.....	36
Table 8. Design Day Requirements and Capacity Resources.....	40
Table 9. Comparison of Projected and Actual Peak Day Demands.....	41
Table 10. Summary of Audit Period Purchases by Source	49
Table 11. Utilization of Firm Transportation Capacity.....	50
Table 12. Summary of Actual Peak Day Requirements and Supplies.....	51
Table 13. Summary of Audit Period Storage Activity.....	56
Table 14. Comparison of First-of-the-Month Published Index Prices.....	58
Table 15. Summary of Deliveries by Transportation Customers by Source	64
Table 16. Hypothetical Comparison of Capacity Assignment.....	66
Table 17. Summary of Firm Transportation Customer Balancing Activity	76
Table 18. Summary of Interruptible Transportation Customer Balancing Activity	77

LIST OF FIGURES

	<u>Page</u>
Figure 1. DE-Ohio System Map.....	5
Figure 2. Organizational Structure of Midwest Delivery and Gas Operations (September 2012)	13
Figure 3. Organizational Structure of Midwest Delivery and Gas Operations (August 2015)..	14
Figure 4. Load Duration Curve	43

EXECUTIVE SUMMARY

Exeter Associates, Inc. (Exeter) was selected by the Public Utilities Commission of Ohio (PUCO or Commission) through a request for proposal (RFP) to perform a management performance audit of the gas purchasing practices and policies of Duke Energy Ohio, Inc. (DE-Ohio or Company) for the period September 2012 through August 2015 (audit period). The conclusions and recommendations from Exeter's audit are summarized below.

ES-1. Organizational Structure

Exeter's audit revealed no concerns with respect to the organizational structure of DE-Ohio or Duke Energy Corporation that would interfere with the purchase of reliable supplies of gas at minimum prices.

ES-2. Affiliate Relationships

Exeter's audit revealed no concerns with respect to the relationships and transactions between DE-Ohio and Duke Energy Kentucky, Inc. (DE-Kentucky), or DE-Ohio's relationship with Duke Energy Retail (DE-Retail) which was also engaged in the sale of gas in Ohio during the audit period.

ES-3. FERC Participation

DE-Ohio's Federal Energy Regulatory Commission (FERC) intervention policy is consistent with a reasonable level of participation at a reasonable resource effort. Audit period participation in FERC proceedings was appropriately based on DE-Ohio's intervention policy.

ES-4. KO Transmission FERC Base Rate Case

Gas Resources is the organizational entity with primary responsibility for the gas procurement at DE-Ohio. Personnel in DE-Ohio's Gas Resources group are also responsible for managing the operations, billing, and FERC regulatory activities of KO Transmission, DE-Ohio's wholly-owned subsidiary. It is anticipated that in 2016, KO Transmission will file a base rate increase with the FERC to recover its share of the costs associated with the E-System Project. When this rate case is filed, DE-Ohio and KO Transmission will each be required to represent their own interests in KO Transmission's proceeding. Since the Gas Resources personnel at DE-Ohio are the same personnel responsible for KO Transmission's FERC activities, this will create a conflict of interest.

DE-Ohio currently pays KO Transmission approximately \$800,000 per year for transportation services, and it is estimated that these costs will increase by \$7.2 million when KO Transmission files with the FERC to recover its share of E-System Project costs. When KO Transmission makes its base rate filing, DE-Ohio should file a report with PUCO Staff identifying the estimated increase that may result for the Company, and explain how DE-Ohio intends to address the conflict of interest. DE-Ohio's plan should take into consideration the amount of the proposed increase, the expected benefits associated with DE-Ohio's intervention efforts, and the level of resources required to support those efforts. It is Exeter's experience that FERC Staff will adequately address any revenue requirement issues that may arise in the case, and that DE-Ohio may be required to address any rate design or cost allocation issues that may arise. DE-Ohio's participation and intervention activities in KO Transmission's FERC base rate case should be thoroughly reviewed by the auditor in the Company's management performance audit following the case.

ES-5. KO Transmission Capacity Entitlements

DE-Ohio currently reserves 184,000 Dth per day of KO Transmission firm transportation capacity. KO Transmission's rates for firm transportation service will increase significantly as a result of the E-System Project. In light of this increase, DE-Ohio should reevaluate whether its current KO Transmission capacity entitlements are reasonable, and adjust those entitlements as appropriate.

ES-6. Interstate Pipeline Capacity Entitlement Changes

DE-Ohio made a number of changes to its interstate pipeline capacity entitlements during the audit period and was able to negotiate discounted rates under several contracts. These entitlement changes and discounts provide a significant benefit to GCR customers, and Exeter's audit found these contract entitlement changes to be reasonable.

ES-7. Citygate Purchases

In November 2014, DE-Ohio discovered that due to fewer suppliers participating in its firm transportation program electing Enhanced Firm Balancing Service (EFBS) and an increase in the number of customers participating in its firm transportation program, the Company did not maintain sufficient firm interstate pipeline transportation capacity to meet the requirements of its GCR customers and to manage storage inventory balances. This firm transportation capacity deficiency became evident when it became necessary for the Company to make citygate gas supply purchases to reduce the rate of storage withdrawals and effectively manage storage inventory balances within the FERC tariff requirements of DE-Ohio's interstate pipeline storage

service providers. To address the deficiency, DE-Ohio filed an application with the PUCO to make EFBS mandatory for suppliers serving customers with aggregate maximum daily demands greater than or equal to 20,000 Dth per day (Case No. 15-50-RDR). As a result of not maintaining sufficient firm interstate transportation capacity to effectively manage storage and lower the rate of storage withdrawals, DE-Ohio was required to make citygate gas purchases of 2,332,628 Dth during the winter of 2014-2015.

DE-Ohio should have recognized that it did not maintain sufficient firm interstate transportation capacity before it actually became necessary to make citygate purchases to meet GCR customer requirements and manage storage inventory balances. The purchase of citygate gas supplies could have had a significant adverse impact on the gas costs of GCR customers.

Assessing the impact of DE-Ohio's citygate purchases on the gas costs of GCR customers during the winter of 2014-2015 requires reliance on a set of uncertain assumptions. The determination of whether DE-Ohio's citygate purchases had either an adverse or beneficial impact on the gas costs of GCR customers is contingent upon the particular set of assumptions utilized. Regardless of the set of reasonable assumptions relied upon, the likely impact of DE-Ohio's citygate purchases was not significant, regardless of whether those impacts were positive or negative.

ES-8. Design Day Forecast Model

A Company-specific requirement of the audit is to review DE-Ohio's annual comparisons of its actual peak day demands with the demand estimates of Load Forecasting's design day model using actual observed peak day weather data and the use of these annual comparisons to refine the design day model. Exeter's audit revealed that DE-Ohio did not compare actual peak day demands with the demand estimates of Load Forecasting's design day model using actual weather to refine its model. This was because the design day model currently used by Load Forecasting relies upon monthly rather than daily data. DE-Ohio has indicated that Load Forecasting has recently acquired software that will enable the Company to develop a design day model that utilizes daily data. Once the daily design day model is developed and determined to be effective, DE-Ohio has indicated the Company will perform annual comparisons of forecasted and actual demands to refine its model. Exeter believes that a switch to using daily data to develop the Company's design day forecasts is long overdue. The current model that relies upon monthly data has not proven to be sufficiently accurate.

ES-9. Design Day Coverage

A Company-specific requirement of the audit is to examine DE-Ohio's evaluation of its

design day coverage used for capacity planning to determine the optimal level of coverage, taking into consideration new capacity options that became available during the audit period. Exeter's audit found that DE-Ohio utilized an expected value analysis to determine the optimal level of design day coverage. This analysis compared the incremental costs associated with various design day coverage levels (95 to 99 percent) with the expected value of the adverse consequences of not being covered at that particular coverage level. The Company's analysis indicated that the optimal design day coverage level was 99 percent. This result was attributable to the low cost associated with incremental capacity and the significant adverse consequences of failing to cover design day requirements. Exeter concurs with DE-Ohio's analysis.

ES-10. Day Prior and Day After Planning

A load duration curve that compares the expected daily firm service requirements of a utility's customers with the utility's capacity resource portfolio provides an indication of the reasonableness of that portfolio. Included in DE-Ohio's load duration curve is the projected design day demand. The prior audit noted that in its load duration curve, DE-Ohio assumed that a percentage of the design day demand would be experienced on the days leading up to, and following, the design day. These percentages were not supported by any analysis, and the prior audit noted that the percentages appeared inconsistent with actual weather experience. The prior audit recommended that DE-Ohio analyze its day prior and day after percentages based on actual temperatures to develop more reasonable criteria. DE-Ohio's analyses indicated that the prior day and day after design day percentages relied upon by the Company were reasonable. Exeter agrees with DE-Ohio's findings.

ES-11. Propane Capacity Analysis

The Company's Dicks Creek Plant propane facility is no longer operational due to a geological failure at the Todhunter Propane Cavern. The Eastern Avenue and Erlanger Plant propane facilities are presently operational. However, the potential exists for these facilities to also become unavailable. DE-Ohio should assess the potential for this to occur and evaluate and determine its optimal interstate pipeline capacity portfolio if this were to occur. The Company's assessment and evaluation should be considered in any future decisions to adjust its interstate pipeline contract storage capacity entitlements. This is because it is unlikely that any storage turned back by DE-Ohio could be reacquired in the future.

ES-12. Audit Period Purchases

DE-Ohio's gas procurement strategy is to, within operating and contractual constraints, maximize deliveries from its lowest-cost source of supply. DE-Ohio's audit period gas supply

purchases were consistent with this strategy.

ES-13. Lost and Unaccounted-for Gas

A Company-specific requirement of the audit was to review DE-Ohio's findings regarding the increase that occurred in LUFG for the 12 months ended June 30, 2012. DE-Ohio formed a measurement committee to investigate the increase in LUFG. The committee found that DE-Kentucky's LUFG calculations for the period should be adjusted to correct for measurement errors. These measurement errors had no impact on DE-Ohio's LUFG calculation. The committee concluded that the increase in LUFG for the 12 months ended June 30, 2012 was attributable to normal variations in LUFG, and that LUFG for the period was not inconsistent with historical experience. Exeter concludes that the Company has adequately addressed the increase in LUFG for the 12-month period ended June 30, 2012.

ES-14. Capacity Assignment

DE-Ohio's capacity assignment procedures provide for the assignment of interstate pipeline firm transportation capacity effective each November 1 and April 1 based on a supplier's aggregate customers' demands at the end of the previous September and February, respectively. The City of Cincinnati established a municipal aggregating program for its citizens and small businesses and switched to firm transportation service in October 2012. As a result, the supplier serving the City of Cincinnati's aggregation program (DE-Retail) was able to avoid an assignment of capacity effective November 1, 2012, and DE-Ohio was left with unneeded capacity.

The costs associated with the unneeded capacity were recovered entirely from GCR customers. DE-Ohio's Contract Commitment Cost Recovery Rider (Rider CCCR) was designed to recover a portion of the costs associated with unneeded interstate pipeline capacity incurred to serve GCR customers that have elected to switch to transportation service. Exeter's audit finds that a portion of the costs associated with the unneeded capacity should have been recovered under Rider CCCR rather than through the GCR. Exeter recommends that \$237,245 of the costs associated with the unneeded capacity be removed from the GCR and recovered under Rider CCCR. Exeter also recommends that DE-Ohio should investigate modifying its tariff to address the potential for a supplier to avoid the assignment of capacity.

ES-15. Enhanced Firm Balancing Service

In Case No. 15-50-GA-RDR, DE-Ohio filed an application to make EFBS mandatory for suppliers serving customers with aggregate maximum daily demands greater than or equal to

20,000 Dth/day. DE-Ohio claimed that under its existing procedures for the assignment of capacity to suppliers and balancing service options, the Company could be left with insufficient firm transportation capacity to manage storage, provide balancing service, and serve its GCR customers. A hearing was held in Case No. 15-50-GA-RDR in August 2015, and the case is currently before the presiding Administrative Law Judge (ALJ).

Exeter's audit confirms that under DE-Ohio's existing capacity assignment procedures and balancing service options, the Company could be left with insufficient firm transportation capacity. This could have an adverse impact on the gas costs of GCR customers. Exeter's audit did not identify any alternatives to DE-Ohio's assignment of storage through EFBS to suppliers that would maintain a balance in the allocation of capacity costs to GCR customers and firm transportation customers.

Among the issues to be resolved in Case No. 15-50-GA-RDR is whether EFBS service should be mandatory for all suppliers or only mandatory for larger suppliers serving customers with aggregate demands in excess of 20,000 Dth/day. Exeter notes that large customers could intentionally reduce the number of customers served in order to avoid being required to subscribe to EFBS. If this were to occur, DE-Ohio could again be left with insufficient firm transportation capacity. The Retail Energy Supply Association (RESA), an intervening party in Case No. 15-50-GA-RDR, proposed that all suppliers with aggregate customer demands in excess of 1,000 Dth/day assist DE-Ohio in managing storage. However, a 1,000 Dth/day threshold could result in disproportionate allocations of storage to smaller suppliers. Since EFBS delivery quantities are based on aggregate daily demand increments of 3,000 Dth, any supplier with aggregate customer demands between 1,000 and 3,000 Dth/day would be allocated 870 Dth/day of EFBS. For a supplier with an aggregate customer demand slightly over 1,000 Dth/day, the allocated EFBS would represent 87 percent of its total aggregate daily demand. Therefore, an aggregate daily demand threshold of 6,000 Dth/day would be more appropriate to avoid both excess allocations of EFBS and *de minimus* allocations of storage to smaller suppliers. This is also consistent with the aggregate daily demand quantity at which capacity is assigned to suppliers under DE-Ohio's firm transportation program.

Approving a lower aggregate daily demand threshold could have a detrimental effect by forcing suppliers of customers with process-only load to subscribe to EFBS. Load for process-only customers is not weather dependent in the same way as heating customer load, and process-only load customers do not necessarily take deliveries on a daily basis. This would make it impractical for suppliers serving process-only load customers to manage EFBS. This could be addressed by including an exemption to mandatory EFBS for suppliers serving process-only load.

DE-Ohio is proposing to implement its proposal to make EFBS mandatory effective April 1, 2016. Whether any modifications are warranted to DE-Ohio's proposal to account for consideration of existing contractual obligations of suppliers will be addressed by the Commission.

Exeter's audit analyzed whether DE-Ohio could serve GCR customers and meet the balancing requirements of its firm customers at a reduced level of storage. This evaluation was based on the winter of 2013-2014 balancing requirements of firm customers which was included in the Company's testimony in Case No. 15-50-GA-RDR. Exeter's analysis indicated that DE-Ohio could potentially reduce current storage levels by 20 percent, serve its GCR customers, and still meet the balancing requirements of its firm customers. This would reduce costs for both GCR and firm transportation customers. Exeter's analysis of storage was based on the usage of EFBS during the winter of 2013-2014 and, therefore, this finding could change once the Commission decides how storage should be assigned in Case No. 15-50-GA-RDR. Exeter recommends that DE-Ohio reevaluate whether it could meet its firm customers' balancing requirements at reduced storage levels once Case No. 15-50-GA-RDR is decided and the assignment provisions of EFBS are determined. Any decision to adjust current storage levels should also consider the results of the Company's capacity portfolio evaluation in the event that its propane facilities are no longer available. As indicated previously, DE-Ohio should not adjust its interstate pipeline contract storage capacity entitlements until the Company has evaluated the changes to its capacity portfolio that would be appropriate if its propane facilities were no longer available.

ES-16. Interruptible Transportation Service

The current terms and conditions of DE-Ohio's interruptible transportation (IT) service provide for monthly balancing and require only a general obligation to daily balancing except on those days when an operational flow order has been issued. DE-Ohio should assess whether adopting daily balancing tolerances for IT service would improve the Company's ability to manage storage and/or reduce its contract storage capacity entitlements.

The rates applicable for interruptible monthly balancing service have remained unchanged for a number of years. The costs associated with the contract storage purchased by the Company to provide balancing services increased during the audit period and are expected to continue to increase as a result of Columbia Gas' Modernization Program. At present rates, IT customers are only responsible for approximately \$325,000 of the total annual demand charges associated with providing balancing service of \$8.5 million, or less than 5 percent. IT customers represent nearly 25 percent of total system throughput. Given the extent to which storage is used

to provide balancing service to IT customers, a more significant contribution toward the recovery of storage demand charges from IT customers would be appropriate.

1. INTRODUCTION

The Public Utilities Commission of Ohio (PUCO or Commission), by journalized entry dated February 25, 2015, ordered a management performance audit of the gas purchasing practices and policies of Duke Energy Ohio, Inc. (DE-Ohio or Company). Management performance audits ordered by the Commission are designed to review a local gas distribution company's (LDC's) management policies, organizational structures, and operational procedures, and to determine the LDC's effectiveness in providing an adequate and reliable supply of natural gas at minimum prices. Exeter Associates, Inc. (Exeter) was selected by the Commission through a request for proposal (RFP) to perform the management performance audit of DE-Ohio. Subject to review in this audit is the Gas Cost Recovery Rate (GCR) period September 2012 through August 2015 (audit period).¹

Section 1.1 provides an overview of the Company and its relationships with its corporate affiliates. Section 1.2 provides a brief description of the structure of Exeter's audit report.

1.1 Corporate Affiliations and Ownership

Duke Energy Ohio, Inc. is a wholly-owned subsidiary of Cinergy Corporation, which is a wholly-owned subsidiary of Duke Energy Corporation (Duke Energy). DE-Ohio is a combination electric and natural gas public utility that provides service in southwestern Ohio and northern Kentucky through its wholly-owned subsidiary, Duke Energy Kentucky (DE-Kentucky), as well as electric generation service in parts of Ohio, Illinois, Indiana, and Pennsylvania. DE-Ohio's principal lines of business include generation, transmission, and distribution of electricity, and the sale and transportation of natural gas. DE-Kentucky's principal lines of business include generation, transmission, and distribution of electricity, and the sale and transportation of natural gas.

DE-Ohio initially operated under two business segments during the audit period—Regulated Utilities and Commercial Power. Regulated Utilities consists of DE-Ohio's regulated electric and natural gas transmission and distribution systems located in Ohio and Kentucky, including its regulated electric generation in Kentucky. Regulated Utilities plans, constructs, operates, and maintains DE-Ohio's transmission and distribution systems, which generate, transmit, and distribute electric energy to consumers in southwestern Ohio and northern Kentucky. Regulated Utilities also transports and sells natural gas in southwestern Ohio and

¹ DE-Ohio provided retail electric and retail natural gas service in Ohio during the audit period. This audit examines the purchasing practices and policies associated with the provision of retail natural gas service. The purchase of natural gas to support electric operations is not evaluated in this audit except to the extent that it may impact the retail natural gas service provided by DE-Ohio.

northern Kentucky. Substantially all of the operations of Regulated Utilities are regulated. Commercial Power owned, operated, and managed power plants and engaged in the wholesale marketing and procurement of electric power, fuel, and emission allowances related to these plants, as well as other contractual positions. Commercial Power also engaged in the competitive retail sale of electricity and natural gas in Ohio through Duke Energy Retail Sales (DE-Retail). Commercial Power sold its Midwest generation business and DE-Retail to Dynegy, Inc. in April 2015.

Duke Energy is an energy company headquartered in Charlotte, North Carolina. Its regulated utility operations serve 7.3 million customers located in six states in the Southeast and Midwest United States, representing a population of approximately 23 million people. Duke Energy conducts its operations under three business segments: (1) Regulated Utilities; (2) Commercial Power; and (3) International Energy. Regulated Utilities generates, transmits, distributes, and sells electricity in central and western North Carolina, western South Carolina, central, north central, and southern Indiana, and northern Kentucky. Regulated Utilities transmits, distributes, and sells electricity in southwestern Ohio. Regulated Utilities also transports and sells natural gas in southwestern Ohio and northern Kentucky. Duke Energy's Commercial Power and International Energy business segments own and operate diverse power generation assets in North America and Latin America. Duke Energy operates in the U.S. primarily through its direct and indirect wholly-owned subsidiaries: DE-Ohio; DE-Kentucky, which is a subsidiary of DE-Ohio; Duke Energy Carolinas, LLC; Duke Energy Indiana, Inc.; Duke Energy Progress, LLC; and Duke Energy Florida, LLC; as well as in Latin America through Duke Energy International, LLC.

1.2 Structure of Audit Report

Exeter's audit report, which is divided into five additional sections, analyzes, evaluates, and presents specific findings and recommendations with respect to the structure, policies, and procedures of DE-Ohio's gas supply procurement and management functions. With the exception of this introductory section and Section 2, Exeter's conclusions and recommendations are presented at the end of each section, and are summarized in the Executive Summary which precedes this Introduction.

Section 2 of the audit report provides a description of the DE-Ohio system and the natural gas markets it serves. This section includes statistical data identifying the number of customers served, usage by customer class, and other operating information. Also included in Section 2 is a comparison of DE-Ohio's audit period GCR rates with the gas supply commodity charges of the other major LDCs operating in Ohio. Section 3 describes the organization and

management of the gas procurement function at DE-Ohio, and discusses the Company's affiliate relationships and intervention activities at the Federal Energy Regulatory Commission (FERC).

DE-Ohio's gas supply planning is discussed and evaluated in Section 4. This section provides a detailed discussion of the Company's capacity and gas supply arrangements, identifies the changes in those arrangements that occurred during the audit period, and examines the balance between DE-Ohio's capacity and gas supply resources and its firm customers' requirements. Section 4 also addresses DE-Ohio's audit period Asset Management Agreements (AMAs), the diversification of capacity and gas supply resources, and the Company's plans with respect to the continuation of the merchant function.

A discussion and evaluation of DE-Ohio's capacity utilization and gas supply procurement activity during the audit period are presented in Section 5. This discussion focuses on how DE-Ohio used its procurement options to meet the requirements of its customers. The Company's management of gas price volatility and unaccounted-for and company-use gas are also addressed in Section 5.

Section 6 is the final section of the audit report and discusses and evaluates DE-Ohio's firm and interruptible end-user transportation programs. Included in this discussion are the various balancing services offered by DE-Ohio.

2. BACKGROUND DESCRIPTION AND OVERVIEW

The physical and operational characteristics of DE-Ohio's system and the Ohio natural gas markets that it serves are identified in this section. This material serves as a framework for the evaluation of DE-Ohio's natural gas procurement policies and procedures as well as its marketing functions. Also presented in this section is a comparison of DE-Ohio's GCR rates with the gas supply commodity charges of the other major gas utilities operating in Ohio.

2.1 Duke Energy Ohio, Inc.

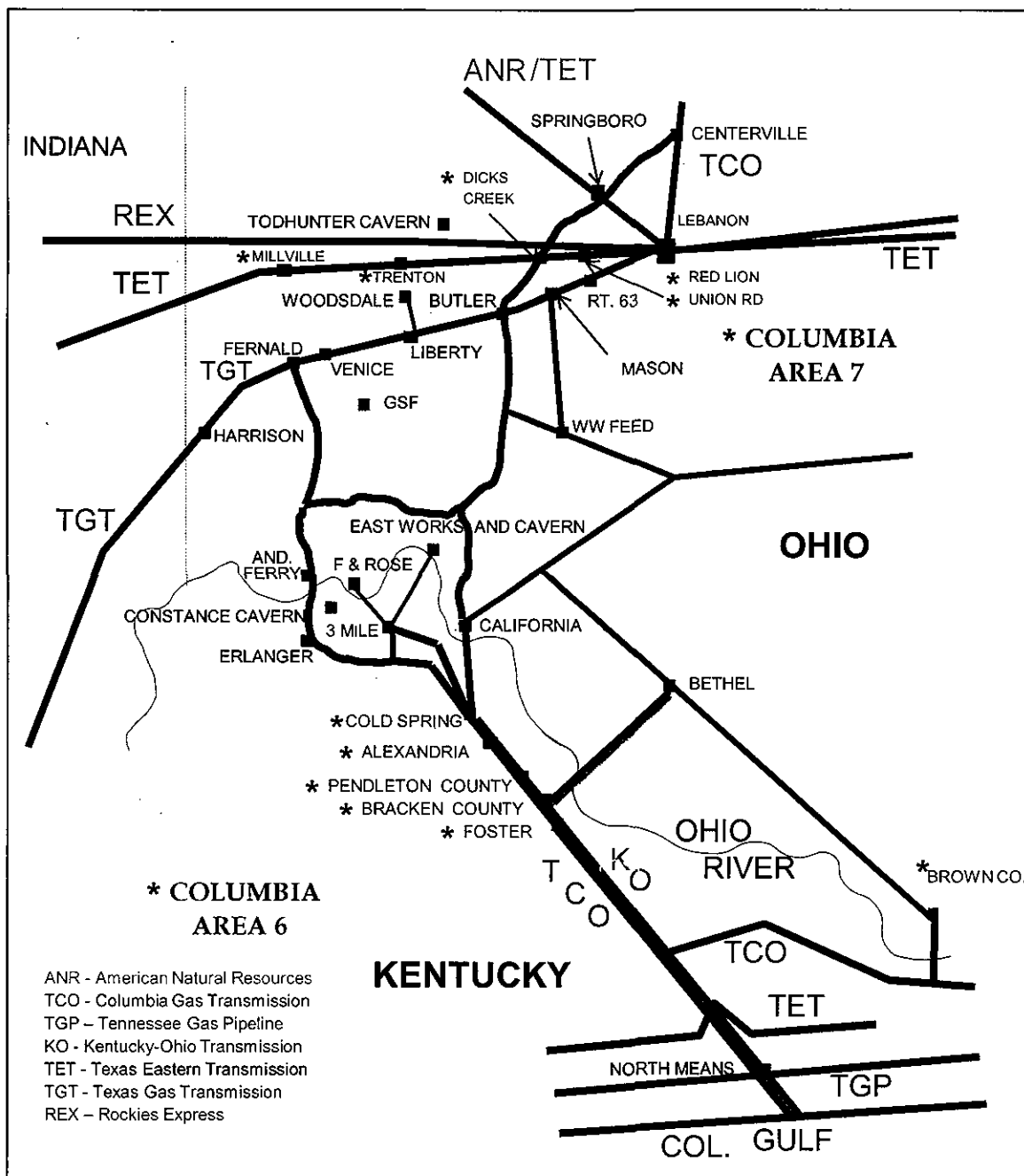
The service territory of DE-Ohio is located in heavily populated southwestern Ohio. The Company's distribution system serves all or portions of Adams, Brown, Butler, Clermont, Clinton, Hamilton, Montgomery, and Warren Counties. Included within this service territory are the municipalities of Cincinnati and Middletown. DE-Ohio's distribution system is physically integrated with that of its subsidiary, DE-Kentucky, which provides natural gas distribution service in Kentucky.

DE-Ohio is centrally located along the major pipeline facilities that link traditional Gulf Coast gas supply production areas with the large northern and northeastern U.S. markets. These pipeline facilities also access the Marcellus Shale production region in the Appalachian Basin which has recently become the largest gas producing area in the United States.² DE-Ohio has access to a number of interstate pipelines which give it some flexibility and diversity in meeting its system requirements. DE-Ohio is interconnected with five interstate pipelines. The Company has interconnects on the northern portion of its system with ANR Pipeline (ANR), Columbia Gas Transmission (Columbia Gas), Texas Eastern Transmission (Texas Eastern), and Texas Gas Transmission (Texas Gas), and interconnects with Columbia Gas and Kentucky-Ohio Transmission (KO Transmission) on the southern portion of its system. DE-Ohio's pipeline interconnects are identified on the system map presented in Figure 1.

On the northern portion of its system, DE-Ohio is interconnected with ANR at the Springboro Station. The Springboro Station is located on the Lebanon Lateral, a 114-mile pipeline that extends from Gas City, Indiana to Lebanon, Ohio. The western segment of the Lebanon Lateral is 100 percent owned and operated by Texas Eastern and extends from an interconnect with Panhandle Eastern Pipe Line (Panhandle) in Gas City, Indiana to Glen Karn, Ohio. The eastern segment of the Lebanon Lateral extends from Glen Karn to Lebanon, Ohio.

² The Marcellus Shale production region stretches across Pennsylvania, West Virginia, southeast Ohio, and Upstate New York.

Figure 1.
DE-Ohio System Map



The eastern segment of the Lebanon Lateral is also operated by Texas Eastern and is owned 50 percent by ANR and 50 percent by Texas Eastern. Because the eastern segment of the Lebanon Lateral is jointly owned by ANR and Texas Eastern, DE-Ohio is also interconnected

with Texas Eastern at the Springboro Station. The quantity of gas that DE-Ohio is able to accept through the Springboro Station is limited due to downstream operational limits.

DE-Ohio has interconnects with Texas Eastern at four additional stations on the northern portion of its system—the Millville, Trenton, Dicks Creek Plant, and Union Road Stations. Gas that is delivered to DE-Ohio through the Texas Eastern pipeline that interconnects with DE-Ohio's system at the Millville, Trenton, and Union Road Stations is delivered on behalf of Columbia Gas. Texas Eastern does not currently deliver gas to DE-Ohio on its own account at these stations. Columbia Gas has a separate arrangement with Texas Eastern for the deliveries of gas to DE-Ohio at these stations. DE-Ohio owns two of the three meters located at the Dicks Creek Plant. This allows DE-Ohio to take deliveries directly from Texas Eastern at the Dicks Creek Plant in addition to those deliveries made on behalf of Columbia Gas.

DE-Ohio's interconnect with Columbia Gas at the Centerville Station on the northern portion of its system is not typically utilized to deliver gas to the DE-Ohio system. Gas is delivered by Columbia Gas to DE-Ohio at Columbia Gas' Red Lion and Springboro Stations, which both serve separate isolated sections of DE-Ohio's system.

DE-Ohio receives gas from Texas Gas at eight stations. Seven of these stations are shown above in Figure 1—Harrison, Fernald, Venice, Butler, Mason, Route 63, and Liberty. The eighth station, Dry Fork, is located near the Harrison Station. The interconnect at the Liberty Station is used exclusively to serve DE-Kentucky's Woodsdale electric generating facility. The Liberty Station does not provide for the delivery of gas to DE-Ohio's gas distribution system.

On the southern portion of its system, with the exception of the Brown County Station interconnect with Columbia Gas which serves an isolated section of DE-Ohio's system, DE-Ohio is physically interconnected only with KO Transmission. KO Transmission was formed in June 1996 when, through a FERC rate case settlement, DE-Ohio acquired a 32.67 percent interest in a 90-mile Columbia Gas system transmission pipeline (referred to as the E-Line). The E-Line extends from the interconnect of KO Transmission, Columbia Gas, and Columbia Gulf Transmission (Columbia Gulf) at South Means, Kentucky, to the distribution systems of DE-Ohio and DE-Kentucky. KO Transmission currently owns 48.77 percent of the transmission pipeline facilities that extend from South Means to the Foster Station, and 100 percent of the E-Line transmission facilities that extend from the Foster Station to the distribution systems of DE-Ohio and DE-Kentucky. Columbia Gas owns the remaining 51.23 percent of the transmission facilities that extend from South Means to the Foster Station. KO Transmission is interconnected with Columbia Gas, Columbia Gulf, and Tennessee Gas Pipeline (Tennessee

Gas), providing DE-Ohio upstream access to these pipelines. DE-Ohio is physically interconnected with KO Transmission at two points of delivery—the California and Bracken County Stations. The Bracken County interconnect serves the Bethel, Ohio area.

DE-Ohio also takes delivery of gas on the southern portion of its system through three points of interconnection with DE-Kentucky (Anderson Ferry, Front & Rose, and Eastern Avenue Stations) under a FERC-approved tariff. These gas supplies are delivered to DE-Kentucky by KO Transmission. In return, DE-Ohio provides DE-Kentucky access to gas supplies delivered by Texas Gas, ANR, or Texas Eastern under a FERC-approved tariff. Deliveries of gas by DE-Ohio to DE-Kentucky are accomplished by displacement.

Difficulties are not encountered in delivering gas to firm customers, provided that gas is delivered to DE-Ohio's system. DE-Ohio does not require or maintain compression to effectuate the delivery of gas on its distribution system.

Deliveries from interstate pipelines serving both the northern and southern portions of the system are required to meet system requirements. During the audit period, approximately 40 to 50 percent of DE-Ohio's system gas supply requirements were required to be delivered to the northern portion of its system, while 50 to 60 percent of supplies were required to be delivered to the southern portion of its system to satisfy system operational requirements.

DE-Ohio does not own or operate any of its own underground natural gas storage facilities. The Company initially owned and operated two propane peaking facilities (Eastern Avenue Plant and Dicks Creek Plant) during the audit period, and had access to gas stored in a propane facility owned by DE-Kentucky (Erlanger Plant). However, the Dicks Creek Plant is no longer in service. Propane for the Dicks Creek Plant was stored at the underground Todhunter Propane Cavern which was operated by Enterprise TE Products Pipeline Company (Enterprise). On December 13, 2013, due to a geological failure at the Todhunter Propane Cavern, Enterprise declared *force majeure* and is no longer able to provide propane for the Dicks Creek Plant.

There were no significant gas supply-related construction activities during the audit period. However, prior to the audit period, an agreement was negotiated with Rockies Express Pipeline, LLC (REX) for a new pipeline interconnect. REX was initially constructed as a west-to-east pipeline to deliver Rocky Mountain-sourced supplies to eastern Ohio (Clarington, Ohio). REX was completed in phases, and became fully operational in 2009. The new interconnection with REX would have provided DE-Ohio access to low-cost supplies from the Marcellus Shale gas production region by backhaul delivery from Clarington, Ohio to the new interconnection near the Company's Mason Road Station (i.e., east-to-west delivery). DE-Ohio anticipated

contracting for 24,000 Dth per day of capacity with REX, and the anticipated in-service date was November 1, 2014.

At the time of its agreement with REX, it was anticipated that DE-Ohio would build a two-mile pipeline from its Mason Road Station to REX at an estimated cost of \$2 million to \$3 million. By the time construction began on the pipeline, additional development along the initial pipeline route occurred, requiring a change in the route. This route change increased the estimated cost of the pipeline by approximately \$4 million. Despite this increase, DE-Ohio continued pursuing the interconnect with REX.

DE-Ohio's transportation agreement with REX provided for a rate that was lower than that being paid by existing west-to-east (i.e., Rocky Mountain to eastern Ohio) REX shippers. At the time of its agreement with DE-Ohio, REX was also negotiating similar arrangements with other shippers. REX's existing shippers claimed that as a result of "Most Favored Nations" provisions included in their agreements with REX, they were also entitled to the lower rates negotiated with DE-Ohio and other shippers. On June 6, 2013, REX filed a petition for a declaratory order with the FERC, seeking a ruling as to whether its agreements with DE-Ohio and other shippers would trigger the Most Favored Nations provisions of its contracts with existing shippers (Docket No. RP13-969). In September 2013, due to the uncertainty concerning whether the Most Favored Nations provision would be triggered, REX exercised a one-time provision in its contract with DE-Ohio to increase the rate that it would charge the Company. This rate increase eliminated the cost advantage of the project, and DE-Ohio exercised its option to terminate the agreement. On November 26, 2013, the FERC issued an order finding that REX's agreements with DE-Ohio and other shippers would not trigger the Most Favored Nations provisions in its agreements with existing shippers. DE-Ohio has not subsequently pursued a direct interconnect with REX because it would no longer be economic to do so, and Texas Gas, a pipeline currently serving DE-Ohio, has established an interconnect with REX. DE-Ohio is continuing to evaluate a direct interconnect with REX.

2.2 Markets Served by Duke Energy Ohio

Firm bundled utility sales service is available under Residential Service (Rate RS), General Service – Small (Rate GS - S) for non-residential customers using 400 Mcf per year or less, and General Service – Large (Rate GS - L) for non-residential customers using more than 400 Mcf per year. DE-Ohio provides firm and interruptible transportation service from its citygate to end-user facilities for those customers that acquire both their own gas supplies and separately arrange for the delivery of those supplies to DE-Ohio's distribution system. DE-Ohio provides firm transportation service to residential customers under Rate RFT and small

customers using less than 400 Mcf per year under Rate FT - S. Firm transportation service to customers using more than 400 Mcf per year is provided under Rate FT - L, and interruptible transportation service is provided under Rate IT. DE-Ohio's firm transportation customers are also commonly referred to as Rate RFT/FT or Choice customers. Additional terms and conditions of DE-Ohio's transportation service offerings are discussed further in Section 6 of the audit report.

DE-Ohio provided natural gas sales and transportation services to nearly 385,000 residential customers and nearly 38,000 commercial, industrial, and public authority customers during calendar year 2014. The number of customers served by DE-Ohio has increased slightly over the past five years. System throughput, that is, total sales and transportation service volumes, totaled 78,700,000 Mcf during calendar year 2014. Table 1 shows throughput by customer class during 2014.

Table 1. Summary of 2014 System Throughput		
	THROUGHPUT (Mcf)	PERCENT
<u>Sales Service</u>		
Residential	15,339,500	19.5%
Commercial	5,797,717	7.4
Industrial	932,099	1.2
Public Authority/Other	1,276,302	1.6
Subtotal Sales Service	23,345,618	29.7%
<u>Transportation Service</u>		
Residential	17,493,945	22.2%
Commercial	12,547,416	15.9
Industrial	4,413,176	5.6
Public Authority/Other	1,966,954	2.5
Interruptible	18,929,692	24.1
Subtotal Transportation Service	55,351,183	70.3%
TOTAL THROUGHPUT	78,696,801	100.0%

Additional selected throughput, customer, and consumption statistics for the period 2010 through 2014 are presented in Table 2. As shown, participation in DE-Ohio's firm transportation programs nearly doubled during the period 2010 through 2012, and has declined somewhat since 2012. DE-Ohio arranges for firm capacity and gas supplies sufficient to meet the design peak day requirements of its firm retail GCR customers, the balancing requirements of firm

Table 2.
Annual Throughput, Customer, and Consumption Statistics

THROUGHPUT (Mcf)	2010	2011	2012	2013	2014
<u>Sales Service</u>					
Residential	21,560,676	18,876,945	14,559,541	13,609,927	15,339,500
Commercial	7,903,788	6,747,714	5,216,258	5,201,468	5,797,717
Industrial	1,030,591	845,909	705,993	1,018,537	932,099
Public Authority/Other	669,588	572,963	499,299	688,249	1,276,302
Subtotal Sales Service	31,164,643	27,043,531	20,981,091	20,518,181	23,345,618
<u>Transportation Service</u>					
Residential Firm	9,772,080	10,385,632	11,220,768	17,858,015	17,493,945
Commercial Firm	8,867,069	9,180,044	9,080,473	11,714,879	12,547,416
Industrial Firm	2,834,464	3,116,053	2,986,369	3,686,141	4,413,176
Public Authority/Other	1,957,093	1,830,767	1,623,679	1,902,873	1,966,954
Interruptible	18,484,561	18,558,286	20,128,849	19,730,925	18,929,692
Subtotal Transportation Service	41,915,267	43,070,782	45,040,138	54,892,833	55,351,183
Total System Throughput	73,079,910	70,114,312	66,021,229	75,411,014	78,696,801
NUMBER OF CUSTOMERS	2010	2011	2012	2013	2014
<u>Sales Service</u>					
Residential	267,776	251,806	228,649	176,415	196,952
Commercial	22,228	20,642	18,979	13,537	14,059
Industrial	781	730	657	505	531
Public Authority/Other	615	559	544	495	465
Subtotal Sales Service	291,400	273,737	248,829	190,952	212,007
<u>Transportation Service</u>					
Residential Firm	112,047	127,721	152,040	205,190	187,256
Commercial Firm	13,078	14,332	15,732	21,050	20,522
Industrial Firm	673	707	757	885	853
Public Authority/Other Firm	788	817	831	878	903
Interruptible	151	144	139	134	123
Subtotal Transportation Service	126,737	143,721	169,499	228,137	209,657
Total Customers	418,137	417,458	418,328	419,089	421,664
AVERAGE CONSUMPTION PER CUSTOMER (Mcf/year)	2010	2011	2012	2013	2014
<u>Sales Service</u>					
Residential	81	75	64	77	78
Commercial	356	327	275	384	412
Industrial	1,320	1,159	1,075	2,017	1,755
Public Authority	1,089	1,025	918	1,390	2,745
Total Sales Service	107	99	84	107	110
<u>Transportation Service</u>					
Residential Firm	87	81	74	87	93
Commercial Firm	678	641	577	557	611
Industrial Firm	4,212	4,407	3,945	4,165	5,174
Public Authority/Other Firm	2,484	2,241	1,954	2,167	2,178
Interruptible	122,414	128,877	144,812	147,246	153,900
Total Transportation Service	331	300	266	241	264

transportation customers, and pursuant to the Stipulation and Recommendation approved in Case No. 05-732-EL-MER, a portion of the increase in the design day requirements of firm transportation customers beyond that which existed on April 1, 2007.³ The firm capacity maintained by DE-Ohio to meet the design day requirements of firm transportation customers is discussed in greater detail in Section 6.1.3 of the audit report.

A history of DE-Ohio's actual peak day and annual load characteristics and associated weather data is presented in Table 3. During the past five years, DE-Ohio's actual peak day loads, including service to sales and transportation customers, have ranged from a low of 553,000 Dth in the winter of 2011-2012 to a high of 820,862 Dth in the winter of 2013-2014. These variations are largely attributable to differences in peak day temperatures.

Table 3.
Operating and Weather Statistics

OPERATING STATISTICS					
Winter Season	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
Peak Day Demand (Dth)	553,005	553,054	597,265	820,862	742,899
Peak Day Temperature (Average)	28°F	18°F	15°F	-5°F	-1°F
Annual Load Factor	32.3%	32.7%	34.6%	26.3%	Not Available
WEATHER STATISTICS					
Year	2010	2011	2012	2013	2014
Number of Degree Days	5,154	4,734	4,208	5,091	5,450
(Warmer)/Colder Than Normal (4,822 HDD)	6.9%	(1.8%)	(12.7%)	5.6%	13.0%
HDD = heating degree days					

Annual system load factor is also an important characteristic of the gas markets that DE-Ohio serves. Load factor reflects, in percentage terms, the ratio of the average daily amount of gas required over a given period compared to the amount of gas that would have been required if maximum design peak day demands were experienced each day over that same period. Since 2010, DE-Ohio's total annual system load factor has averaged slightly more than 30 percent.

2.3 GCR Rate Comparison

Ohio's other major natural gas utilities—Columbia Gas of Ohio (COH), Dominion East Ohio (East Ohio), and Vectren Energy Delivery of Ohio (VEDO)—are no longer subject to the

³ Design day is an extremely cold day that a gas utility selects and utilizes for capacity planning purposes. Peak day is the day of greatest total throughput during a given period. A gas utility's annual peak day generally occurs on the coldest day of the year. Design day is a day much colder than an average annual peak day and would be expected to occur less frequently than once a year. Design day and peak day are further discussed in Section 4.

GCR mechanism. Instead, each has a Standard Service Offering (SSO) Gas Cost Rate under which it continues to provide natural gas commodity service to its sales customers at the cost of acquiring supplies. The other Ohio utilities' costs of acquiring supplies are established through an auction process in which suppliers bid fixed adjustments to the New York Mercantile Exchange (NYMEX) monthly settlement price. Table 4 presents a comparison of DE-Ohio's audit period GCR rates and the SSO rates of the other major Ohio utilities. As shown in Table 4, DE-Ohio's GCR rates have been comparable to the SSO rates of COH and VEDO. The SSO rates of East Ohio have been significantly lower than those of the other Ohio LDCs due to East Ohio's direct access to low-cost Marcellus Shale supply production regions.⁴ As described in greater detail in Section 5, DE-Ohio engaged in hedging activities that resulted in an increase in its GCR audit period rates, which Exeter estimates to be approximately \$0.25 per Mcf. The other Ohio utilities ceased hedging activity upon adoption of SSO rates.

Table 4. Comparison of DE-Ohio GCR Rates and SSO Rates of Other Major Ohio Utilities (\$/Mcf)				
COMPANY	12 MONTHS ENDED AUGUST			AVERAGE
	2013	2014	2015	
Columbia Gas of Ohio	\$4.8140	\$5.7839	\$4.5984	\$5.0654
Dominion East Ohio	4.5264	5.0725	3.6868	4.4286
Vectren Energy Delivery of Ohio	4.6505	5.6003	4.7852	5.0120
Other Ohio Utility Average	\$4.6636	\$5.4856	\$4.3568	\$4.8353
Duke Energy Ohio	\$4.9336	\$5.4350	\$5.1373	\$5.1686
Difference Above/(Below)	\$0.2700	(\$0.0506)	\$0.7805	\$0.3333

⁴ Prices for Marcellus Shale supplies currently vary significantly by location. A location at which East Ohio purchases a significant portion of its gas supplies is Dominion South Point. The *Inside FERC* monthly index price for this location for August 2015 was \$1.24 per Dth. The *Inside FERC* monthly index price for Marcellus Shale supplies at other locations ranged from \$2.79 to \$2.87 per Dth. These significant locational differences in prices are due to the lack of sufficient pipeline transportation capacity to move production to consuming markets. Additional detail on Marcellus Shale prices is presented in Table 14 in Section 5.6 of the audit report.

3. MANAGEMENT AND ORGANIZATION

This section discusses Duke Energy Ohio's organizational structure as it relates to the Company's natural gas procurement and supply management functions. Section 3.1 discusses Gas Resources, the organizational entity with primary responsibility for the gas procurement function at DE-Ohio. This is followed by a discussion of gas supply planning committees and groups in Section 3.2. Section 3.3 discusses affiliates engaged in the sale of Ohio natural gas. FERC-related activities are addressed Section 3.4.

3.1 Gas Resources

The gas procurement and planning functions at DE-Ohio and DE-Kentucky are primarily performed by the Gas Resources group, with input from other groups within the Midwest Delivery and Gas Operations (Gas Operations) unit of Duke Energy's Regulated Utilities business segment. Separate DE-Ohio and DE-Kentucky contracts are utilized for gas supply and capacity acquisitions. Activities within Gas Operations related to the gas procurement function are performed by the Gas Control, City Gate Operations, Gas Resources, and Gas Customer Operations groups. The Senior Vice President of Midwest Delivery and Gas Operations reports to the Executive Vice President of the Midwest and Florida Regions, who in turn reports to the President, CEO and Vice Chairman of the Board of Directors of Duke Energy. Figure 2 presents the organizational structure of Gas Operations as it existed at the beginning of the audit period. Figure 3 presents the organizational structure of Gas Operations at the conclusion of the audit period.

Figure 2.
Organizational Structure of Midwest Delivery and Gas Operations
(September 2012)

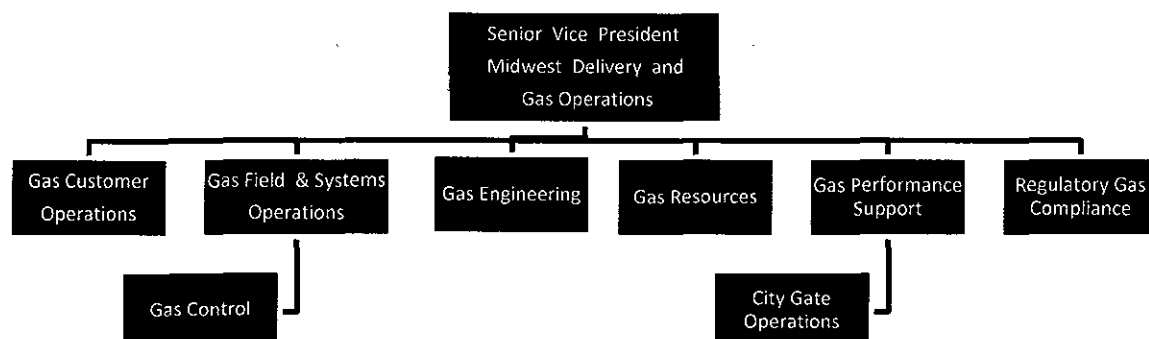
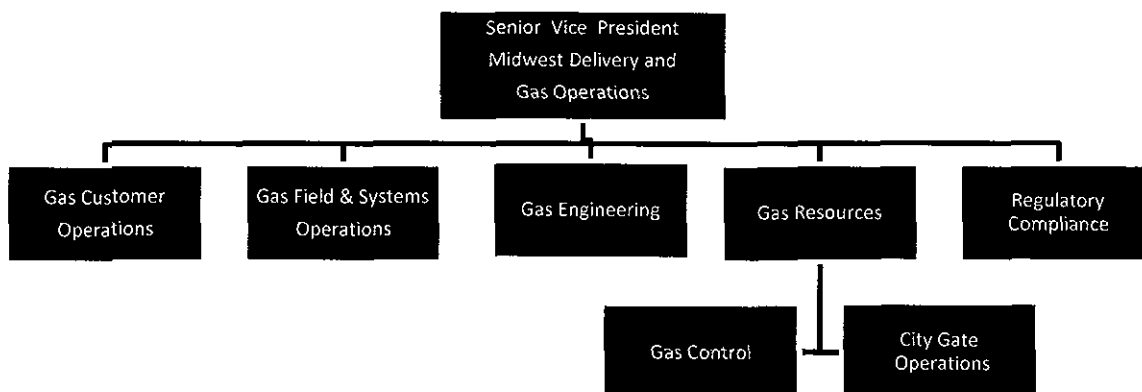


Figure 3.
Organizational Structure of Midwest Delivery and Gas Operations
(August 2015)



Gas Control manages the delivery of flowing gas supplies to ensure a balance between deliveries to DE-Ohio and customer requirements, within physical and contractual limitations, on an hourly and daily basis. Gas Control is responsible for the preparation of daily forecasts of total customer requirements (sendout). City Gate Operations is responsible for the administration of physical flowing gas supplies for system supply, and DE-Ohio's firm and interruptible transportation programs. This includes the accounting related to system supply and transportation customer gas supplies, and the reconciliation of gas deliveries and usage. City Gate Operations is responsible for the verification and payment of pipeline and supplier invoices, and the billing of the Company's interruptible transportation customers. Gas Customer Operations performs account management and marketing functions for DE-Ohio's interruptible transportation customers. Gas Resources develops DE-Ohio's daily gas supply plans. Gas Resources is also responsible for the negotiation and selection of the Company's gas supply and transportation contract portfolios. Finally, Gas Resources is responsible for managing the operations, billing, and FERC regulatory activities of KO Transmission, an affiliated interstate pipeline. Gas Field & Systems Operations manages the operation of the gas distribution system, including the installation of new and replacement facilities and mains. Gas Engineering is responsible for developing plans for the installation of new and replacement facilities and mains. Gas Performance Support performs accounting, budgeting, and financial activities related to distribution system construction activities. Gas Regulatory Compliance is responsible for maintaining the integrity of the distribution activity, leak detection, and management.

As indicated in Figure 2 and Figure 3, the current organizational structure of Gas Operations differed slightly from that which existed at the commencement of the audit period.

At the beginning of the audit period, Gas Control reported to Gas Field & Systems Operations, and City Gate Operations reported to Gas Performance Support. During the audit period, responsibility for Gas Control and City Gate Operations was placed under Gas Resources. Gas Control was placed under the direction of Gas Resources due to personnel retirements within Gas Field & Systems Operations and to recognize the close working relationship between Gas Resources and Gas Control. Responsibility for City Gate Operations was moved to Gas Resources after Gas Performance Support was moved to another area of the Company.

A number of departments and groups outside of Gas Operations assist Gas Resources with the gas procurement, delivery, control, and customer service functions. These include Load Forecasting, Global Risk Management, Rates and Regulatory Strategy, Legal, and Information Technology.

3.2 Gas Supply Planning Committees and Groups

The Vice President of Gas Operations, the Manager of Gas Resources, and the Lead of Gas Procurement and Analysis within Gas Resources meet semi-annually to discuss seasonal and long-term interstate pipeline capacity and firm supply planning.

The Vice President of Gas Operations, Manager of Gas Resources, Manager of City Gate Operations, Manager of Gas Customer Operations, Lead of Gas Procurement and Analysis, Specialist of Gas System Supply within Gas Resources, Coordinator of Gas Control, Manager of Gas Control, Specialist of Gas Customer Operations, and Specialist of Gas Transportation Programs within City Gate Operations meet monthly to discuss supply requirements for the following month. This same group also meets every business day from October 1 through April 30 at 7:30 a.m. to discuss gas supply requirements for the following day. During the summer (i.e., May 1 through September 30), one monthly meeting is held with additional meetings held as necessary to address any changes to daily gas supply purchases that may be required.

A Hedging Committee, which consists of the Vice President of Gas Operations, Manager of Gas Resources, Lead of Gas Procurement and Analysis, Manager of City Gate Operations, Manager of Gas Customer Operations, and Specialist of Gas Customer Operations, meets at least once monthly to discuss current market conditions in conjunction with the execution of the Company's natural gas hedging plan.

3.3 Affiliates Engaged in the Sale of Gas in Ohio

The only unregulated entity within DE-Ohio engaged in the sale of natural gas in Ohio or within the DE-Ohio service territory during the audit period was Duke Energy Retail Sales (DE-Retail). Until October 2012, DE-Retail was a supplier to a small number of customers

participating in DE-Ohio's firm transportation program. In October 2012, DE-Retail was awarded the governmental aggregation contract for the City of Cincinnati. DE-Retail also served several interruptible transportation customers. DE-Retail was a completely separate entity from DE-Ohio and there were no common facilities or sharing of costs. DE-Retail was treated the same as any other supplier to DE-Ohio's transportation customers. The only common management between DE-Retail and DE-Ohio was the CEO of Duke Energy. As previously indicated in Section 1.1 of the audit report, DE-Retail was sold to Dynegy, Inc. in April 2015. Dynegy ceased being an active supplier to DE-Ohio's transportation customers in October 2015.

No employees of DE-Ohio's affiliates have access to any DE-Ohio customer's information without first obtaining the customer's consent. The Company provides training with respect to its Code of Business Ethics and Code of Conduct which address the Company's relationship with its affiliated and non-affiliated suppliers participating in the Company's transportation programs. In general, the Code of Business Ethics and Code of Conduct prohibit the Company from giving its marketing affiliates any preference over non-affiliated suppliers.

3.4 FERC Participation

DE-Ohio participates in proceedings at the FERC that have industry-wide implications, such as a Notice of Proposed Rulemaking (NOPR) or Notice of Inquiry (NOI), as well as those FERC proceedings that affect the interstate pipelines presently serving DE-Ohio. The prior management audit noted that a weekly FERC Proceedings Report (FERC Report) was prepared by DE-Ohio that identified new cases for which a determination was required as to whether DE-Ohio should intervene. The FERC Report was sent to a FERC Committee that determined the appropriate level of involvement for DE-Ohio. DE-Ohio discontinued its practice of preparing a weekly FERC Report and relying on a FERC Committee to determine the Company's appropriate level of involvement early in the audit period when the individual preparing the FERC Report terminated their employment with DE-Ohio.

During the majority of the audit period, FERC proceedings were monitored primarily by the Manager of Gas Resources and an individual within DE-Ohio's FERC Policy Group, which monitored both electric and gas proceedings. FERC proceedings were subsequently discussed with DE-Ohio's FERC attorney who decided whether the Company should intervene in a proceeding. Factors considered by DE-Ohio in making the determination to intervene included:

- Impact on the rates paid by DE-Ohio to interstate pipelines;
- Potential precedent that could affect future proceedings;
- Changes to reporting requirements for DE-Ohio or its affiliates; and

- Changes to the calculation or application of pipeline fuel charges.

DE-Ohio typically filed a “Plain Vanilla Intervention” in those proceedings in which it chose to intervene during the audit period. If the intervention was to include comments or a protest, approval by the Senior Vice President of Midwest Delivery and Gas Operations was required. DE-Ohio monitored and filed Plain Vanilla Interventions in approximately 50 FERC proceedings, filed comments in five proceedings, and filed a protest in one proceeding during the audit period.

Since the conclusion of the audit period, the monitoring of FERC proceedings has become more formalized. At the corporate level, Duke Energy has engaged outside counsel to monitor FERC proceedings for all Duke Energy companies and to make recommendations on the appropriate level of intervention.

There were no base rate case proceedings filed by the interstate pipelines serving DE-Ohio during the audit period. However, DE-Ohio will be affected by rate changes resulting from Columbia Gas Docket No. RP12-1021. This proceeding was initiated with Columbia Gas’ filing of a “Stipulation and Agreement of Settlement” (Settlement) that represented a settlement of Columbia Gas’ base rate levels and other issues related to the repair and maintenance of Columbia Gas’ pipeline system. DE-Ohio filed comments in support of the Settlement. The Settlement included, among other things, a capital cost recovery mechanism (CCRM) through which Columbia Gas would recover the costs associated with a number of specific facility rehabilitation and modernization projects (Modernization Program). Under the Modernization Program,⁵ Columbia Gas is to make significant capital expenditures over the next 10 to 15 years to modernize its interstate pipeline system infrastructure, and to enhance its system’s reliability, safety, and regulatory compliance. The Settlement provided for refunds to current customers; however, DE-Ohio was not entitled to a share of these refunds because the Company received service from Columbia Gas at a discount to Columbia Gas’ maximum FERC-approved rates.

A FERC proceeding that will significantly affect DE-Ohio in the future is the joint application filed by Columbia Gas and KO Transmission on April 7, 2015 in Docket No. CP15-160. In that application, Columbia Gas and KO Transmission requested authorization for the replacement of the 23 miles of pipeline in Kentucky that extend from South Means to the Foster Station and is currently co-owned by Columbia Gas and KO Transmission (E-System Project). The total estimated cost of the E-System Project is \$119.5 million, of which KO Transmission will responsible for \$58.1 million. In the joint application, KO Transmission

⁵ The Settlement treats the CCRM as a surcharge to Columbia Gas’ existing base rates for firm transportation service.

requested that it be allowed to roll its share of E-System Project costs into existing rates in its next general rate proceeding. Columbia Gas requested that its share of E-System Project costs be recovered through its CCRM. The FERC approved the joint application on October 15, 2015. It is anticipated that KO Transmission will file a base rate proceeding to recover its share of E-System Project costs in 2016, resulting in an increase in KO Transmission's current monthly demand charge of \$0.356 per Dth to an estimated \$3.596 per Dth. This would result in an annual increase of \$7.2 million to DE-Ohio's capacity costs at current contract levels.

3.5 Conclusions and Recommendations

3.5.1 *Organizational Structure*

Exeter's audit revealed no concerns with respect to the organizational structure of DE-Ohio or Duke Energy Corporation that would interfere with the purchase of reliable supplies of gas at minimum prices.

3.5.2 *Affiliate Relationships*

Exeter's audit revealed no concerns with respect to the relationships and transactions between DE-Ohio and DE-Kentucky, nor DE-Ohio's relationship with DE-Retail which was also engaged in the sale of gas in Ohio during the audit period.

3.5.3 *FERC Participation*

DE-Ohio's FERC intervention policy is consistent with a reasonable level of participation at a reasonable resource effort. Audit period participation in FERC proceedings was appropriately based on DE-Ohio's intervention policy.

3.5.4 *KO Transmission FERC Base Rate Case*

Gas Resources is the organizational entity with primary responsibility for the gas procurement at DE-Ohio. Personnel in DE-Ohio's Gas Resources group are also responsible for managing the operations, billing, and FERC regulatory activities of KO Transmission, DE-Ohio's wholly-owned subsidiary. It is anticipated that in 2016, KO Transmission will file a base rate increase at the FERC to recover its share of the costs associated with the E-System Project. When this rate case is filed, DE-Ohio and KO Transmission will each be required to represent their own interests in KO Transmission's proceeding. Since the Gas Resources personnel at DE-Ohio are the same personnel responsible for KO Transmission's FERC activities, this will create a conflict of interest.

DE-Ohio currently pays KO Transmission approximately \$800,000 per year for transportation services, and it is estimated that these costs will increase by \$7.2 million when KO

Transmission files at the FERC to recover its share of E-System Project costs. When KO Transmission makes its base rate filing, DE-Ohio should file a report with PUCO Staff identifying the estimated increase that may result for the Company, and explain how the Company intends to address the conflict of interest. DE-Ohio's plan should take into consideration the amount of the proposed increase, the expected benefits associated with the Company's intervention efforts, and the level of resources required to support those efforts. It is Exeter's experience that FERC Staff will adequately address any revenue requirement issues that may arise in the case, and that DE-Ohio may be required to address any rate design or cost allocation issues that may arise. DE-Ohio's participation and intervention activities in KO Transmission's FERC base rate case should be thoroughly reviewed by the auditor in the Company's management performance audit following the case.

3.5.5 KO Transmission Capacity Entitlements

DE-Ohio currently reserves 184,000 Dth per day of KO Transmission firm transportation capacity. KO Transmission's rates for firm transportation service will increase significantly as a result of the E-System Project. In light of this increase, DE-Ohio should reevaluate whether its current KO Transmission capacity entitlements are reasonable, and adjust those entitlements as appropriate.

4. GAS SUPPLY PLANNING

The basic objective of gas supply planning is to develop and secure portfolios of capacity resources and gas supplies to effectuate the delivery of gas to the local gas distribution company's system to serve the projected sales service requirements of a company's customers as economically as possible, consistent with the provision of reliable service to all customers. Selection of the capacity resources and gas supply portfolios involves an evaluation of feasible options available to meet a company's design day, winter season, and annual requirements. During the audit period, DE-Ohio's options included no-notice service, firm and interruptible transportation services, storage and peaking service⁶ (collectively, capacity resources), and base load, swing, and daily gas supplies (collectively, gas supply resources). The factors upon which the assessment of these options is based—option prioritization and retention or exclusion, the impact of uncertainty, and the ultimate selection of options—are all important aspects of the gas supply planning process.

An overview of the capacity and gas supply resources available to DE-Ohio and a summary of the Company's audit period contract entitlements are presented in Section 4.1. These resources are discussed in greater detail in Section 4.2. Changes to the Company's capacity and gas supply arrangements that occurred during the audit period are also discussed in Section 4.2. Section 4.3 discusses the audit period gas supply arrangements of Percentage of Income Payment Program customers. Section 4.4 analyzes the balance between DE-Ohio's capacity and gas supply resources and its firm customers' requirements. The diversification of the Company's capacity and gas supply resources is addressed in Section 4.5. Discussed in Section 4.6 are DE-Ohio's plans with respect to the continued provision of the merchant function. Section 4.7 contains Exeter's conclusions and recommendations concerning the Company's gas supply planning procedures.

4.1 Overview and Summary of Audit Period Capacity and Gas Supply Resources

The primary capacity and gas supply resources available to DE-Ohio to meet the natural gas requirements of its customers and to provide reliable service during the audit period are discussed below.

Transportation Service. Transportation service provides pipeline capacity to move gas supplies on behalf of a customer, or shipper, such as DE-Ohio, from a point of receipt to a point of delivery. A receipt point is the location at which gas enters the pipeline's transmission facilities, typically in a production region, but can also include an

⁶ Although peaking service is a bundled capacity and gas supply resource, it is categorized as a capacity resource throughout the audit report.

interconnection with another interstate pipeline or a pipeline storage facility. Delivery points would include a gas utility's citygate or a pipeline storage facility. Takes, or consumption at a delivery point, must balance, within certain minimal tolerances, amounts nominated by a shipper. Failure to adhere to these balancing requirements may result in the assessment of penalty charges or the curtailment of deliveries by the interstate pipeline. Transportation service is available on either a firm or interruptible basis.

No-Notice Service. No-notice service is a firm delivery or transportation service that permits a shipper to take certain volumes that differ from nominated quantities without penalty. No-notice service is required by most gas distribution companies to accommodate variability in daily demands.

No-notice service may be a stand-alone service permitting a gas distribution company to take delivery of an amount of gas that differs from nominated quantities, with the requirement that any differences (imbalances) between its nominations and actual consumption be corrected in subsequent periods. No-notice service may also be achieved by rebundling interstate pipeline firm transportation and storage service. Under the rebundled approach, imbalances between a gas distribution company's daily nominations and the actual quantities consumed are assumed to be accommodated by gas injected or withdrawn from interstate pipeline storage capacity reserved by the gas distribution company.

Storage Service. Storage service provides both a peak day and winter season gas supply resource, as well as seasonal and daily load management capabilities. Seasonal load management capabilities include the ability to store gas purchased during the summer season, when gas is typically less expensive, and to withdraw the stored gas during the winter season, when gas is traditionally more expensive. Storage enables a company to increase its purchased gas load factor. This is accomplished by increasing the ability to purchase gas during the off-peak summer months and by decreasing purchases during the peak winter months. Daily load management capabilities include the ability to accommodate unforeseen changes in gas supply requirements through storage withdrawals or injections.

Daily storage deliverability refers to the maximum daily quantity of gas that can be withdrawn from storage under a particular arrangement. Seasonal storage capacity refers to the quantity of storage space available to accommodate seasonal requirements, or the maximum seasonal quantity of gas that can be withdrawn from storage. Contract storage service available from interstate pipelines is generally provided on an unbundled basis. Thus, a separate transportation arrangement is required to deliver gas to storage for injection, and to deliver gas withdrawn from storage to the citygate. On-system storage

refers to storage directly connected to a gas utility's distribution system, which does not require transportation by an interstate pipeline at the time of withdrawal.

Gas Supply Arrangements. Gas supply arrangements typically provide for a supply of gas at a specific receipt point into an interstate pipeline. Transportation service is required to effectuate delivery of the gas. Gas supplies may also be purchased on a delivered-to-citygate basis.

Peaking Service. Peaking service is a gas supply arrangement that typically provides for the delivery of gas supplies directly to a gas utility's citygate during periods of extreme demands. The number of days for which service is available under a peaking arrangement is typically limited. A gas utility can also rely on on-system propane or liquefied natural gas facilities for peaking service.

The natural gas supplies acquired by DE-Ohio to meet its customers' requirements are procured from unregulated, non-pipeline merchant suppliers. Gas supplies were delivered to DE-Ohio during the audit period under firm transportation arrangements with Columbia Gas, Columbia Gulf, KO Transmission, and Texas Gas. DE-Ohio's firm transportation arrangements with Columbia Gas, KO Transmission, and Texas Gas provided for the delivery of gas directly to DE-Ohio. The Company's firm transportation arrangements with Columbia Gulf provided for the upstream delivery of gas to KO Transmission.

DE-Ohio's transportation arrangements with Columbia Gulf and Texas Gas provide access to gas supplies produced in the Gulf Coast region (primarily southern Louisiana), and to gas supplies from the Marcellus Shale production region. Columbia Gas also provides access to Marcellus Shale gas supplies. KO Transmission does not directly access any major production areas. More than 90 percent of the gas purchased by DE-Ohio during the audit period was Gulf Coast supplies. However, a significant portion of the gas supplies physically delivered to DE-Ohio was Marcellus Shale supplies, with the delivery of Gulf Coast purchased supplies to DE-Ohio accomplished by backhaul, or displacement.⁷ Throughout the remainder of the audit report, the purchase and physical delivery of gas is separately distinguished. The delivery of Gulf Coast supplies by Columbia Gulf and Texas Gas by backhaul is necessary because both pipelines are now bi-directional, with Marcellus Shale supplies flowing north to south and Gulf Coast supplies flowing south to north. These southward flowing Marcellus Shale supplies and northward flowing Gulf Coast supplies meet at null points. While these null point locations can

⁷ To accomplish the delivery of Gulf Coast purchased supplies by backhaul, a third party located south of DE-Ohio would purchase Marcellus Shale supplies. The Gulf Coast supplies purchased by DE-Ohio would then be delivered to the third party, and the Marcellus Shale supplies purchased by the third party would be delivered to DE-Ohio.

vary on a daily and seasonal basis, they shifted southward on Columbia Gas and Texas Gas during the audit period and continue to do so. The Columbia Gas null point is currently well south of DE-Ohio's system and, during the audit period, Texas Gas' null point was in the same general vicinity as Texas Gas' delivery points with DE-Ohio.

A portion of the gas purchased by DE-Ohio is utilized to satisfy current customer requirements at the time the gas is purchased. These are typically referred to as "flowing gas supplies." DE-Ohio also arranges for a portion of the gas supplies it purchases to be injected into storage during the off-peak summer months and withdrawn from storage to meet elevated winter demands and unanticipated swings in demand. DE-Ohio purchased contract storage services from Columbia Gas and Texas Gas during the audit period. The Company does not own or operate on-system gas supply storage facilities other than its propane facilities.

DE-Ohio operated under Portfolio Management Agreements, or Asset Management Agreements (AMAs), during the entire audit period. The AMA service providers, or Asset Managers, under these arrangements were Sequent Energy Management, L.P.; NextEra Energy Power Marketing, LLC; and BP Energy Company. The AMAs generally provided for the assignment of all of DE-Ohio's interstate pipeline transportation and storage capacity and gas supply contracts to the Asset Manager and for the Asset Manager to administer the Company's capacity and gas supply contracts. Under the terms of the AMAs, DE-Ohio determined the daily quantity of gas that it would purchase from each supplier, the delivering interstate pipeline transportation path, and the Company's storage injection and withdrawal activity as if it continued to manage the assigned capacity and gas supply contracts. This determination is referred to as "virtual dispatch." DE-Ohio's gas costs under the AMAs were based on virtual dispatch. The Asset Manager was entitled to utilize DE-Ohio's capacity and gas supply contracts to further its own business interests provided that the Asset Manager met the Company's gas supply requirements. The Asset Manager's actual use of capacity and gas supply contracts to meet DE-Ohio's requirements is referred to as "physical dispatch." DE-Ohio was paid a monthly management fee under each AMA. The management fee and other aspects of each AMA are confidential. Additional details concerning DE-Ohio's AMAs are discussed in Section 4.2.4 of the audit report.

DE-Ohio's firm capacity resources for the winter of 2014-2015 are summarized in Table 5. Table 5 identifies each capacity resource and the maximum entitlements available under each capacity resource on a daily, seasonal, and annual basis, along with the contract expiration date. Changes to the Company's capacity resources and entitlements that occurred during the audit period are summarized in Table 6. The capacity resource descriptions provided in the following sections and in the remainder of the audit report are based on DE-Ohio's virtual dispatch

instructions and may not be consistent with the actual use of DE-Ohio's capacity resources by the Asset Manager.

Table 5.
Summary of Firm Capacity Contracts
(2014-2015 Winter Season)

PIPELINE – SERVICE	CONTRACT NUMBER	MDQ (Dth)		QUANTITY (Dth)		CONTRACT EXPIRATION
		Winter	Summer	Winter	Annual	
<u>Columbia Gas Transmission</u>						
Storage Service (FSS)	79969	216,514	0	9,244,079	9,244,079	3/31/2020
Storage Transportation (SST)	79971	216,514	108,257	9,244,079	9,244,079	3/31/2020
<u>Columbia Gulf Transmission</u>						
Transportation (FTS-1)	34688	49,000	31,500	7,399,000	14,140,000	10/31/2019
Transportation (FTS-1)	154434	14,000	0	2,114,000	2,114,000	10/31/2019
Transportation Backhaul (FTS-1 BH)	154403	21,000	21,000	3,171,000	7,665,000	10/31/2019
<u>KO Transmission</u>						
Transportation (FT)	001	184,000	184,000	27,784,000	67,160,000	10/31/2016
<u>Texas Gas Transmission</u>						
No-Notice Nominated (NNS)	N29907	6,250	10,982	943,750	3,293,898	10/31/2018
No-Notice Unnominated (NNS)	N29907	25,000	0	2,350,000	2,350,000	10/31/2018
Transportation (STF)	33501	42,000	14,000	6,342,000	9,338,000	10/31/2017
<u>Citygate Peaking</u>						
CIMA Energy	--	20,000	0	500,000	500,000	2/28/2015
Twin Eagle	--	15,000	0	375,000	375,000	2/28/2015
Propane	--	135,940	0	1,400,000	1,400,000	--
TOTAL⁽¹⁾		543,828	77,018	33,726,486	48,434,377	
MDQ = maximum daily quantity						
⁽¹⁾ Excludes KO Transmission FT service, Columbia Gas FSS service which is delivered under Rate Schedule SST, and Columbia Gas summer SST service which is used to deliver gas to Columbia Gas FSS storage. Columbia Gulf contract quantities adjusted for KO Transmission fuel retention.						

Table 6.
Summary of Firm Maximum Daily Quantity Contract Changes

PIPELINE – SERVICE	WINTER SEASON (Dth)			
	2012-2013	2013-2014	2014-2015	2015-2016
<u>Columbia Gas Transmission</u>				
Storage Service (FSS)	216,514	216,514	216,514	216,514
Storage Transportation (SST)	216,514	216,514	216,514	216,514
<u>Columbia Gulf Transmission</u>				
Transportation (FTS-1)	163,214	163,214	63,000	79,000
Transportation Backhaul (FTS-1 BH)	7,000	7,000	21,000	21,000
<u>KO Transmission</u>				
Transportation (FT)	184,000	184,000	184,000	184,000
<u>Texas Gas Transmission</u>				
No-Notice Nominated (NNS)	6,250	6,250	6,250	6,250
No-Notice Unnominated (NNS)	25,000	25,000	25,000	25,000
Transportation (FT)	30,000	30,000	0	0
Transportation (STF)	0	0	42,000	42,000
<u>Citygate Peaking</u>				
Peaking Services	21,000	16,000	35,000	40,000
Propane	176,740	135,940	135,940	135,940

4.2 Detail of Audit Period Capacity and Gas Supply Arrangements

4.2.1 Firm Transportation Service

DE-Ohio reserved firm transportation capacity on KO Transmission and Texas Gas during the audit period which provided for delivery of gas supplies directly to DE-Ohio's citygates. The Company reserved firm transportation capacity on Columbia Gulf which provided for the upstream delivery of gas supplies to KO Transmission. Columbia Gas firm transportation capacity provided for the delivery of gas directly to DE-Ohio's citygate and to KO Transmission. DE-Ohio also utilized KO Transmission interruptible transportation service to meet a portion of its gas supply requirements during the audit period. Rates applicable under the Company's firm interstate pipeline transportation arrangements include a monthly reservation charge applicable to the maximum daily quantity (MDQ), a variable charge applicable to volumes delivered, and a fuel retention charge. In addition to its transportation arrangements with interstate pipelines, DE-Ohio also utilized firm transportation service provided by DE-Kentucky. The Company's audit period firm transportation arrangements are discussed in greater detail below.

A. Columbia Gas Transmission

Storage Service Transportation (SST). DE-Ohio purchased storage transportation service from Columbia Gas during the audit period under Rate Schedule SST. DE-Ohio purchased storage service from Columbia Gas under Rate Schedule FSS. Storage transportation service under Rate Schedule SST is primarily utilized to transport gas to and from Columbia Gas' storage facilities. Gulf Coast gas supplies delivered to Columbia Gas by Columbia Gulf were generally purchased for injection into storage during the audit period. Gas withdrawn from storage is generally delivered by Columbia Gas under Rate Schedule SST to KO Transmission for subsequent delivery to DE-Ohio's citygate. Under the Company's SST arrangement, the primary receipt point is Columbia Gas storage, and the primary delivery points are DE-Ohio's citygate and KO Transmission. Secondary SST receipt and delivery points may be selected anywhere on the Columbia Gas system.⁸ SST transportation service and FSS storage service provide DE-Ohio with no-notice balancing service under which daily differences between actual takes at DE-Ohio's citygate and quantities scheduled to DE-Ohio's citygate by the Company and on behalf of the Company's transportation customers are treated as injections or withdrawals under Rate Schedules FSS and SST.

DE-Ohio purchased SST service from Columbia Gas under Contract No. 79971 during the audit period. The MDQ under Contract No. 79971 during the months of October through

⁸ A shipper such as DE-Ohio has a firm entitlement to capacity at primary receipt and delivery points. Capacity at secondary receipt and delivery points is available on an interruptible basis.

March is 216,514 Dth, and is 108,257 Dth during the months of April through September. The initial expiration date of DE-Ohio's SST contract was March 31, 2015. However, DE-Ohio renegotiated its SST contract effective July 1, 2013, and extended the term of the contract through March 31, 2020. Contract No. 79971 provides DE-Ohio with the ability to transport nearly 60,000,000 Dth annually. However, because this capacity is primarily utilized to deliver gas to and from storage, actual annual utilization of SST capacity was significantly less. DE-Ohio's seasonal storage capacity quantity under companion FSS Contract No. 79969 is 9,244,079 Dth. The Company received SST service at a fixed discounted rate from Columbia Gas' maximum FERC-approved rates through the initial March 31, 2015 term of Contract No. 79971. For the contract extension period, DE-Ohio negotiated a rate for SST service that consists of two components: a fixed-rate component which reflects a discount to Columbia Gas' maximum FERC-approved base rate, and the CCRM surcharge which will vary throughout the term of the contract. (See Section 3.4 of the audit report.)

B. Columbia Gulf Transmission

Firm Transportation Service (FTS-1). DE-Ohio purchased firm transportation service from Columbia Gulf under Rate Schedule FTS-1 under Contract No. 34688 during the audit period. This arrangement provided capacity for the firm delivery of gas supplies from the Gulf Coast at Rayne, Louisiana to Columbia Gulf's interconnect with KO Transmission and Columbia Gas at South Means, Kentucky. Gas delivered to KO Transmission is subsequently redelivered to DE-Ohio's citygate. Deliveries that exceed DE-Ohio's immediate requirements are subsequently accounted for as deliveries to storage under the Company's SST arrangement with Columbia Gas.

Initially, the MDQ under Contract No. 34688 was 163,214 Dth during the winter period (November through March) and 111,785 Dth during the summer period (April through October). Contract No. 34688 was scheduled to expire on October 31, 2014, but was extended through October 31, 2019 at a reduced MDQ. The current winter period MDQ for Contract No. 34688 is 49,000 Dth and the summer period MDQ is 31,500 Dth. Upon expiration of Contract No. 34688, DE-Ohio executed an additional winter-only FTS-1 contract with Columbia Gulf with an MDQ of 14,000 Dth (Contract No. 154434). FTS-1 Contract Nos. 34688 and 154434 both currently expire on October 31, 2019 and provide the Company with the ability to transport 16,254,000 Dth annually.

In addition to purchasing FTS-1 services from Columbia Gulf that provided for the delivery of gas from Rayne, Louisiana to KO Transmission at South Means, Kentucky, DE-Ohio purchased FTS-1 backhaul (BH) service that provided for the delivery of gas supplies on a

primary basis from the interconnect of Columbia Gas and Columbia Gulf at Leach, Kentucky to KO Transmission at South Means, Kentucky. DE-Ohio initially purchased FTS-1 BH winter-only service from Columbia Gulf under Contract No. 10451. This contract had an MDQ of 7,000 Dth and expired on October 31, 2014. The Company executed a replacement FTS-1 BH annual service contract with Columbia Gulf with an MDQ of 21,000 Dth (Contract No. 154403) that currently expires on October 31, 2019. DE-Ohio's FTS-1 BH services can also be used on a secondary basis to deliver gas from Rayne, Louisiana to Columbia Gas or KO Transmission. During the audit period, DE-Ohio primarily used its FTS-1 BH arrangement to purchase Gulf Coast-sourced supplies. Purchases of Columbia Gas-sourced supplies were made on isolated occasions during the winter of 2014-2015.

DE-Ohio paid maximum FERC-approved rates under Contract No. 34688 through the initial October 31, 2014 expiration date. The Company negotiated discounted rates for the Contract No. 34688 extension period, for FTS-1 Contract No. 154434, and for FTS-1 BH Contract No. 154403.

C. KO Transmission

Firm Transportation Service (FT). DE-Ohio purchased firm transportation service from KO Transmission under Rate Schedule FT during the audit period (Contract No. 001). Transportation capacity on KO Transmission is utilized to deliver upstream gas supplies flowing on Columbia Gulf to the citygates located on the southern portion of DE-Ohio's system. A significant percentage of the gas withdrawn from Columbia Gas FSS storage is delivered to DE-Ohio by KO Transmission. Gas supplies are delivered by KO Transmission directly to the Company's system at the California and Bracken County Stations, and indirectly through DE-Kentucky. The MDQ under Contract No. 001 is 184,000 Dth. This provides DE-Ohio with the ability to transport 67,160,000 Dth annually.

D. Texas Gas Transmission

Firm Transportation Service (FT). DE-Ohio purchased firm transportation service from Texas Gas under Rate Schedule FT during the audit period (Contract No. T25573). Texas Gas supplies are delivered to the northern portion of DE-Ohio's system. Contract No. T25573 had an MDQ of 30,000 Dth. This provided the Company with the ability to transport 10,950,000 Dth annually. The primary receipt point for this contract was on Gulf South Pipeline (Gulf South) on capacity that Texas Gas leased from Gulf South. Contract No. T25573 expired on March 31, 2014. DE-Ohio received service under Contract No. T25573 at a discount from Texas Gas' maximum FERC-approved rates.

Short-Term Firm Transportation Service (STF). Upon expiration of Texas Gas FT Contract No. T25573, DE-Ohio entered into a short-term firm transportation arrangement with Texas Gas under Rate Schedule STF (Contract No. 33501). Under Rate Schedule STF, shippers like DE-Ohio are able to purchase firm transportation service for periods of less than one year, or the daily contract demand may vary by month or season over the term of an agreement one year or longer in length. STF Contract No. 33501 is an annual arrangement with an MDQ of 42,000 Dth during the winter and 14,000 Dth during the summer. Contract No. 33501 provides the Company with the ability to transport 9,338,000 Dth annually. DE-Ohio also received service under Contract No. 33501 at a discounted rate.

No-Notice Transportation Service (NNS). DE-Ohio purchases no-notice transportation service from Texas Gas under Rate Schedule NNS (Contract No. N29907). Under the Texas Gas NNS arrangement, gas is delivered to the northern portion of DE-Ohio's system. No-notice service provides the Company with the flexibility to take delivery of quantities not nominated for delivery. The MDQ under Contract No. N29907 is comprised of unnominated and nominated components.

The unnominated component of NNS is a bundled firm transportation and storage arrangement. During the winter, daily actual takes at DE-Ohio's citygate in excess of the nominated quantities scheduled to DE-Ohio's citygate by the Company and on behalf of the Company's transportation customers under any Texas Gas firm transportation rate schedule are considered no-notice volumes that are withdrawn from storage. Under NNS, Texas Gas advances gas to DE-Ohio during the winter and the Company returns the advanced gas supplies the following summer. The gas advanced to DE-Ohio is included in the GCR at the anticipated replacement cost. Differences between the actual and anticipated replacement cost are later reconciled. DE-Ohio typically hedges the cost of the replacement gas to minimize reconciliation adjustments. The unnominated component of no-notice service cannot be used to deliver nominated supplies.

The nominated component of NNS functions as a standard firm transportation arrangement that is generally used to fill no-notice storage in the summer and provide citygate delivery service in the winter. During the summer, nominated deliveries to DE-Ohio's citygate in excess of actual takes are considered storage injections.

During the audit period, the MDQ for the unnominated component of NNS was 25,000 Dth during the November through March winter period. The MDQ was reduced to lower levels during April and October, and was zero for all other months. The maximum net seasonal withdrawal quantity under Contract No. N29907 is 2,350,000 Dth. The MDQ associated with

the nominated component of NNS is 6,250 Dth during the winter period (November through March) and 10,982 Dth during the summer period (April through October).

E. Duke Energy Kentucky

DE-Ohio maintained a firm transportation arrangement with DE-Kentucky during the audit period that provided for the delivery of gas supplies from KO Transmission at the Cold Spring Station to DE-Ohio's Front & Rose, Eastern Avenue, and Anderson Ferry Stations (Contract No. 001). The MDQ under Contract No. 001 is 180,000 Dth per day. Contract No. 001 is effective under evergreen provisions of the contract on a year-to-year basis, subject to termination with 30 days' notice. The transportation service provided by DE-Kentucky is FERC jurisdictional. DE-Ohio pays a monthly demand charge of \$50,058 to DE-Kentucky. A portion of these demand charges is assessed to firm transportation customers through the Company's Contract Commitment Cost Recovery Rider (Rider CCCR) which is discussed in greater detail in Section 6.1.3 of the audit report.

DE-Ohio provides a transportation service to DE-Kentucky. Under this arrangement, gas supplies delivered to the northern portion of the Company's system are delivered to DE-Kentucky by displacement. DE-Kentucky is assessed a charge of 5.78 cents per Mcf for this service.

4.2.2 Peaking Service

DE-Ohio purchased peaking services from Sequent Energy Management, L.P. (Sequent), Twin Eagle Resource Management, LLC (Twin Eagle), and CIMA Energy, Ltd. (CIMA) during the audit period. Peaking service is a bundled capacity and gas supply service, generally providing for the delivery of gas supplies to a gas utility's citygate. Each provider of peaking service is an unregulated entity. Initially, DE-Ohio did not require its peaking services to be asset-backed. That is, the Company did not require the peaking service provider to demonstrate that the provider had secured pipeline services that could be used to provide the service. However, the failure of a peaking service provider to supply the agreed-upon quantity during the winter of 2013-2014 prompted DE-Ohio to change its procedures and require evidence of firm supply to the Company's citygate prior to awarding a peaking service contract. DE-Ohio paid a monthly reservation charge and a commodity charge based on a published index price under each peaking service arrangement. DE-Ohio also relied upon peaking services from its propane facilities during the audit period. The Company's audit period peaking service arrangements are discussed in greater detail below.

A. Sequent Energy Management

DE-Ohio's peaking service arrangement with Sequent was effective for the period December 2012 through February 2013. DE-Ohio was entitled to purchase up to 5,000 Dth per day on up to 25 days during the contract period. Contract quantities were deliverable to the Company's Texas Gas citygates.

B. Twin Eagle Resource Management

DE-Ohio purchased peaking service from Twin Eagle under three separate agreements during the audit period. Under an agreement effective December 2012 through February 2013, the Company was entitled to purchase up to 16,000 Dth per day on up to 25 days during the contract period. Under an agreement effective December 2013 through February 2014, the Company was also entitled to purchase up to 16,000 Dth per day on up to 25 days during the contract period. Under an agreement effective December 2014 through February 2015, the Company was entitled to purchase up to 15,000 Dth per day on up to 25 days during the contract period. Each of the peaking service arrangements with Twin Eagle provided for the delivery of gas to DE-Ohio's Texas Gas citygates.

C. CIMA Energy

DE-Ohio's peaking service arrangement with CIMA was effective December 2014 through February 2015, and entitled the Company to purchase up to 20,000 Dth per day on up to 25 days during the contract period. Contract quantities were deliverable to DE-Ohio's Texas Gas citygates.

D. Propane-Air Facilities

DE-Ohio owns and operates two propane-air facilities for peak-shaving purposes as well as to maintain pressure in its distribution system on extremely cold days—the Dicks Creek Plant and the Eastern Avenue Plant. DE-Ohio also has access to 64 percent of the deliverability from the Erlanger Plant propane-air facility which is owned by DE-Kentucky. The MDQ of the Company's propane facilities at the beginning of the audit period was 176,740 Dth. As previously explained in Section 2.1 of the audit report, a *force majeure* was declared at the Todhunter Propane Cavern which supplied propane to the Dicks Creek Plant, and the Dicks Creek Plant is now no longer operational. This reduced the MDQ from the Company's propane facilities to 135,940 Dth. The current seasonal design quantity of the Company's propane facilities is approximately 1,400,000 Dth. As discussed in greater detail in Section 6.1.3 of the audit report, a portion of DE-Ohio's propane facilities is available to the suppliers of firm transportation customers and, therefore, may not be available to serve GCR customers.

4.2.3 Storage Service

DE-Ohio subscribed to unbundled firm contract storage service provided by Columbia Gas during the audit period. As previously described, the no-notice service DE-Ohio purchases from Texas Gas also includes a storage component. DE-Ohio pays the maximum FERC-approved rates for the storage services provided by Columbia Gas and Texas Gas.

A. Columbia Gas Transmission

Firm Storage Service (FSS). DE-Ohio purchased firm storage service from Columbia Gas under Rate Schedule FSS during the audit period. FSS storage service, in combination with Columbia Gas transportation capacity under Rate Schedule SST, provides DE-Ohio with no-notice balancing service. Daily differences between actual takes at DE-Ohio's citygate and the quantities scheduled to the Company's citygate by DE-Ohio and its transportation customers become no-notice injections or withdrawals under Rate Schedules FSS and SST. In addition to accommodating daily imbalances between actual takes at its citygate and nominated deliveries, DE-Ohio utilizes FSS service for seasonal load management purposes and to capture seasonal gas price differences.

DE-Ohio purchased FSS service from Columbia Gas under Contract No. 79969 during the audit period. The maximum daily storage withdrawal quantity (MDWQ) under DE-Ohio's FSS contract was 216,514 Dth. The seasonal contract storage quantity (SCQ) was 9,244,079 Dth. This provided the Company with 43 days of maximum withdrawal capabilities.

The FSS rate schedule provides for maximum daily and monthly injection volumes. Generally, as storage is filled, the volumes permitted for injection, both daily and monthly, are reduced. Conversely, as storage volumes are withdrawn, daily and monthly injection quantities increase. The maximum daily and monthly injection quantities under Rate Schedule FSS are specified in Columbia Gas' FERC-approved tariff. The maximum monthly injection quantities (MMIQ) are a specified percentage of the SCQ. The maximum daily injection quantities (MDIQ) are determined by dividing the MMIQ by a daily injection factor. These percentages and factors, and DE-Ohio's maximum daily injection rights under its Columbia Gas FSS contract, are as follows:

MONTH	MMIQ % OF SCQ	MMIQ (Dth)	DAILY INJECTION FACTOR	MDIQ (Dth)
November	5%	462,204	30	15,407
December	10%	924,408	30	30,814
January – March	10%	924,408	25	36,976
April	15%	1,386,612	25	55,464
May –August	20%	1,848,816	25	73,953
September	13%	1,201,730	25	48,069
October	7%	647,086	25	25,883

The maximum daily withdrawal quantities are also a function of the amount of gas in storage. The MDWQ declines as the amount of gas in storage inventory declines by the following ratchets:

STORAGE INVENTORY	MDWQ (Dth)
100-30%	216,514
30-20%	173,211
20-10%	140,734
10-0%	108,257

In addition, maximum and minimum net monthly withdrawal quantity restrictions are imposed by Columbia Gas during the winter season as follows:

MONTH	WITHDRAWAL QUANTITIES (Dth)	
	Maximum	Minimum
November	3,697,632	0
December	3,697,632	0
January	3,697,632	0
February	2,773,224	924,408
March	1,848,816	924,408

Finally, storage inventory levels are limited to 65 percent of the SCQ on February 1; 25 percent of the SCQ on April 1; 60 percent of the SCQ on June 30; and 85 percent of the SCQ on August 31. Failure to adhere to Columbia Gas' storage injection and withdrawal and inventory restrictions may result in the assessment of penalty charges. Monthly charges for FSS service include a deliverability charge applicable to the maximum daily withdrawal quantity, a capacity charge applicable to injection and withdrawal quantities, and a charge for storage losses.

B. Texas Gas Transmission

No-Notice Service (NNS). Texas Gas' NNS has a storage component which, in combination with the nominated transportation component of NNS, provides DE-Ohio with no-notice service. Daily differences between actual takes at DE-Ohio's citygate and the quantities scheduled to the Company's citygate by DE-Ohio and its transportation customers become no-notice storage injections or withdrawals. DE-Ohio's NNS contract entitlements were identified in Section 4.2.1 D of the audit report.

Rate Schedule NNS provides for maximum daily injection and withdrawal quantities. Winter period injections and summer period withdrawals are provided on a "best effort" interruptible basis. The maximum daily injection and withdrawal quantities are a function of the amount of gas in storage. The MDIQ declines as the amount of gas in storage inventory increases by the following ratchets:

STORAGE INVENTORY	MDIQ (Dth)
0-65%	30,550
65-90%	25,850
90-100%	14,100

The MDWQ declines as the amount of gas in storage inventory declines by the following ratchets:

STORAGE INVENTORY	MDWQ (Dth)
100-25%	25,000
25-20%	22,500
20-15%	21,250
15-10%	20,000
10-0%	18,750

Storage inventory is limited to 47 percent of the SCQ, or 1,104,500 Dth, on April 1.

4.2.4 Asset Management Agreements

Asset Management Agreements with three different Asset Managers were in place during the audit period. Each AMA was awarded through an RFP process. An AMA with Sequent was in place for the period November 2011 – October 2012. Separate AMAs with NextEra Energy Power Marketing, LLC were in place for the periods November 2012 – October 2013 and November 2013 – October 2014. An AMA with BP Energy Company (BP) was in effect for the period November 2014 – October 2015.

Under the AMAs, with limited minor exceptions and the capacity assigned to the suppliers of firm transportation customers which is discussed in greater detail in Section 6.1.3 of the audit report, all of DE-Ohio's capacity and gas supply contracts were assigned to the Asset Manager, and the Company was paid a management fee. The fees received by the Company from AMAs during the audit period are confidential. DE-Ohio was entitled to retain 20 percent of the AMA management fees and the remainder of the fees were allocated between GCR and firm transportation customers based on the interstate pipeline demand charges paid to DE-Ohio. The AMA fees allocated to firm transportation customers are included as a credit under Rider CCCR.

4.2.5 Gas Supply Arrangements

DE-Ohio relied almost exclusively upon firm term gas supply contracts to meet its audit period natural gas supply requirements. The Company's term gas supply contracts provide for firm gas supplies, generally for terms of one winter period (November – March) or one summer period (April – October). DE-Ohio made spot market purchases on isolated occasions during the audit period. Spot market purchases are of a shorter duration, generally from one to several days. DE-Ohio also arranged for the delivery of gas to the citygate for its Percentage of Income Payment Program (PIPP) customers. The Company's arrangements for PIPP customers are discussed in greater detail in Section 4.3 of the audit report.

DE-Ohio's term gas supply arrangements specify base load and/or swing supply quantities. Under base load arrangements, the Company agrees to nominate and accept a fixed daily quantity of gas during a particular month. The Company's term swing supply contracts provide flexibility through daily changes to nominated quantities.

DE-Ohio's winter base load term gas supply arrangements generally provide for a monthly commodity price based on an applicable first-of-the-month (monthly) published index price. The Company's winter base load term gas supply arrangements may require the payment of a small supplier reservation fee applicable to the maximum daily contract quantity (e.g., \$0.0025 per Dth), or may include a small premium or discount to the monthly price (e.g., \$0.01 per Dth). DE-Ohio's base load firm gas supply contracts typically provide the Company with the ability to lock in forward fixed commodity prices under its hedging program based on NYMEX reported prices for any traded month. DE-Ohio's hedging program is discussed in greater detail in Section 5.3 of the audit report.

DE-Ohio's audit period winter swing gas supply arrangements generally provide for a commodity price based on *Gas Daily* index prices. The Company's winter swing term gas

supply arrangements may also require the payment of a small supplier reservation fee and may include a small premium or discount to the index price.

DE-Ohio solicits bids for winter term gas supplies through an RFP process that is generally initiated late each spring and concluded in the summer. The Company solicits bids for specific quantities of base load and swing gas supplies on each interstate pipeline. DE-Ohio's winter audit period term gas supply arrangements are summarized in Table 7. Also shown are the Company's capacity contract quantities by pipeline, adjusted for capacity released to RFT/FT suppliers and to DE-Kentucky. The Columbia Gulf gas supply contract supply quantities identified in Table 7 are adjusted to account for fuel retention and reflect delivered-to-KO Transmission quantities. The Texas Gas gas supply contract quantities identified in Table 7 are adjusted to account for fuel retention and reflect delivered-to-citygate quantities. As shown in Table 7, DE-Ohio reserved term firm supplies during the winter sufficient to fill all of its available pipeline capacity and, at times, more than sufficient quantities to fill the available pipeline capacity. Winter term supply quantities occasionally exceeded the available pipeline capacity as a result of the migration of GCR customers to RFT/FT service after DE-Ohio entered into its winter term supply arrangements. The supplier reservation fees associated with the excess winter term supplies were *de minimus*.

DE-Ohio did not solicit for summer term gas supplies through an RFP process during the audit period. For summer gas supplies, typically towards the end of February, DE-Ohio presents its Asset Manager with the Company's anticipated base load and swing gas supply requirements. During the summer of 2013 and 2014, the Asset Manager was willing to meet DE-Ohio's requirements at a price agreeable to the Company. For the summer of 2015, there was uncertainty as to how much supply would be provided by suppliers under the Choice program. This uncertainty was attributable to DE-Ohio's proposal to make Enhanced Firm Balancing Service (EFBS) mandatory for certain suppliers. The Company's EFBS proposal is discussed in greater detail in Section 6.1.5 of the audit report. As a result of this uncertainty, DE-Ohio elected to purchase gas from the Asset Manager, or other suppliers if the Company and Asset Manager could not agree on a price. Summer-period gas supplies were generally purchased at index prices flat. That is, base load purchases were made at monthly index prices with no adder to the index price. Swing purchases were made at *Gas Daily* index prices with no reservation charges or adder. DE-Ohio's approach to contracting for gas suppliers under term arrangements ensures winter-period supply reliability and enables the Company to avoid incurring supplier reservation charges or commodity adders above index on summer-period purchases. One exception to DE-Ohio's sole use of its Asset Manager for summer term gas supplies is the summer of 2012 when DE-Ohio contracted for term supplies from an alternative supplier to fill

its Texas Gas FT capacity with receipt points on Gulf South (Contract No. T25573). This was done to achieve a price that was less than index flat.

Table 7.
Summary of Term Gas Supply Maximum Daily Contract Quantities
(Dth)

MONTH	COLUMBIA GULF				TEXAS GAS						PIPP Gas
	FTS-1		FTS-1 (BH)		NNS-Nominated		FT		STF		
	Gas	Capacity	Gas	Capacity	Gas	Capacity	Gas	Capacity	Gas	Capacity	
September 2012	1,832	80,369	0	0	1,813	10,982	6,707	30,000	0	0	6,100
October	73,320	80,369	0	0	7,926	10,982	30,000	30,000	0	0	6,100
November	115,094	82,409	7,000	7,000	6,250	6,250	30,000	30,000	0	0	6,100
December	115,094	82,409	7,000	7,000	6,250	6,250	30,000	30,000	0	0	6,100
January 2013	115,094	82,409	7,000	7,000	6,250	6,250	30,000	30,000	0	0	6,100
February	115,094	82,409	7,000	7,000	6,250	6,250	30,000	30,000	0	0	6,100
March	115,094	82,409	7,000	7,000	6,250	6,250	30,000	30,000	0	0	6,100
April	58,544	23,181	0	0	4,711	10,982	30,000	30,000	0	0	5,600
May	12,791	43,181	0	0	2,992	10,982	9,623	30,000	0	0	5,600
June	12,791	43,181	0	0	1,750	10,982	8,661	30,000	0	0	5,600
July	9,839	43,181	0	0	2,228	10,982	7,698	30,000	0	0	5,600
August	11,806	43,181	0	0	2,037	10,982	7,698	30,000	0	0	5,600
September	8,855	43,181	0	0	2,132	10,982	5,774	30,000	0	0	5,600
October	73,795	43,181	0	0	7,099	10,982	30,000	30,000	0	0	5,600
November	57,058	46,475	7,000	7,000	6,250	6,250	30,000	30,000	0	0	5,600
December	57,058	46,475	7,000	7,000	6,250	6,250	30,000	30,000	0	0	5,600
January 2014	57,058	46,475	7,000	7,000	6,250	6,250	30,000	30,000	0	0	5,600
February	57,058	46,475	7,000	7,000	6,250	6,250	30,000	30,000	0	0	5,600
March	57,058	46,475	7,000	7,000	6,250	6,250	30,000	30,000	0	0	5,600
April	16,904	34,701	0	0	6,798	10,982	0	0	11,548	14,000	0
May	15,473	59,701	0	0	5,164	10,982	0	0	11,548	14,000	0
June	15,486	59,701	0	0	6,221	10,982	0	0	9,623	14,000	0
July	11,499	59,701	0	0	6,317	10,982	0	0	9,623	14,000	0
August	9,481	59,701	0	0	6,221	10,982	0	0	9,623	14,000	0
September	10,439	59,701	0	0	5,549	10,982	0	0	11,548	14,000	0
October	42,437	59,701	0	0	9,007	10,982	0	0	11,548	14,000	0
November	44,047	29,076	11,000	10,561	6,250	6,250	0	0	21,984	18,721	0
December	44,047	29,076	11,000	10,561	6,250	6,250	0	0	21,984	18,721	0
January 2015	44,047	29,076	11,000	10,561	6,250	6,250	0	0	21,984	18,721	0
February	45,059	29,076	11,000	10,561	6,250	6,250	0	0	21,984	18,721	0
March	44,047	29,076	11,000	10,561	6,250	6,250	0	0	21,984	18,721	0
April	0	19,708	0	17,509	0	10,982	0	0	0	9,553	0
May	0	19,708	0	17,509	0	10,982	0	0	0	9,553	0
June	0	19,708	0	17,509	0	10,982	0	0	0	9,553	0
July	0	19,708	0	17,509	0	10,982	0	0	0	9,553	0
August	0	19,708	0	17,509	0	10,982	0	0	0	9,553	0

4.2.6 Local Ohio Production

DE-Ohio's ability to purchase local Ohio-produced gas delivered directly to its system is limited because the Company's territory is not conducive to natural gas formation. Most of Ohio's proven gas reserves are located in the northeast region of the state. DE-Ohio may purchase Ohio-produced gas that is produced in other regions of the state and delivered to the Company by interstate pipelines.

DE-Ohio purchased gas from the Rumpke Sanitary Landfill located in Cincinnati during the audit period. These supplies are delivered directly to DE-Ohio's system and were purchased under a contract with Shell Energy North America (Shell). Audit period purchases totaled approximately 3,950,000 Dth. The purchases from Shell were priced based on NYMEX Henry Hub settlement prices. The contract with Shell expired on June 30, 2014. Since that time, the Company has purchased the landfill gas from U.S. Energy Services under a contract that will expire June 30, 2016. The purchases from U.S. Energy Services are priced based on Columbia Gas monthly index prices.

4.3 Percentage of Income Payment Program Customers

For gas supplies to serve PIPP customers, DE-Ohio typically issues an RFP each year to suppliers participating in the Company's firm transportation program and to those suppliers from which the Company purchases gas to serve its GCR customers. Suppliers are requested to deliver an equal quantity of gas each day, based on the estimated average usage of PIPP customers, assuming normal weather. The requested bid price is based on the *Inside FERC* first-of-the-month index price for Columbia Gulf Mainline, plus fuel, variable, and reservation charges on Columbia Gulf Transmission and KO Transmission to determine a citygate-delivered market price. Each supplier is instructed to bid a "Supplier Bid Credit" which represents a fixed discount from the calculated market price. Suppliers are paid the calculated market price less the Supplier Bid Credit. PIPP customers pay the Expected Gas Cost (EGC) portion of the GCR rate, less the Supplier Bid Credit.

For the period September 2012 – March 2014, DE-Ohio's PIPP customers were served by third-party suppliers, and as such were considered to be firm transportation customers. However, the Company managed any daily, monthly, or annual imbalances, and the supply contracts were between DE-Ohio and the PIPP suppliers. For serving PIPP customers beginning April 1, 2014, DE-Ohio received only one response to its RFP, and the bid credit was relatively small and would have resulted in PIPP customers being charged a rate that was higher than the GCR. As a result, DE-Ohio filed an application with the Commission requesting that PIPP customers be returned to GCR service, which was granted by the Commission (Case No. 14-315-

GA-UNC). The Company's application to make EFBS mandatory in Case No. 15-50-GA-RDR may require future PIPP suppliers to subscribe to EFBS. DE-Ohio will issue an RFP to supply PIPP customers upon resolution of Case No. 15-50-GA-RDR. Case No. 15-50-GA-RDR is discussed in greater detail in Section 6.1.5 of the audit report. The table below identifies the suppliers and the applicable Supplier Bid Credits for the audit period:

TERM	SUPPLIER	DAILY VOLUME (Dth)	SUPPLIER BID CREDIT (\$/Dth)
April 2012 – March 2013	BG Energy Merchants	6,100	\$0.1100
April 2013 – March 2014	Volunteer Energy	5,600	\$0.1225

4.4 Balance of Capacity Resources and Requirements

DE-Ohio's capacity requirements can be affected by customer conversions from sales to transportation service and vice versa, customer conservation efforts, increases and decreases in the number of customers served, and other factors. Maintaining capacity in excess of the Company's customers' requirements would be inconsistent with the minimization of gas costs, while failing to maintain sufficient capacity may compromise service reliability.

4.4.1 Design Day Capacity Resources and Requirements

DE-Ohio reserves sufficient capacity to meet the design day requirements of its firm sales customers and a portion of any increase in the design peak day requirements of a supplier's firm transportation customers beyond that which existed on April 1, 2007. A design day forecast is prepared annually by DE-Ohio's Load Forecasting Department. The forecast is developed using an econometric model which examines the historical relationship between monthly firm peak load and factors such as weather, the level of economy, and space heat saturation. Because economic conditions and appliance saturation are reflected in the weather normalized gas deliveries, the design day forecast is driven by the energy model's forecast of weather normalized firm deliveries and weather. The model has the following specification:

$$\text{Firm Peak Load} = f(\text{Weather Normalized Firm Deliveries, Weather})$$

The variables used to represent weather in the Company's design day model are current-day heating degree days, heating degree days on the prior day, and average wind speed. To determine design day demand, the model is solved using actual extreme weather from the winters of 1947-1948 to present. Using the results of these simulations, probability ranges are developed to show the sensitivity of firm demands to weather. The design day level chosen for the audit period reflected a 1 percent probability of occurrence. Gas utilities typically use specific design day criteria to forecast design day requirements (e.g., a specific temperature,

wind speed, etc.) DE-Ohio has employed this approach in the past. The Company no longer utilizes this approach due to the difficulty encountered in the selection of multiple design day criteria. For example, selection of the current-day temperature for design day is relatively straightforward; however, debate may then arise over the selection of the prior-day temperature and wind speed.

For purposes of determining design day requirements, gas utilities typically use a current day with a mean temperature that has a 5 to 10 percent probability of occurrence. Probability of occurrence is frequently determined based on the actual number of occurrences over a specific historical period. DE-Ohio does not use this approach; rather, the Company uses an approach that determines frequency of occurrence based on statistical probabilities. The current-day temperature associated with a 1 percent probability of occurrence using DE-Ohio's statistical probability approach is -14°F. DE-Ohio has experienced mean daily temperatures of -14°F or lower on three occasions since the winter of 1947-1948. Based on the actual frequency of occurrence, this reflects a probability of occurrence of slightly less than 5 percent, which would be somewhat conservative compared to the probability of occurrence used by other gas utilities. However, Exeter notes that reserving capacity to serve customer requirements at a design day with a low probability of occurrence (i.e., 1 percent) when compared to a design day with a higher probability of occurrence (i.e., 5 percent) currently has a relatively *de minimus* incremental cost.

The design day projection developed by the Load Forecasting Department is used for capacity planning purposes. As such, it is an estimate of the design day requirements of firm customers. Gas Control is responsible for preparing day-ahead forecasts of daily sendout. This includes the requirements of both firm and interruptible customers. The day-ahead forecasts prepared by Gas Control are generated from a model separate from that developed by Load Forecasting and are used as the basis upon which to nominate gas supplies on a daily basis. The model developed by Gas Control utilizes many of the same independent variables included in the model developed by Load Forecasting. Judgement is also used by Gas Control in preparing its day-ahead forecasts.

The projected design peak day requirements of DE-Ohio's GCR sales customers, firm transportation customers, and the capacity resources available to meet those requirements just prior to each audit period winter season are summarized in Table 8. As explained in greater detail in Sections 6.1.3 and 6.1.5 of the audit report, the capacity resources shown in Table 8 have been adjusted to reflect the *pro rata* share of propane made available to the suppliers of firm transportation customers, the assignment of capacity to RFT/FT suppliers, and the storage utilized by suppliers in conjunction with EFBS. As shown in Table 8, with the exception of the

winter of 2013-2014, the capacity requirements of GCR customers and the resources available to serve GCR customers were in close balance just prior to each winter of the audit period. For the winter of 2013-2014, GCR capacity resources exceeded GCR capacity requirements by 33,157 Dth. This excess was attributable to the migration of GCR customers to firm transportation service. A portion of the costs associated with the excess capacity was removed from the GCR and recovered through DE-Ohio's Rider CCCR. The assignment of pipeline capacity to RFT/FT suppliers for the winter of 2013-2014 and Rider CCCR are discussed further in Section 6.1.3 of the audit report.

Table 8. Design Day Requirements and Capacity Resources (Dth)			
	WINTER SEASON		
	2012-2013	2013-2014	2014-2015
Requirements			
Firm Customer Requirements	815,899	814,833	816,004
Less: FT Requirements	386,121	464,337	459,477
GCR Requirements	429,778	350,496	356,527
Resources			
DE-Ohio Capacity Resources	650,865	644,752	543,828
Less: EFBS and RFT/FT Capacity Assignment	117,300	135,613	111,696
Less: Capacity Release	19,888	24,770	0
Less: RFT/FT Propane Assignment	83,642	100,716	76,545
GCR Resources	430,035	383,653	355,587
Excess/(Deficiency)	257	33,157	(940)

Table 9 illustrates the predictive capabilities of the forecasting models developed by the Load Forecasting and Gas Control Departments to project peak day demands. The projected peak day demands prepared by Load Forecasting reflected in Table 9 are for firm customers (GCR and RFT/FT) based on actual observed peak day weather data. The projected peak day demands prepared by Gas Control reflected in Table 9 are for total system demand (GCR, RFT/FT, and IT) and the actual observed peak day weather data. As shown in Table 9, the forecasting model used by Load Forecasting significantly underestimated demands on January 6, 2014, the coldest day during the audit period. Exeter's audit generally found Gas Control's day-ahead forecasts to be reasonable. The average error of Gas Control's forecasts during the audit period winter seasons, after correcting for differences between forecasted and actual weather, was slightly less than 5 percent.

Table 9.
Comparison of Projected and Actual Peak Day Demands
(Dth)

DATE	FORECASTING DEPARTMENT – FIRM DEMANDS				GAS CONTROL – TOTAL DEMANDS				EFFECTIVE TEMPERATURE	
	Actual	Projected ^[1]	Deviation	Percent	Actual	Projected ^[1]	Deviation	Percent	Actual	Forecasted
January 22, 2013	515,876	582,871	66,995	13.0%	597,265	610,916	13,651	2.3%	10°F	9°F
January 6, 2014	812,307	737,994	(74,313)	(9.1%)	820,862	791,964	(28,898)	(3.5%)	-5°F	-8°F
February 19, 2015	705,635	720,329	14,694	2.1%	742,889	764,129	21,240	2.9%	-4°F	-5°F

Note: ^[1] Adjusted for actual effective temperature.

A Company-specific requirement of the audit is to review DE-Ohio's annual comparisons of its actual peak day demands with the demand estimates of Load Forecasting's design day model using actual observed peak day weather data and the use of these annual comparisons to refine the design day model. Exeter's audit revealed that DE-Ohio did not compare actual peak day demands with the demand estimates of Load Forecasting's design day model using actual weather to refine its model. This is because, as previously indicated, the design day model used by Load Forecasting relies upon monthly rather than daily data. DE-Ohio has indicated that Load Forecasting has recently acquired software that will enable the Company to develop a design day model that utilizes daily data. Once that model is developed and determined to be effective, DE-Ohio has indicated that it will perform annual comparisons of forecasted and actual demands to refine its design day model.

Another Company-specific requirement of the audit is to examine DE-Ohio's evaluation of its design day coverage used for capacity planning to determine the optimal level of coverage, taking into consideration new capacity options that became available during the audit period. Exeter's audit found that DE-Ohio utilized an expected value analysis to determine the optional level of design day coverage. That analysis compared the incremental costs associated with various design day coverage levels (95 to 99 percent) with the expected value of the adverse consequences of not being covered at that particular coverage level. The Company's analysis indicated that the optimal design day coverage level was 99 percent. This result was attributable to the low cost associated with incremental capacity and the significant adverse consequences of failing to cover design day requirements. Exeter concurs with DE-Ohio's analysis.

4.4.2 Winter Season Capacity Resources and Requirements

For winter seasonal capacity planning purposes, DE-Ohio utilizes weather data from the winter of 1995-1996. This winter was 12 percent colder than normal. Temperature variances from normal, along with normal winter temperatures, are used by the Company in selecting and determining the use of its capacity resources. DE-Ohio develops its winter season and annual

load forecasts through the use of econometric modeling techniques. DE-Ohio maintains capacity resources to meet the requirements of GCR customers and the EFBS requirements of Choice suppliers, and assigns capacity to Choice suppliers. The projected GCR and EFBS requirements and the volumes that would be delivered under assigned capacity (collectively, “firm service requirements”) under design colder-than-normal weather conditions were estimated to be approximately 30,300,000 Dth for the 2014-2015 winter season. DE-Ohio’s 2014-2015 winter season firm citygate capacity entitlements were approximately 33,200,000 Dth. Thus, the Company’s winter season capacity resources and firm service requirements are in relative balance.

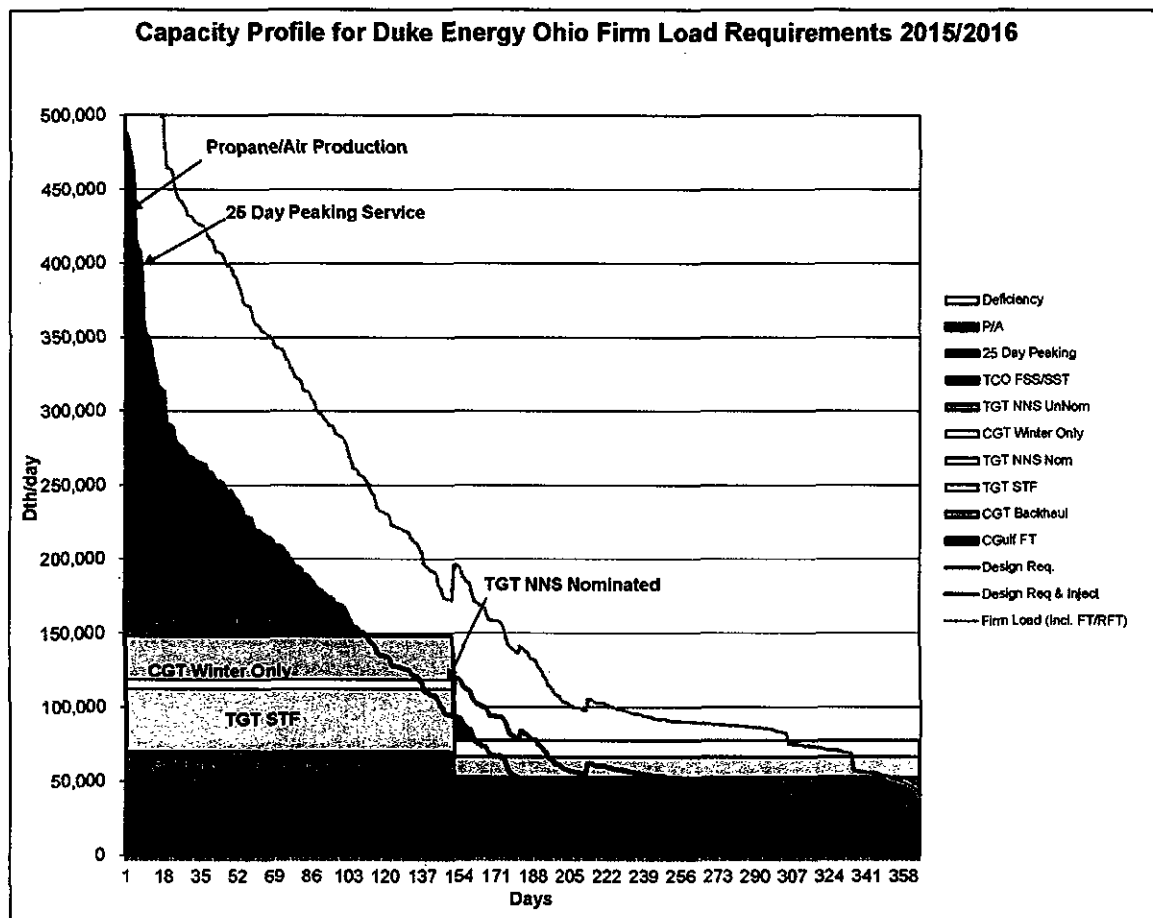
4.4.3 Annual Capacity Resources and Requirements

The annual firm service requirements of DE-Ohio’s customers under design colder-than-normal weather conditions were approximately 36,600,000 Dth for calendar year 2015. The Company has available firm citygate capacity resources sufficient to deliver approximately 49,700,000 Dth annually.

4.4.4 Load Duration Curve

The load duration curve presented in Figure 4 compares DE-Ohio’s expected daily firm service requirements with the capacity resources currently reserved to meet those requirements. As shown in Figure 4, DE-Ohio’s current capacity portfolio closely matches its firm service requirements.

Figure 4.
Load Duration Curve



The prior DE-Ohio management performance audit noted that one of the points utilized in the Company's load duration curve is the projected design day demand. The prior audit further noted that rather than using actual data from the 1995-1996 winter season to develop demands on the remaining days, the Company assumes a percentage of the design day demand will be experienced on the days leading up to, and following, the design day. Those percentages were as follows:

DAY	PERCENT OF DESIGN DAY
2 Days Prior	90%
1 Day Prior	98%
Design Day	100%
1 Day After	99%
2 Days After	95%

It was reported in the prior audit that the Company's selected percentages were not supported by any analysis. The prior audit noted that DE-Ohio's use of the one-day-prior design peak day percentage of 98 percent appeared inconsistent with actual weather experience, and recommended that DE-Ohio analyze its prior-day and day-after percentages based on actual temperature differences to develop more reasonable criteria. A Company-specific requirement of the audit is to evaluate DE-Ohio's analyses of its prior-day and day-after percentages based on actual temperature differences to develop more reasonable criteria.

In response to the recommendations in its prior audit, DE-Ohio examined actual customer requirements on the days prior to and after the peak day for the winter of 1995-1996 through the winter of 2011-2012. The Company's analysis identified both average and maximum prior-day and day-after loads on a percentage basis as follows:

DAY	PERCENT OF DESIGN DAY	
	Average	Maximum
2 Days Prior	71%	96%
1 Day Prior	87%	99%
Design Day	100%	100%
1 Day After	87%	94%
2 Days After	74%	84%

The Company's analysis indicated that the prior-day and day-after design day percentages previously relied upon were reasonable. Exeter's audit concludes that based on DE-Ohio's current contracting practice of relying on peaking services to meet design day demands that are well in excess of demands on typical winter days, the specific prior-day and day-after percentages relied upon will not materially affect DE-Ohio's selected capacity portfolio.

4.5 Diversification of Capacity and Gas Supply Resources

Diversification of pipeline capacity and gas supply resources can reduce the risk of supply disruptions attributable to either the interruption of gas production in a particular supply region accessed by a pipeline, or to pipeline delivery disruptions. Such disruptions can significantly increase the price of gas in the affected production region, or the price of gas delivered to specific pipelines within a supply region. For example, Hurricanes Katrina and Rita caused the shut-in of a significant percentage of Gulf Coast area gas production, causing the price of gas in this region to increase more significantly than in other production areas. Although the supply disruptions from Hurricanes Katrina and Rita did not have a significant impact on DE-Ohio's supply in the late summer of 2005, the disruptions highlighted DE-Ohio's heavy dependence on supplies from the Gulf Coast region, particularly southern Louisiana.

As initially discussed in Section 4.1 of the audit report, although the majority of interstate gas purchased by DE-Ohio is currently Gulf Coast supplies, all of the interstate gas supplies physically received by DE-Ohio are Marcellus Shale supplies. This is unlikely to change in the near future due to the prolific level of production in this region that is causing pipelines that access this region and serve DE-Ohio to flow gas supplies north to south. For the foreseeable future, DE-Ohio will remain physically dependent on Marcellus Shale supplies with no opportunities for physical diversification.

4.6 Continuation of Merchant Function

DE-Ohio retains the supplier of last resort responsibility (SOLR) for the merchant function. Customers may voluntarily, on a self-selection basis, seek gas supply service from an alternate supplier, but DE-Ohio presently provides service to customers who do not “shop” their gas requirements. This SOLR responsibility extends both to customers who do not convert to an alternate gas supply provider and to customers who leave the alternate supplier market and return to DE-Ohio’s merchant service.

Ohio’s other major natural gas utilities—Columbia Gas of Ohio, Dominion East Ohio, and Vectren Energy Delivery of Ohio—are no longer subject to the GCR mechanism. Instead, as previously explained in Section 2.3 of the audit report, each has a Standard Service Offering (SSO) Gas Cost Rate under which it continues to provide natural gas commodity service to its sales customers at the cost of acquiring supplies. The cost of acquiring supplies for the other Ohio utilities is established through an auction process in which suppliers bid fixed adjustments to the NYMEX monthly settlement price.

On May 15, 2007, DE-Ohio filed an Application to increase rates in Case No. 07-589-GA-AIR, *et al.* On February 28, 2008, DE-Ohio reached a settlement with the Parties to that case and submitted a Stipulation and Recommendation to the PUCO. On May 28, 2008, the PUCO approved the Stipulation and Recommendation in its entirety. One element of the Stipulation and Recommendation was DE-Ohio’s commitment to convene a working group or collaborative process, open to interested stakeholders, to explore implementing an auction and adopting an SSO for its natural gas customers. DE-Ohio agreed to report the findings of the working group to the PUCO within one year. On May 27, 2009, DE-Ohio filed its report with the PUCO.

DE-Ohio’s report concluded that maintaining the current GCR mechanism would result in lower rates for its customers than would an auction process. Since 2012, GCR customers have saved approximately \$7 million per year in gas costs compared to Choice customers. Therefore, the Company has no current plans to exit the merchant function.

4.7 Conclusions and Recommendations

4.7.1 *Interstate Pipeline Capacity Entitlement Changes*

DE-Ohio made a number of changes to its interstate pipeline capacity entitlements during the audit period and was able to negotiate discounted rates under several contracts. These entitlement changes and discounts provide a significant benefit to GCR customers, and Exeter's audit found these contract entitlement changes to be reasonable.

4.7.2 *Citygate Purchases*

In November 2014, DE-Ohio discovered that due to fewer suppliers participating in its firm transportation program electing Enhanced Firm Balancing Service (EFBS) and an increase in the number of customers participating in its firm transportation program, the Company did not maintain sufficient firm interstate pipeline transportation capacity to meet the requirements of its GCR customers and to manage storage inventory balances. This firm transportation capacity deficiency became evident when it became necessary for the Company to make citygate gas supply purchases to reduce the rate of storage withdrawals and effectively manage storage inventory balances within the FERC tariff requirements of DE-Ohio's interstate pipeline storage service providers. To address the deficiency, DE-Ohio filed an application with the PUCO to make EFBS mandatory for suppliers serving customers with aggregate maximum daily demands greater than or equal to 20,000 Dth per day (Case No. 15-50-RDR). As a result of not maintaining sufficient firm interstate transportation capacity to effectively manage storage and lower the rate of storage withdrawals, DE-Ohio was required to make citygate gas purchases of 2,332,628 Dth during the winter of 2014-2015.

DE-Ohio should have recognized that it did not maintain sufficient firm interstate transportation capacity before it actually became necessary to make citygate purchases to meet GCR customer requirements and manage storage inventory balances. The purchase of citygate gas supplies could have had a significant adverse impact on the gas costs of GCR customers.

Assessing the impact of DE-Ohio's citygate purchases on the gas costs of GCR customers during the winter of 2014-2015 requires reliance on a set of uncertain assumptions. The determination of whether DE-Ohio's citygate purchases had either an adverse or beneficial impact on the gas costs of GCR customers is contingent upon the particular set of assumptions utilized. Regardless of the set of reasonable assumptions relied upon, the likely impact of DE-Ohio's citygate purchases was not significant, regardless of whether those impacts were positive or negative.

4.7.3 Design Day Forecast Model

A Company-specific requirement of the audit is to review DE-Ohio's annual comparisons of its actual peak day demands with the demand estimates of Load Forecasting's design day model using actual observed peak day weather data and the use of these annual comparisons to refine the design day model. Exeter's audit revealed that DE-Ohio did not compare actual peak day demands with the demand estimates of Load Forecasting's design day model using actual weather to refine its model. This is because the design day model currently used by Load Forecasting relies upon monthly rather than daily data. DE-Ohio has indicated that Load Forecasting has recently acquired software that will enable the Company to develop a design day model that utilizes daily data. Once the daily design day model is developed and determined to be effective, DE-Ohio has indicated the Company will perform annual comparisons of forecasted and actual demands to refine its model. Exeter believes that a switch to using daily data to develop the Company's design day forecasts is long overdue. The current model that relies upon monthly data has not proven to be sufficiently accurate.

4.7.4 Design Day Coverage

A Company-specific requirement of the audit is to examine DE-Ohio's evaluation of its design day coverage used for capacity planning to determine the optimal level of coverage, taking into consideration new capacity options that became available during the audit period. Exeter's audit found that DE-Ohio utilized an expected value analysis to determine the optimal level of design day coverage. This analysis compared the incremental costs associated with various design day coverage levels (95 to 99 percent) with the expected value of the adverse consequences of not being covered at that particular coverage level. The Company's analysis indicated that the optimal design day coverage level was 99 percent. This result was attributable to the low cost associated with incremental capacity and the significant adverse consequences of failing to cover design day requirements. Exeter concurs with DE-Ohio's analysis.

4.7.5 Prior-Day and Day-After Planning

A load duration curve that compares the expected daily firm service requirements of a utility's customers with the utility's capacity resource portfolio provides an indication of the reasonableness of that portfolio. Included in the load duration curve is the projected design day demand. The prior audit noted that in its load duration curve, DE-Ohio assumed a percentage of the design day demand would be experienced on the days leading up to, and following, the design day. These percentages were not supported by any analysis, and the prior audit noted that the percentages appeared inconsistent with actual weather experience. The prior audit recommended that DE-Ohio analyze its prior-day and day-after percentages based on actual temperatures to develop more reasonable criteria. DE-Ohio's analyses indicated that the prior-

day and day-after design day percentages relied upon by the Company were reasonable. Exeter agrees with DE-Ohio's findings.

4.7.6 Propane Capacity Analysis

The Company's Dicks Creek Plant propane facility is no longer operational due to a geological failure at the Todhunter Propane Cavern. The Eastern Avenue and Erlanger Plant propane facilities are presently operational. However, the potential exists for these facilities to also become unavailable. DE-Ohio should assess the potential for this to occur and evaluate and determine the Company's optimal interstate pipeline capacity portfolio if this were to occur. The Company's assessment and evaluation should be considered in any future decisions to adjust its interstate pipeline contract storage capacity entitlements. This is because it is unlikely that any storage turned back by DE-Ohio could be reacquired in the future.

5. AUDIT PERIOD CAPACITY UTILIZATION AND PROCUREMENT ACTIVITY

DE-Ohio's utilization of capacity resources and gas supply procurement activity is evaluated in this section. Section 5.1 summarizes the Company's audit period gas supply purchases. Section 5.2 discusses the Company's use of capacity resources to procure gas supplies as well as the Company's gas supply procurement planning process. A detailed discussion of DE-Ohio's efforts to minimize price volatility is presented in Section 5.3. Storage operations are discussed in Section 5.4. Section 5.5 discusses the Company's capacity release and off-system sales activities. Discussed in Section 5.6 are locational differences in gas prices and their impact on DE-Ohio's purchased gas costs. Section 5.7 addresses lost-and-unaccounted-for and company-use gas. The final section presents Exeter's conclusions and recommendations.

5.1 Summary of Purchases

DE-Ohio purchased nearly 77,500,000 Dth of natural gas during the September 2012 – August 2015 audit period. Gas supplies purchased by DE-Ohio may be utilized to meet current GCR customer demands or may be injected into storage. Table 10 summarizes the Company's audit period gas supply purchases by pipeline. The quantities identified in Table 10 reflect the pipeline of initial receipt, or the pipeline on which DE-Ohio first takes title to the gas. Those purchases may have been subsequently delivered to the Company's citygate or storage. As shown in Table 10, approximately 50 percent of the gas supplies purchased by DE-Ohio were sourced on Columbia Gulf and either subsequently delivered to the Company by KO Transmission or injected into Columbia Gas storage and subsequently delivered to DE-Ohio by Columbia Gas.

Table 10. Summary of Audit Period Purchases by Source		
SOURCE	QUANTITY (Dth)	PERCENT
Columbia Gulf	39,545,966	51.0%
Texas Gas	25,858,926	33.4
Landfill	3,938,266	5.1
PIPP	3,337,200	4.3
Citygate	2,917,629	3.8
Peaking Service	1,326,233	1.7
Propane	545,155	0.7
Total	77,469,375	100.0%

5.2 Capacity Utilization and Gas Supply Procurement Strategy

Appendix A to the audit report summarizes DE-Ohio's actual capacity entitlements and utilization of capacity resources for each month of the audit period, inclusive of capacity release activity. Appendix A also identifies the Company's monthly gas supply purchases by the pipeline of initial receipt.

As initially explained in Section 2 of the audit report, during the audit period, approximately 40 to 50 percent of DE-Ohio's gas supply requirements needed to be delivered into the northern portion of its system, and 50 to 60 percent needed to be delivered into the southern portion of its system. DE-Ohio acquires firm interstate pipeline capacity to minimize overall gas procurement costs (gas commodity and capacity) within these system operational delivery constraints.

DE-Ohio utilizes its firm transportation capacity to meet both current requirements and to fill storage. The utilization of firm transportation capacity by DE-Ohio during each year of the audit period, exclusive of the no-notice services that the Company purchases from Columbia Gas (FSS/SST) and Texas Gas (NNS Unnominated), and net of capacity release activity, is summarized in Table 11. As shown, utilization of DE-Ohio's Columbia Gulf FTS-1 and FTS-1 BH capacity has been combined because the Company primarily used its FTS-1 BH capacity to acquire Gulf Coast-sourced rather than Columbia Gas-sourced backhaul supplies.

Table 11. Utilization of Firm Transportation Capacity Annual Load Factors				
ARRANGEMENT	12 MONTHS ENDING AUGUST 31			AVERAGE
	2013	2014	2015	
Columbia Gulf FTS-1/FTS-1 BH	52%	68%	82%	67%
KO Transmission FT	19	15	18	17
Texas Gas NNS Nominated	43	38	62	48
Texas Gas FT ^[1]	42	39	--	41
Texas Gas STF ^[2]	--	42	91	66
^[1] Arrangement terminated March 31, 2014.				
^[2] Arrangement effective April 1, 2014.				

The resources utilized to accommodate the peak day requirements of DE-Ohio's sales and transportation customers during each winter season of the audit period are identified in Table 12.

Table 12.
Summary of Actual Peak Day Requirements and Supplies
(Dth)

DESCRIPTION	JANUARY 22, 2013	JANUARY 6, 2014	FEBRUARY 19, 2015
<u>Requirements</u>			
GCR Sales	256,249	439,804	368,278
Firm Transportation	259,627	372,503	337,357
Interruptible Transportation	81,389	8,555	37,254
Subtotal Requirements	597,265	820,862	742,899
<u>Gas Supplies – GCR</u>			
Columbia Gas FSS/SST	119,121	146,237	51,063
Columbia Gulf FTS-1	78,338	58,583	129,153
Texas Gas FT	30,000	30,000	0
Texas Gas NNS Nominated	6,250	6,250	6,232
Texas Gas NNS Unnominated	23,915	8,364	11,409
Texas Gas STF	0	0	18,720
Peaking Service	16,000	53,685	70,000
Propane	7,103	86,177	18,686
ANR/Other	2,763	(11,566)	3,259
IT Imbalance	(27,241)	62,074	59,756
Subtotal Gas Supplies – GCR	256,249	439,804	368,278
<u>Gas Suppliers – Transportation</u>			
ANR Pipeline	7,088	19,257	10,405
Columbia Gas	183,377	225,836	206,593
Texas Gas	123,310	198,039	217,369
IT Imbalance	27,241	(62,074)	(59,756)
Subtotal Gas Suppliers – Transportation	341,016	381,058	374,611
Total Throughput	597,265	820,862	742,889
Peak Day Temperature	15°F	-5°F	-1°F

DE-Ohio prepares a number of planning documents as part of its capacity and gas supply procurement process. As initially discussed in Section 4.4.1 of the audit report, on an annual basis, design day forecasts are prepared by Load Forecasting for the upcoming winter and subsequent ten years at various probabilities of occurrence (i.e., 50, 5, 3, and 1 percent). These forecasts are included in the Long-Term Forecast Report (LTFR) filed with the Commission. As explained in Section 4.4.2 of the audit report, DE-Ohio uses weather data from the winter of 1995-1996 for winter season capacity planning purposes. Based on this weather data, Gas Resources uses Gas Firm Equations and the estimated number of customers by class to determine its design winter season requirements. DE-Ohio's Gas Firm Equations, which are discussed in greater detail in Section 6.1.8 of the audit report, identify projected use by customer by class at

various temperature ranges. The estimated number of customers by class is provided to Gas Resources by Load Forecasting. Design winter season requirement forecasts are prepared for the upcoming winter on an annual basis and for future periods that require capacity contracting decisions.

As explained in Section 4.2.5 of the audit report, DE-Ohio purchases base load and daily swing winter period term gas supplies sufficient to fill all of its available pipeline capacity during the winter season. The quantity of gas to secure under DE-Ohio's base load term arrangements is based on estimated demands during a warmer-than-normal winter. The remainder of DE-Ohio's interstate pipeline capacity is used for daily swing gas. Winter-period base load and daily swing quantities are reflected in an annual Winter Supply Plan prepared by Gas Resources.

A Monthly Gas Supply Plan is prepared by Gas Resources approximately two weeks prior to the operating month to determine how the capacity and gas supply resources secured by the Company will be used to meet customer requirements. To assist with the development of the Monthly Gas Supply Plan, an Excel-based Monte Carlo simulation model using Palisade Corporation's @ Risk is used. @ Risk performs 10,000 iterations of monthly base, swing, storage, and peaking requirements based on historical temperature data for the operating month. @ Risk then identifies the average expected usage and potential range of usage for DE-Ohio's various capacity and gas supply resources. The base load gas supplies identified in the Monthly Gas Supply Plan are submitted to DE-Ohio's Asset Manager several days prior to the operating month.

Five-day forecasts of total system requirements (GCR, firm, and interruptible transportation customers), or sendout, are prepared by Gas Control. Gas Control utilizes a forecasted effective temperature variable to develop its forecasts. This variable is representative of forecast temperature, wind, previous day temperature, and percent of sun. The day-ahead forecast included in the five-day forecast prepared by Gas Control also reflects, in part, judgment based on historical system requirements under conditions (e.g., weather) similar to those expected on the next day. The day-ahead forecast applies to the next gas day, which is the 24-hour period beginning at 10:00 a.m. the following day. The five-day forecast prepared by Gas Control is provided to Gas Resources which utilizes the forecast to determine swing gas purchase requirements for the following gas day. As discussed in Section 6.1.8 of the audit report, Firm Gas Equations are used to determine the requirements of GCR and firm transportation customers.

Suppliers serving firm transportation customers are notified of the projected next-day demands of their customers and are required to deliver these quantities to DE-Ohio. The

Company initially assumes that interruptible customers will deliver, on the next gas day, the quantity of gas being delivered on the current gas day. These deliveries are then adjusted to recognize that certain suppliers serve both firm and interruptible transportation customers, and these suppliers may nominate a portion of the current day's IT deliveries as FT deliveries on the next gas day. This occurs because IT customers are not generally required to deliver specific quantities of gas on a daily basis. FT and IT customer balancing requirements are discussed in detail in Section 6 of the audit report. DE-Ohio generally arranges for the purchase of swing supplies sufficient to meet the requirements of all its customers not already met by base load supplies and storage withdrawals. In addition to customer requirements projections, north and south delivery point requirements, the current price of gas, the cost of gas in storage, storage withdrawal requirements, and storage inventory balances all affect the Company's daily swing gas purchase decisions.

5.3 Gas Price Volatility Mitigation – Hedging Plan

Since 2001, DE-Ohio has operated under various hedging plans to mitigate the volatility of its GCR rates. The current hedging plan was adopted in 2008. Under this plan, the Company hedges between 10 and 25 percent of its estimated total normal winter system supply, assuming normal weather. Combined with gas withdrawn from storage, 38 to 53 percent of the Company's winter gas supplies are insulated from price volatility. DE-Ohio hedges 10 to 50 percent of its summer system supply, including purchases for refilling storage. The hedging plan specifies a range for the volumes of gas that the Company will acquire each month, up to 36 months into the future, as follows:

WINTER SEASON			
OCTOBER X	Nov X – Mar X+1	Nov X+1 – Mar X+2	Nov X+2 – Mar X+3
Minimum	10%	5%	0%
Maximum	25%	10%	5%
MARCH X	Apr X – Oct X	Apr X+1 – Oct X+1	Apr X+2 – Oct X+2
Minimum	10%	5%	0%
Maximum	50%	25%	10%
For example, as of October X, DE-Ohio will have hedged a minimum of 10 percent of its supplies for the upcoming winter and a maximum of 25 percent.			

The purpose of DE-Ohio's hedging plan is to decrease volatility in gas costs rather than to "beat the market" or guarantee the lowest possible cost. The Company targets as its goal a reduction in the standard deviation of the monthly average commodity cost of gas of at least 20 percent, when compared to what the standard deviation would have been, absent the hedging plan.

DE-Ohio's hedging decisions are made by the Hedging Committee and are based on its

analysis of gas prices. The members of the Hedging Committee are identified in Section 3.2 of the audit report. The Company monitors gas prices on a daily basis by reviewing NYMEX futures prices versus historical prices and expected future locational price differences. DE-Ohio evaluates expected future gas prices based on a review of various industry publications such as *Gas Daily*, the PIRA Energy Group's North American Gas Forecast Monthly, and the Energy Information Administration's (EIA's) Short-Term Energy Outlook.

DE-Ohio's hedging plan provides for the use of forward fixed-price contracts, price caps, and no-cost collars for the physical delivery of natural gas. DE-Ohio does not use financial instruments to effectuate its hedging program. DE-Ohio will not use a single type of hedging product for more than 20 percent of its estimated purchases for the winter or 40 percent of its summer purchases. DE-Ohio's fixed-price contracts provide for the delivery of gas at a known price, generally more than one month in advance of delivery. A price cap is a form of option contract that establishes a maximum price for gas deliveries during a specified month. The Company is assessed a charge by the supplier for this option. An upper price ceiling and a lower price limit are established under a no-cost collar. DE-Ohio is charged the market price of gas under collar arrangements, unless the market price is above the ceiling, in which case DE-Ohio is charged the ceiling price. If the market price is below the no-cost collar lower price limit, DE-Ohio is charged the lower price limit.

DE-Ohio relied almost exclusively on forward fixed-price purchases during the audit period, executing fixed-price contracts for 24.3 billion cubic feet (Bcf). The Company did not use price caps during the audit period. No-cost collars were utilized to hedge 305,000 Dth for September and October 2012, and 1,071,000 Dth for the summer of 2015. DE-Ohio's hedging activities resulted in an increase of nearly \$15 million, or approximately \$0.25 per Dth, in purchased gas costs from those that would have been incurred without a hedging program. DE-Ohio's audit period hedging activities achieved an average reduction of 35 percent in the standard deviation of the monthly average commodity cost of gas which exceeded the 20 percent target of the hedging program.

Each year, DE-Ohio prepares an Annual Report on Hedging Activity (Annual Hedging Report) which provides a detailed description of the market conditions that existed at the time the Company entered into each of its hedging transactions, and summarizes the decisions made by the Hedging Committee with respect to future hedging transactions. Also included are the bid prices received from counter-parties.

5.4 Storage, Peaking, and Propane Operations

During the audit period, DE-Ohio purchased contract storage service from Columbia Gas

under Rate Schedule FSS and, effectively, through no-notice service, storage service from Texas Gas under Rate NNS. These storage arrangements provide the Company with a maximum daily deliverability of 241,514 Dth, and a maximum winter season deliverability of 11,594,079 Dth. DE-Ohio maintained a peaking service arrangement with Sequent during the 2012-2013 winter season, with Twin Eagle during each winter of the audit period, and with CIMA during the 2014-2015 winter season. In addition, DE-Ohio had access to propane supplies with a current total daily capacity of 135,940 Dth and a seasonal capacity of 1,400,000 Dth. As discussed in Section 6 of the audit report, a portion of DE-Ohio's propane capacity is made available to suppliers of firm transportation customers.

DE-Ohio attempts to fill its Columbia Gas FSS storage and the storage associated with no-notice service from Texas Gas to 95-98 percent of capacity prior to the commencement of the heating season on November 1.⁹ The unfilled capacity enables DE-Ohio to inject gas into storage during November if warmer-than-normal conditions are experienced. Targeted beginning-of-month storage inventory levels for Columbia Gas FSS and Texas Gas no-notice storage capacity were as follows for the winter of 2014-2015:

DATE	INVENTORY TARGET	
	Texas Gas NNS	Columbia Gas FSS
November 1	95-98%	95-98%
December 1	91%	91%
January 1	80%	74%
February 1	54%	49%
March 1	35%	30%
April 1	21%	24%

These inventory targets are designed to prevent the triggering of storage deliverability reduction ratchets too early during the winter season when the potential for the occurrence of design day conditions are highest, and to comply with maximum storage inventory requirements by April 1. DE-Ohio fills its propane facilities as needed to meet winter season requirements.

Table 13 identifies DE-Ohio's actual monthly utilization of storage during the audit period. DE-Ohio generally filled and depleted its Columbia Gas FSS and Texas Gas NNS storage inventory consistent with its targeted planning criteria during the audit period.

⁹ Under the storage associated with no-notice service from Texas Gas, gas is advanced to DE-Ohio during the winter period. The Company returns the advanced gas during the subsequent summer. References to injecting or filling Texas Gas storage indicate a return of advanced gas. Withdrawals refer to gas advanced to the Company.

Table 13.

Summary of Audit Period Storage Activity

(Dth)

MONTH	COLUMBIA GAS FSS			TEXAS GAS NO-NOTICE			PIPELINE TOTAL		
	Injection	Withdrawal	Balance	% Capacity	Injection	Withdrawal	Balance	% Capacity	Injection
September 2012	1,034,743	0	7,392,182	91%	219,014	0	1,830,804	87%	1,253,757
October	483,035	0	8,426,925	96	131,985	0	2,049,818	93	615,020
Seasonal Total		0	8,909,960		350,999	0	2,181,803		1,868,777
November 2012	0	570,811	8,339,149	90%	0	88,822	2,092,981	89%	0
December	0	778,222	7,560,927	82	0	434,798	1,658,183	71	0
January 2013	0	2,107,383	5,453,544	59	0	507,473	1,150,710	49	0
February	0	2,067,851	3,385,693	37	0	423,824	726,886	31	0
March	0	1,425,947	1,959,746	21	0	56,936	669,950	29	0
Seasonal Total	0	6,950,214			0	1,511,853			0
April 2013	619,162	0	2,578,908	28%	173,600	0	843,550	36%	792,762
May	1,012,301	0	3,591,209	39	315,312	0	1,158,862	49	1,327,613
June	1,186,577	0	4,777,786	52	218,423	0	1,377,285	59	1,405,000
July	1,296,159	0	6,073,945	66	240,858	0	1,618,143	69	1,537,017
August	1,544,407	0	7,618,352	82	297,250	0	1,915,393	82	1,841,657
September	1,004,324	0	8,622,676	93	252,929	0	2,168,322	92	1,257,253
October	438,357	0	9,061,033	98	101,939	0	2,270,261	97	540,296
Seasonal Total	7,101,287	0			1,600,311	0			8,701,598
November 2013	0	736,258	8,324,775	90%	0	143,749	2,126,512	90%	0
December	0	992,851	7,331,924	79	0	511,689	1,614,823	69	0
January 2014	0	3,072,331	4,259,593	46	0	634,371	980,452	42	0
February	0	2,025,740	2,233,853	24	0	455,157	525,295	22	0
March	0	410,290	1,823,563	20	0	196,458	328,837	14	0
Seasonal Total	0	7,237,470			0	1,941,424			0
April 2014	1,125,889	0	2,949,452	32%	249,373	0	578,210	25%	1,375,262
May	1,112,904	0	4,062,356	44	302,306	0	880,516	37	1,415,210
June	1,049,894	0	5,112,250	55	314,378	0	1,194,894	51	1,364,272
July	1,166,490	0	6,278,740	68	295,704	0	1,490,598	63	1,462,194
August	1,173,626	0	7,452,366	81	311,049	0	1,801,647	77	1,484,675
September	1,061,574	0	8,513,940	92	311,544	0	2,113,191	90	1,373,118
October	451,689	0	8,965,629	97	198,288	0	2,312,479	98	650,977
Seasonal Total	7,142,066	0			1,983,642	0			9,125,708
November 2014	0	746,050	8,219,579	89%	0	234,162	2,078,317	88%	0
December	0	1,539,561	6,680,018	72	0	589,908	1,488,409	63	0
January 2015	0	2,045,196	4,634,822	50	0	641,094	847,315	36	0
February	0	1,662,495	2,972,327	32	0	287,208	560,107	24	0
March	0	1,447,765	1,524,562	16	0	204,776	355,331	15	0
Seasonal Total	0	7,441,067			0	1,957,148			0
April 2015	642,233	0	2,166,795	23%	223,021	0	578,352	25%	865,254
May	1,508,815	0	3,675,600	40	301,212	0	879,564	37	1,810,027
June	1,349,614	0	5,025,214	54	250,067	0	1,129,631	48	1,599,681
July	1,236,787	0	6,262,001	68	311,743	0	1,441,374	61	1,548,530
August	1,180,377	0	7,442,378	81	293,057	0	1,734,431	74	1,473,434
Seasonal Total	5,917,826	0			1,379,100	0			7,296,926

DE-Ohio purchased 64,000 Dth of gas under its peaking service arrangements during the 2012-2013 winter season; 403,000 Dth during the 2013-2014 winter season; and 860,000 Dth during the 2014-2015 winter season. These purchases were made to meet demands during peak periods. One of the Company's peaking service providers failed to deliver a portion of the nominated quantities during the winter of 2013-2014. This did not significantly affect the Company's ability to provide service.

DE-Ohio utilized the equivalent of nearly 550,000 Dth of propane during the audit period. The Company purchased 669,000 Dth of propane during the audit period to replenish propane inventories.

5.5 Capacity Release and Off-System Sales Activities

Under DE-Ohio's AMAs, the Company releases most of its capacity to the Asset Manager. Therefore, DE-Ohio is not active in the off-system sales or capacity release markets. Twice each year, the Company releases a portion of its capacity to suppliers serving firm transportation customers pursuant to the procedures discussed later in Section 6.1.3 of the audit report. In addition, DE-Ohio has occasionally released capacity to DE-Kentucky. The monthly releases to DE-Kentucky during the audit period were as follows:

CAPACITY RELEASED TO DUKE ENERGY KENTUCKY, INC.		
CAPACITY	QUANTITY (Dth/Day)	PERIOD
KO Transmission	9,806	September – October 2012
Columbia Gulf FTS-1	20,000	November 2012 – March 2013
Columbia Gulf FTS-1	25,000	November 2013 – April 2014

All releases to suppliers of firm transportation customers and DE-Kentucky were made at the same rate DE-Ohio paid for the capacity. A complete history of the Company's audit period capacity release activity, including the releases to DE-Kentucky, is included in Appendix A to the audit report.

5.6 Gas Price Locational Differentials

Table 14 provides published first-of-the-month index prices and reveals the locational differentials that existed between the various delivered-to-pipeline locations at which DE-Ohio purchased its gas supplies during the audit period. The Columbia Gulf Mainline¹⁰ index prices in Table 14 reflect average market prices applicable for purchases delivered under the Company's Columbia Gulf FTS-1 capacity, the Texas Gas Zone 1 index prices reflect average market prices

¹⁰ Mainline index prices are applicable for deliveries into Columbia Gulf at locations north of Rayne, Louisiana. Onshore index prices are applicable for deliveries into Columbia Gulf at locations south of Rayne, Louisiana.

Table 14.
Comparison of First-of-the-Month Published Index Prices
(Dth)

MONTH	COLUMBIA GAS APPALACHIAN	COLUMBIA GULF		TENNESSEE GAS		TEXAS GAS			DOMINION SOUTH POINT
		Onshore	Mainline	Zone 1 500 Leg	Zone 1 800 Leg	Gulf South	Zone SL	Zone 1	
September 2012	\$2.58	\$2.56	\$2.55	\$2.59	\$2.56	\$2.62	N/A	\$2.54	\$2.52
October	3.01	2.97	2.93	3.00	2.96	2.97	\$2.95	2.93	2.96
November	3.50	3.43	3.41	3.44	3.37	3.37	3.45	3.41	3.46
December	3.76	3.69	3.67	3.63	3.66	3.70	3.68	3.66	3.77
January 2013	3.33	3.31	3.31	3.35	3.33	3.32	3.32	3.31	3.22
February	3.23	3.19	3.19	3.22	3.18	3.23	3.20	3.19	3.13
March	3.47	3.40	3.38	3.39	3.39	3.35	3.41	3.38	3.41
April	4.03	3.98	3.95	3.98	3.95	3.94	3.95	3.95	4.03
May	4.19	4.12	4.12	4.26	4.13	4.25	4.11	4.12	4.12
June	4.19	4.12	4.10	4.17	4.12	4.15	4.12	4.08	4.10
July	3.67	3.65	3.65	3.71	3.67	3.64	3.65	3.65	3.43
August	3.44	3.40	3.40	3.42	3.41	3.49	3.41	3.40	2.95
Year Average	\$3.53	\$3.49	\$3.47	\$3.51	\$3.48	\$3.50	\$3.57	\$3.47	\$3.43
September 2013	\$3.52	\$3.51	\$3.50	\$3.52	\$3.51	\$3.51	\$3.51	\$3.51	\$3.17
October	3.50	3.44	3.45	3.46	3.45	3.47	3.46	3.45	3.25
November	3.51	3.46	3.46	3.47	3.45	3.53	3.47	3.45	3.24
December	3.75	3.76	3.74	3.76	3.73	3.72	3.74	3.74	3.31
January 2014	4.23	4.35	4.34	4.36	4.35	4.31	4.36	4.34	3.46
February	5.61	5.51	5.52	5.57	5.49	5.18	5.53	5.54	5.36
March	4.92	4.79	4.82	4.82	4.79	4.65	4.80	4.82	4.57
April	4.49	4.54	4.54	4.55	4.52	4.49	4.53	4.54	4.20
May	4.72	4.72	4.72	4.75	4.72	4.73	4.73	4.72	4.01
June	4.58	4.55	4.54	4.57	4.54	4.44	4.53	4.53	3.31
July	4.33	4.35	4.33	4.38	4.34	4.53	4.33	4.33	2.88
August	3.76	3.74	3.72	3.77	3.73	3.79	3.77	3.73	2.40
Year Average	\$4.24	\$4.23	\$4.22	\$4.25	\$4.22	\$4.20	\$4.23	\$4.23	\$3.60
September 2014	\$3.94	\$3.91	\$3.90	\$3.92	\$3.91	\$3.99	\$3.90	\$3.90	\$2.05
October	3.96	3.93	3.93	3.93	3.93	3.96	3.93	3.93	3.04
November	3.63	3.66	3.64	3.67	3.64	3.61	3.65	3.65	2.08
December	4.21	4.23	4.21	4.25	4.22	4.27	4.22	4.22	2.97
January 2015	3.10	3.12	3.09	3.17	3.12	3.04	3.12	3.12	1.75
February	2.73	2.82	2.78	2.85	2.80	2.81	2.81	2.80	1.75
March	2.82	2.85	2.83	2.89	2.85	2.74	2.87	2.85	2.04
April	2.48	2.53	2.51	2.54	2.52	2.61	2.51	2.50	1.45
May	2.42	2.45	2.44	2.49	2.45	2.49	2.44	2.43	1.34
June	2.74	2.77	2.72	2.79	2.76	2.79	2.76	2.73	1.41
July	2.68	2.74	2.71	2.75	2.72	2.78	2.72	2.70	1.28
August	2.79	2.85	2.80	2.86	2.84	2.83	2.84	2.82	1.24
Year Average	\$3.13	\$3.16	\$3.13	\$3.18	\$3.15	\$3.16	\$3.15	\$3.14	\$1.87

Source: Inside FERC Gas Market Report

applicable for purchases delivered under the Company's Texas Gas NNS capacity, and the Texas Gas Gulf South index prices reflect average market prices applicable for purchases delivered under the Company's Texas Gas FT capacity which had receipt points on Gulf South. The

Columbia Gas index prices reflect market prices for gas deliverable under DE-Ohio's Columbia Gulf FTS-1 BH arrangement. Also included in Table 14 are index prices for Tennessee Gas Pipeline on which DE-Ohio historically purchased gas and which, therefore, is a potentially viable alternative. Table 14 includes, for informational purposes, Marcellus Shale prices for Dominion South Point which were discussed in Section 2.3 of the audit report. These locational differentials reflect, among other things, the cost of transporting gas supplies from a particular index location to a market area and the economics specific to the particular producing region index location. Also shown in Table 14 is an average of prices applicable at each delivered-to-pipeline index location during the audit period. For example, the table shows that the average price paid for Columbia Gulf Mainline-sourced supplies by market participants during the audit period was \$3.61 per Dth. Price relationships between DE-Ohio's available delivered-to-pipeline locations can and do change over time due to a number of factors. Table 14 reveals that prices for gas available for purchase by the Company varied little by location during the audit period.

5.7 Lost-and-Unaccounted-for and Company-Use Gas

One of the objectives of the management and performance audit of DE-Ohio's gas supply policies and practices is to identify and evaluate the Company's programs to minimize lost-and-unaccounted-for gas (LUFG). LUFG and gas used in company operations, or company-use gas, represent the difference between the volume of gas purchased from suppliers and the volume of gas sold to customers. LUFG and company-use gas are important in considering the ability of Ohio gas distribution companies to provide reliable gas supplies at a minimum cost because of the treatment they receive. The GCR is determined by dividing the cost of all volumes purchased to serve GCR customers by the volume of gas sold to GCR customers. As a result, the costs of unaccounted-for gas and company-use gas are passed through to customers through the GCR mechanism.

Lost-and-unaccounted-for gas is the difference between the measured volume of total gas supply or gas purchased and the measured volume of gas disposition. Gas disposition includes both gas billed to customers and company-use gas. There are a variety of reasons why some gas is unaccounted for. Some LUFG is due to problems in the measurement of gas supply and disposition. The volume of a given quantity (i.e., weight or heating value) of natural gas depends upon temperature and pressure conditions, and these may vary. Another measurement factor that can affect LUFG is cycle billing, which causes a mismatch between the timing of gas supply measurements and recorded gas sales volumes. A final measurement factor is meter inaccuracies. In addition to these measurement problems, some gas is lost through leakage in pipelines and other facilities, and through meter tampering or other kinds of theft.

DE-Ohio utilizes 12-month periods ending June 30 to measure and compare LUFG on a year-to-year basis. By using 12-month ended information beginning and ending in low gas usage months, the imbalances caused by cycle billing are reduced. The Company's LUFG for the past five years is shown below:

LOST-AND-UNACCOUNTED-FOR GAS	
Year Ended June 30	Percentage
2011	1.23%
2012	1.54%
2013	1.02%
2014	1.14%
2015	1.28%

DE-Ohio transportation customers are charged for LUFG through a fuel retention charge which is adjusted annually each November 1 to reflect the Company's actual 12 months' ended June 30 experience.

A significant percentage of the gas that is delivered to DE-Ohio initially flows on DE-Kentucky and is delivered to the Company through three river crossing stations—the Front & Rose, Eastern Avenue, and Anderson Ferry Stations. KO Transmission delivers gas to both DE-Kentucky and DE-Ohio at the California Station, after the gas is first measured at the Alexandria Station. The difference between the Alexandria and California Stations' measurements represents the quantity of gas delivered to DE-Kentucky. Therefore, gas measurement discrepancies at the three river crossing stations or the California Station can affect the LUFG calculations of DE-Kentucky and DE-Ohio. As shown above, the Company's LUFG percentage for the 12 months ended June 30, 2012 showed an increase over the prior year. A Company-specific requirement of the audit is to review DE-Ohio's findings regarding the increase in LUFG for the 12 months ended June 30, 2012.

At the same time that DE-Ohio's LUFG calculation for the 12 months ended June 30, 2012 showed an increase, the percentage for DE-Kentucky showed negative LUFG. To investigate the negative DE-Kentucky percentage, a measurement committee was formed. The committee determined that a moderate adjustment was needed for false flows recorded at the Eastern Avenue river crossing during summer months when this station was not flowing gas. The committee also concluded that the extremely mild winter of 2011-2012 may have exaggerated meter inaccuracies at certain stations since the meters at these stations are less accurate at lower volumes. The committee was subsequently informed that new meters recently installed at the Foster Station began at 0.1 percent inaccuracy, whereas the meters that were replaced began at 0.5 percent inaccuracy and were even more inaccurate at low volumes. The

new meters at the Foster Station were installed on September 19, 2012, and replaced gas measurement at the Alexandria, Cold Spring, Bracken, and Pendleton Stations.

Since the Company was measuring in parallel both the new meters at the Foster Station and the old meters at the Alexandria, Cold Spring, Bracken, and Pendleton Stations for a period of time during the meter change-out in September 2012, Gas Control was asked to perform a comparison and develop an estimate of potential under-measurement for the entire year. A comparison of the hourly data revealed that the old meters were measuring 1.002 percent less than the new meters. An adjustment was made to the 12 months ended June 30, 2012 LUFG to add 1.002 percent to the measurement at the four stations. This adjustment caused the calculated LUFG for DE-Kentucky to increase from -3.1 percent (negative) to 1.4 percent, which was within the range of historical experience. This adjustment had no impact on DE-Ohio's calculated LUFG for the period, and the measurement committee concluded that LUFG was properly calculated for DE-Ohio for the 12-month period ended June 30, 2012.

Company-use gas is the gas that DE-Ohio itself utilizes in operating its system. The uses of this gas include heating Company buildings and stations. During calendar year 2014, company-use gas totaled 46,749 Mcf. This represented less than one-tenth of 1 percent of total gas delivered to DE-Ohio in 2014. Shown below are company-use gas volumes for the past five years:

COMPANY-USE GAS	
Year	Mcf
2010	54,734
2011	46,188
2012	46,434
2013	46,327
2014	46,749

5.8 Conclusions and Recommendations

5.8.1 Audit Period Purchases

DE-Ohio's gas procurement strategy is to, within operating and contractual constraints, maximize deliveries from its lowest-cost source of supply. The Company's audit period gas supply purchases were consistent with this strategy.

5.8.2 Lost-and-Unaccounted-for Gas

A Company-specific requirement of the audit was to review DE-Ohio's findings regarding the increase in LUFG for the 12 months ended June 30, 2012. DE-Ohio formed a

measurement committee to investigate the increase in LUFG. The committee found that DE-Kentucky's LUFG calculations for the same period should be adjusted to correct for measurement errors. These measurement errors had no impact on DE-Ohio's LUFG calculation. The committee concluded that the increase in LUFG for the 12 months ended June 30, 2012 was attributable to normal variations in LUFG, and that LUFG for the period was not inconsistent with historical experience. Exeter concludes that the Company has adequately addressed the increase in LUFG for the 12-month period ended June 30, 2012.

6. TRANSPORTATION SERVICE

Duke Energy Ohio provides transportation service for customers who acquire their own natural gas supplies separate from the purchase of the Company's system supply. DE-Ohio transports approximately 55,000,000 Mcf of gas annually for its residential, commercial, and industrial transportation customers. This represents 70 percent of the Company's total combined annual sales and transportation volumes of approximately 80,000,000 Mcf. In September 1997, DE-Ohio began offering its residential and small commercial customers a practical opportunity to utilize transportation service under the Company's customer Choice program. In addition to residential and small commercial customers, the term "customer choice" has been extended to include all DE-Ohio customers utilizing firm transportation service, including those utilizing transportation service prior to September 1997. Table 15 identifies deliveries of gas to DE-Ohio by transportation customers by pipeline during the audit period.

Section 6.1 discusses DE-Ohio's firm transportation program. Section 6.2 discusses interruptible transportation service. The imbalances between deliveries to DE-Ohio on behalf of transportation customers and the consumption of transportation customers are examined in Section 6.3. Section 6.4 addresses service to the Company's electric generating facilities during the audit period. The final section presents Exeter's conclusions and recommendations concerning DE-Ohio's transportation service offerings.

6.1 Firm Transportation

6.1.1 *Background and Participation*

Firm transportation service is available to DE-Ohio's residential customers under Rate RFT (Residential Firm Transportation Service), to non-residential customers using 400 Mcf or less per year under Rate FT-S (Firm Transportation Service-Small), and to non-residential customers using more than 400 Mcf per year under Rate FT-L (Firm Transportation Service-Large). With the exception of Percentage of Income Payment Program customers, all customers in DE-Ohio's service territory are eligible to choose an alternative provider of natural gas supply service. The participation rate in DE-Ohio's firm transportation program during the audit period ranged from 45 to 60 percent. Firm transportation service currently represents approximately 60 percent of total firm throughput, and 55 percent of residential customer throughput. Customers may enroll in DE-Ohio's firm transportation program at any time.

Supplier participation in DE-Ohio's firm transportation program increased from 28 to 35 suppliers during the audit period. Of the 35 suppliers currently participating in DE-Ohio's firm transportation program, 28 serve residential customers. Nearly 60 percent of firm transportation

Table 15.
Summary of Deliveries by Transportation Customers by Source
(Dth)

MONTH	KO TRANSMISSION	TEXAS GAS	ANR	TEXAS EASTERN	COLUMBIA GAS	TOTAL DELIVERIES
September 2012	1,738,906	635,688	172,906	11,610	0	2,559,110
October	2,245,896	1,005,421	256,180	14,851	0	3,522,348
November	3,141,747	1,656,445	249,451	30,900	0	5,078,543
December	3,433,813	2,432,413	116,150	48,245	230	6,030,851
January 2013	3,800,994	2,917,808	380,640	47,748	19,424	7,166,614
February	3,762,642	2,420,595	225,842	70,099	7,695	6,486,873
March	4,218,441	2,184,855	171,418	65,650	65,071	6,705,435
April	2,453,006	1,122,723	192,694	55,730	0	3,824,153
May	1,881,040	820,886	149,052	22,801	0	2,873,779
June	1,695,529	721,694	53,033	24,950	0	2,495,206
July	1,750,355	728,773	37,109	40,139	0	2,556,376
August	1,783,362	699,436	47,606	36,200	0	2,566,604
September 2013	1,662,583	668,706	31,412	33,350	0	2,396,051
October	2,281,533	1,012,804	101,874	51,197	0	3,447,408
November	3,517,978	1,860,741	297,126	110,887	3,586	5,790,318
December	4,567,051	2,733,481	178,631	159,549	42,677	7,681,389
January 2014	5,160,899	3,873,814	334,790	169,658	24,980	9,564,141
February	4,512,866	3,044,159	99,701	126,441	2,810	7,785,977
March	3,877,233	2,371,943	79,865	66,200	0	6,395,241
April	2,383,552	1,222,230	69,934	49,550	6,671	3,731,937
May	2,036,463	894,457	180,015	0	11,740	3,122,675
June	1,701,628	701,864	107,886	0	13,582	2,524,960
July	1,567,357	701,112	111,600	0	5,091	2,385,160
August	1,209,738	797,727	112,726	0	19,060	2,139,251
September 2014	1,415,012	656,451	198,000	0	4,320	2,273,783
October	2,237,883	964,431	320,450	5,532	20,600	3,548,896
November	3,562,872	2,364,775	184,648	131,600	67,824	6,311,719
December	3,826,200	2,978,563	127,675	0	9,310	6,941,748
January 2015	4,433,565	3,610,996	185,831	96,801	42,731	8,369,924
February	4,625,971	4,020,247	315,839	31,122	50,469	9,043,648
March	3,152,001	2,642,860	16,113	0	48,097	5,859,071
April	2,198,209	1,249,935	122,050	1,811	57,648	3,629,653
May	1,891,298	1,022,182	42,710	0	52,840	3,009,030
June	1,813,409	862,825	31,394	500	47,548	2,755,676
July	1,559,314	1,076,070	1,733	0	58,800	2,695,917
August	1,281,936	730,099	6,489	537,146	54,700	2,610,370
Total Audit Period	98,382,282	59,409,209	5,310,573	2,040,267	737,504	165,879,835
Percent	59.3%	35.8%	3.2%	1.2%	0.4%	100.0%

Note: KO Transmission deliveries are generally sourced on Columbia Gulf or Tennessee Pipeline.

customers are served by two suppliers. Duke Energy Retail, an affiliate of DE-Ohio, was a participant in the Company's firm transportation program during the audit period. As discussed in Section 3.3 of the audit report, DE-Retail was sold to Dynegy, Inc. in April 2015 and is no longer a supplier to transportation customers on DE-Ohio's system. Until October 2012, the market share of DE-Retail was relatively small. In October 2012, DE-Retail was awarded the governmental aggregation contract for the City of Cincinnati, and its market share increased significantly. DE-Retail's market share subsequently declined prior to its sale to Dynegy.

6.1.2 *Rate Schedules*

DE-Ohio's firm transportation program features three transportation services—Rate RFT, Rate FT-S, and Rate FT-L. All customers participating in the Company's firm transportation program must enter into an agreement with a supplier who meets the requirements for participation in the Company's pooling program under Rate FRAS (Full Requirements Aggregation Service). Suppliers must enter into a "Gas Supply Aggregation/Customer Pooling Agreement" which has a minimum term of two years. Aggregation service allows suppliers to schedule and nominate, and to balance, deliveries to DE-Ohio with usage on a total customer rather than individual customer basis. That is, a supplier need only arrange for delivery to DE-Ohio the total quantity of gas required to service its customers and not designate the amount specifically delivered for each customer.

6.1.3 *Capacity Assignment and Propane Facilities*

Pursuant to the Stipulation and Recommendation approved in Case No. 05-732-EL-MER, DE-Ohio revised its FRAS tariff to include the mandatory assignment of capacity to suppliers as their customer base increased beyond that which existed on April 1, 2007. The change to the assignment of firm pipeline capacity was implemented to mitigate the risk of DE-Ohio incurring stranded capacity costs as customers migrate to alternative suppliers, and provides for the availability of capacity as customers return to DE-Ohio's system supply portfolio. Supplier capacity assignment is based on the increase in the MDQ of the supplier's customers from that which existed on April 1, 2007. Assignments are made effective each April 1 and November 1 and are not made unless the MDQ of the supplier's customers exceeds 6,000 Dth, and the amount of the increase above the April 1, 2007 MDQ is 3,000 Dth. Only DE-Ohio's firm transportation capacity is assigned. Storage and no-notice service is not assigned. Capacity assignments are based on the increase in a supplier's MDQ and the percentage share of DE-Ohio's firm transportation pipeline contracts compared to the Company's total design peak day capacity resources less the propane quantity available to suppliers.

Initially during the audit period, suppliers could accept a proportionate share of all of DE-Ohio's firm transportation capacity or were given the option of accepting all of the required assignment as Columbia Gulf FTS-1 and KO Transmission capacity. Per the FRAS tariff, capacity is to be released in proportionate shares unless both parties agreed to a different allocation. During this initial period, all suppliers chose the all-Columbia Gulf FTS-1 and KO Transmission assignment option. Effective November 1, 2014, to eliminate excess pipeline capacity, DE-Ohio significantly reduced its Columbia Gulf FTS-1 capacity.¹¹ Therefore, the Company could no longer offer the option of all Columbia Gulf FTS-1 and KO Transmission capacity assignments. Effective December 2013, DE-Ohio modified its FRAS tariff such that during the summer months of April through October, DE-Ohio's contractual capacity quantities are reduced to reflect the Company's maximum daily injection rights for Columbia Gas FSS for purposes of determining the *pro rata* assignment for suppliers that have elected Firm Balancing Service (FBS) rather than Enhanced Firm Balancing Service (EFBS). This modification was made to address the concern of certain suppliers that their summer allocation of capacity was higher than their actual load due to the inclusion of capacity used for storage injections. FBS and EFBS are further discussed in Section 6.1.5 of the audit report. A hypothetical example of DE-Ohio's initial and modified assignment procedures based on the Company's winter of 2014-2015 capacity portfolio is presented in Table 16 for a supplier with an incremental increase of 10,000 Dth above its customers' April 1, 2007 MDQ.

Table 16.
Hypothetical Comparison of Capacity Assignment

Pipeline/Service	DE-Ohio Capacity (Dth)	Percent of Design Day	ASSIGNMENT (Dth)			
			Pre-November 2014		Post-November 2014	
			CGT	KO ^[1]	Upstream	KO ^[1]
Texas Gas STF	42,000	9%			900	
Columbia Gulf FTS-1	63,000	13%	2,600	2,577	1,300	1,288
Columbia Gulf FTS-1 BH	21,000	4%			400	396
Other	282,828					
Total Upstream	408,828					
Propane	59,395					
Total Design Day	468,223	26%	2,600	2,577	2,600	1,685

^[1] KO Transmission fuel retention of 0.8850%.

¹¹ Effective November 1, 2014, DE-Ohio reduced its Columbia Gulf FTS-1 capacity by 86,214 Dth/day, increased its Texas Gas firm transportation capacity by 12,000 Dth/day during the winter months, and reduced its Texas Gas firm transportation capacity by 16,000 Dth/day during the summer months.

DE-Ohio's system is designed to use propane for peak shaving and, therefore, propane is available to suppliers serving firm transportation customers. Suppliers are allocated propane based on the product of the projected design peak day requirements (MDQ) of each supplier's customers and the percentage of the Company's total firm system design peak day requirements to be met by propane. During the winter of 2012-2013, when the deliverability of DE-Ohio's propane facilities was 176,740 Dth, propane met 22 percent of the Company's design day requirements. With the decline in the deliverability of DE-Ohio's propane facilities to 135,940 Dth due to the unavailability of the Dicks Creek Plant, propane is currently available to meet 16 percent of DE-Ohio's design day requirements. The MDQ of a supplier's customers less the supplier's allocated share of propane is referred to as the "Adjusted MDQ."

At times, due to the migration of sales customers to transportation service, DE-Ohio may have unneeded pipeline capacity. The costs associated with any unneeded pipeline capacity are recovered from all firm sales and transportation customers. The unneeded capacity costs are recovered from sales customers through GCR rates, and from firm transportation customers through Rider CCCR. Also recovered through Rider CCCR is a proportional share of the transportation charges associated with the transportation service provided by DE-Kentucky to DE-Ohio. The AMA fees allocated to firm transportation customers are reflected as a credit under Rider CCCR.

DE-Ohio's capacity assignments to suppliers serving firm transportation customers that become effective April 1 and November 1 of each year are determined based on the MDQ of a supplier's customers at the end of the prior February and September, respectively. During the audit period, the City of Cincinnati established a municipal natural gas aggregation program for its citizens and small businesses for the purpose of participating in DE-Ohio's firm transportation program. After the capacity assignments that became effective on November 1, 2012 based on customer MDQs as of September 30, 2012 were made, the City of Cincinnati became a participant in DE-Ohio's firm transportation program effective October 1, 2012. Because the City of Cincinnati elected to become a participant in DE-Ohio's firm transportation program after the November 1, 2012 capacity assignments were made, the Company was left with unneeded pipeline capacity for the winter of 2012-2013. The costs associated with this unneeded capacity were recovered from sales customers through GCR rates. For the winter of 2013-2014, DE-Ohio determined that even with the allocation of capacity to the supplier serving the City of Cincinnati, the Company maintained 33,157 Dth of excess capacity. The costs associated with this unneeded capacity were recovered from sales customers through GCR rates and all firm transportation customers through Rider CCCR. The amount of unneeded capacity was subsequently reduced to 15,607 Dth after the Dicks Creek Plant became unavailable.

6.1.4 Deliveries by Suppliers

Each morning, by 9:00 a.m., the Company posts on its electronic bulletin board (EBB) an Adjusted Target Supply Quantity (Adjusted TSQ) which a supplier is required to deliver to DE-Ohio on the following gas day.¹² The Adjusted TSQ is defined as the Target Supply Quantity (TSQ), plus or minus any adjustments that a supplier may be required to make to its daily deliveries to correct for previous imbalances that may have existed. The TSQ reflects DE-Ohio's estimate of the amount of gas to be consumed by a supplier's customers. The TSQ is based on the usage history of a supplier's pool of customers and forecasted weather. If the Adjusted TSQ exceeds the Adjusted MDQ, a supplier has two options with respect to the incremental volume difference between the Adjusted TSQ and the Adjusted MDQ. A supplier may deliver the incremental volumes, or may rely on deliveries from the Company's propane facilities or from other Company peaking supplies. The costs associated with the propane or other peaking supplies used by the supplier are then billed to the supplier. Due to the physical configuration of the Company's system, DE-Ohio may require suppliers to deliver specific percentages of required daily deliveries through those receipt points located on the northern and southern portions of the system.

If a supplier fails to deliver gas in accordance with the requirements of the Company's Gas Supply Aggregation/Customer Pooling Agreement or otherwise fails to comply with the provisions of the tariff, the Company has the discretion to temporarily suspend or terminate the supplier from the firm transportation program. If the supplier is suspended or terminated from further participation in the Company's firm transportation program, the supplier's customers are returned to sales service unless and until the customers elect another supplier.

6.1.5 Balancing Requirements

DE-Ohio provides balancing service to accommodate differences between the quantity of gas delivered to the Company by a supplier and the actual consumption of the supplier's customers. DE-Ohio offered two balancing service options during the audit period—Firm Balancing Service and Enhanced Firm Balancing Service. In January 2015, the Company filed an application to modify the terms of election for EFBS to make EFBS mandatory for all firm suppliers whose customers' MDQ exceeds 20,000 Dth/day (Case No. 15-50-GA-RDR). A hearing was held in Case No. 15-50-GA-RDR in August 2015 and the proceeding is currently pending before the Administrative Law Judge.

Under FBS, a supplier is required to deliver the Adjusted TSQ, and DE-Ohio will accommodate the difference between the Adjusted TSQ and the actual consumption of the

¹² A gas day begins at 10:00 a.m. and ends the following day at 10:00 a.m.

supplier's customers. For those suppliers electing FBS, a balancing charge is assessed on the consumption of the supplier's customers. The FBS charge effective April 1, 2015 was 19.4 cents per Mcf, and is based on the costs associated with the no-notice service that DE-Ohio purchases from Columbia Gas (FSS/SST). The FBS rate is recalculated when Columbia Gas' FSS/SST rates are revised.

Under EFBS, suppliers are provided greater flexibility in managing their gas supplies. Suppliers electing EFBS are assigned a Maximum Daily Delivery Quantity (MDDQ) equal to the proportion of the Company's no-notice daily balancing services (Columbia Gas FSS/SST and Texas Gas NNS) to the Company's total daily firm system design day times the design day demand of the supplier's customers. Assignments are based on MDDQ increments of 3,000 Dth. A Bank Contract Quantity (BCQ) is also established for the supplier equal to a proportional share of the Company's total seasonal no-notice storage capacity.

The Target Supply Quantity that a supplier is required to deliver each day, absent any prior or current period adjustments, is based on forecasted temperature. Under EFBS, on a daily basis, a supplier's EFBS BCQ account, or bank, is increased or decreased by the daily difference between the actual volumes received by the Company at its citygate from the supplier's back-casted TSQ (i.e., TSQ based on the actual temperature), adjusted for fuel retainage as follows:

- If the supplier delivers more natural gas than the back-casted TSQ, the supplier's EFBS bank is increased by the amount of the overdelivery, calculated at the Company's citygate, plus the current KO Transmission fuel retainage charge and minus the current Columbia Gas SST and FSS fuel retainage charge.
- If the supplier delivers less natural gas than the back-casted TSQ, the supplier's EFBS bank is decreased by the amount of the underdelivery, calculated at the Company's citygate, plus the current Columbia Gas SST fuel retainage charge.

On a day when a supplier's TSQ is greater than or equal to the MDQ of its customers, a supplier has full access to the total MDDQ. The supplier is not required to make total deliveries, including the back-casted MDDQ, above the MDQ.

During the audit period, suppliers were required to select EFBS or FBS on an annual basis, effective April 1. EFBS assignments are adjusted monthly, based on 3,000 Dth increments. Maximum and minimum monthly bank inventory quantities and maximum and minimum monthly injection and withdrawal quantity restrictions are imposed under EFBS consistent with those imposed by Columbia Gas under Rate FSS. Suppliers are assessed a demand cost based on their MDDQ, and a commodity charge is assessed on all monthly

consumption of the supplier's customers. EFBS charges are recalculated when Columbia Gas' FSS/SST or Texas Gas' NNS rates are revised. Effective April 1, 2015, the EFBS demand charge was \$6.76 per Dth per month and the commodity charge was 1.6 cents per Mcf. As of April 2015, three of the approximately 35 suppliers on DE-Ohio's system have elected EFBS.

6.1.6 Imbalance Resolution

There are two types of imbalances that may occur under the Company's firm transportation program. First, a supplier may not deliver the Adjusted TSQ on a particular day. That is, a supplier may deliver more (overrun or excess) or less (underrun or deficiency) than the Adjusted TSQ (collectively, daily delivery imbalances). Second, the TSQ may not precisely match the consumption of the supplier's customers (consumption imbalances). Consumption imbalances can be attributable to forecast errors in the Company's TSQ estimation models and differences in forecasted and actual weather.

Cash-out procedures are applicable for daily delivery imbalances, except when a supplier has elected EFBS. Overrun volumes are purchased by the Company from the supplier, and underrun volumes are sold by the Company to the supplier, at the first-of-the-month index price published in *Inside FERC's Gas Market Report*, "Prices of Spot Gas Delivered to Pipelines," Columbia Gulf Transmission Co., Mainline Index, first publication of the month following the delivery month, plus the variable and fuel transportation charges of Columbia Gulf and Columbia Gas to the Company's citygate. Also included in the sale price for underrun volumes are applicable excise taxes.

DE-Ohio's tariff provides for consumption imbalances to be reconciled on a 12-month ended June 30 basis. Suppliers have the option to eliminate consumption imbalances through either (1) the exchange of gas with the Company through a storage inventory transfer; (2) an adjustment to their EFBS bank balance; or (3) delivery over the next 30 days or longer, if agreed upon.

6.1.7 Operational Flow Orders

Suppliers are subject to the issuance of warm and cold weather operational flow orders (OFOs) that will direct each supplier to adjust delivered volumes to match the estimated usage of its customers. For suppliers that have elected EFBS as their balancing option, the difference between scheduled deliveries from interstate pipelines and estimated usage will be met by EFBS. In the event that the Company's storage service provider has restricted excess storage withdrawals/injections and a supplier exceeds the EFBS MDDQ or maximum BCQ, the excess quantities will be considered a failure to comply with the OFO. On days with projected temperatures colder than the design peak day temperature utilized by DE-Ohio, a supplier has

two options: (1) deliver to the Company the quantity of gas equal to the Adjusted TSQ; or (2) deliver to the Company only the quantity of gas equal to the Adjusted MDQ, and rely on the Company to acquire the incremental volume (the difference between the Adjusted TSQ and the Adjusted MDQ). If a supplier selects the second option, the supplier is required to pay the Company for the costs incurred in obtaining the incremental supply and may meet the delivery requirement with both flowing supply and EFBS supply. Failure of the supplier to deliver volumes in accordance with its selected option may result in suspension or termination from further participation in the Company's firm transportation program.

Failure to comply with an OFO results in the following charges that are applicable to the difference between the daily OFO quantity and the actual volume delivered:

Cold Weather OFO Underdelivery

1. The payment of a gas cost equal to the highest incremental cost paid by the Company on the date of non-compliance;
2. One month of DE-Ohio's demand charges from its interstate pipelines on the OFO's shortfall. This charge is not imposed more frequently than once in any 30-day period; and
3. The payment of all other charges incurred by the Company, including interstate pipeline penalty charges on the date of the OFO shortfall.

Warm Weather OFO Overdelivery

1. Any overdelivery by a supplier will be confiscated by DE-Ohio and used for the Company's general supply requirements, without compensation to the supplier; and
2. The supplier will pay any penalty charges that the Company incurs from the interstate pipelines for such excess deliveries, provided such penalties can be attributed to the supplier's overdelivery.

DE-Ohio issued OFOs on several occasions during the audit period. Warm-weather OFOs were in effect for five days during the audit period, and cold-weather OFOs were in effect for 21 days during the audit period. There were no additional pipeline or supplier costs incurred by the Company due to OFO violations. During the audit period warm weather, OFO overdelivery cash-out volumes totaled 4,885.5 Mcf, for which suppliers were paid an average rate of \$3.58 per Mcf. Cold-weather OFO underdelivery cash-out volumes totaled 57,100.2 Mcf, for which DE-Ohio charged suppliers an average rate of \$16.29 per Mcf.

6.1.8 Gas Firm Equations and Monitoring of Imbalances

DE-Ohio utilizes Gas Firm Equations to split the projected firm day-ahead sendout estimate prepared by Gas Control between GCR sales and firm transportation customers, and to develop daily TSQs for each supplier. The Gas Firm Equations are developed based on a sample of actual daily usage over a one-year period by DE-Ohio's customers, and estimated average customer use by class based on the forecasted day-ahead effective temperature. TSQs for each supplier are developed based on the ratio of the supplier's customers' actual historical daily usage compared to the forecasted typical daily usage for each customer class as determined by the Gas Firm Equations. The TSQ of all suppliers is subsequently adjusted to match the firm day-ahead sendout estimate prepared by Gas Control.

Shown below are the consumption imbalances for each 12-month ended June 30 reconciliation period during the audit period. As shown below, consumption imbalances averaged 1 percent during the audit period. Exeter's audit also found that DE-Ohio worked with several suppliers during the audit period to make periodic paybacks of gas in-kind to more closely match gas prices with the timing of when the imbalances were created.

AUDIT PERIOD CONSUMPTION IMBALANCES (Dth)				
12 Months Ended	Usage	Deliveries	IMBALANCE	
			Quantity	Percentage
June 30, 2013	31,505,076	31,997,961	492,885	1.56%
June 30, 2014	36,505,735	36,766,084	260,349	0.71%
June 30, 2015	35,708,791	35,998,099	289,308	0.81%
AVERAGE	34,573,201	34,920,715	347,514	1.00%

6.2 Interruptible Transportation Service

6.2.1 Background

DE-Ohio provides interruptible transportation service pursuant to Rate IT. Service under Rate IT is available to any customer who: (1) signs a contract with the Company for service under Rate IT; (2) utilizes a minimum of 1,000 Mcf per month during the seven consecutive billing periods commencing with the customer's first meter reading taken on or after April 1; (3) has arranged for the delivery of gas into the Company's system for that customer's sole use at one point of delivery where distribution mains are adjacent to the premises to be served; and (4) has become a member of a pool under Rate AS (Aggregation Service) and elects Interruptible Monthly Balancing Service Under Rate IMBS. Service under Rate IT may be provided by displacement on a "best efforts" basis. The Company reserves the right to decline requests to initiate or continue service whenever, in the Company's judgment, rendering the service would be detrimental to the operation of the Company's system or its ability to supply gas to customers

receiving firm service.

In order to administer the provisions of the tariff for interruptible transportation service and monitor daily usage, DE-Ohio installs remote metering equipment on the customer's meter site. The customer is responsible for payment of the costs associated with the equipment. The customer is also responsible for providing the Company with access to telephone service at the customer's metering site, or other equipment that may be necessary, and will also be responsible for the monthly charges for telephone service or other necessary equipment.

In the event that a customer fails to interrupt transportation deliveries at the Company's request, any excess deliveries through the customer's meter will be considered unauthorized deliveries that are subject to the flowthrough of pipeline penalty charges to the extent that they are incurred by the Company. In addition, any customer accepting unauthorized deliveries will be billed an amount reflective of the otherwise applicable general service sales rate, or the Company's highest-cost gas, plus one month of demand charges on the volume difference (this charge is not imposed more frequently than once in any 30-day period) and/or the cost of operating the Company's propane peak-shaving plant. DE-Ohio may physically discontinue service to a customer if the customer refuses to interrupt service when requested to do so by the Company.

Pooling service for customers receiving service under Rate IT is provided under Rate AS – Pooling Service for Interruptible Transportation. Rate IT customers must elect whether they, acting on their own behalf, will function as a pool operator and manage their own gas supplies or choose a pool operator. Pool operators are responsible for meeting the aggregated daily and monthly requirements of those customers which comprise their pool.

6.2.2 *Balancing Requirements*

Interruptible transportation customers and/or their suppliers (pool operators) determine the quantity of gas to deliver to DE-Ohio on a daily basis. Balancing service is available to interruptible transportation customers under Rate IMBS – Interruptible Monthly Balancing Service. The service provided under Rate IMBS is a "best efforts," interruptible, monthly gas balancing service that requires only a general obligation to balance daily pool usage with pool deliveries and provides that no daily imbalance charges or penalties will be levied on the pool operators, except on those days when operational flow orders have been issued. However, pool operators are under a continuing obligation to work with the Company in a good faith manner to respond to both formal and informal system management requests, and to strive to maintain relative daily balancing on the system throughout the course of the month. Interruptible transportation customers who purchase service under Rate IMBS select monthly imbalance

carryover tolerance levels from among the following options, with charges applicable as follows:

OPTION	ALLOWED MONTHLY UNDERRUN	MONTHLY CARRYOVER TOLERANCE		CHARGE ON ALL THROUGHPUT (\$/Mcf)
		May – November	December – April	
1	0%	5%	7%	\$0.015
2	0%	6%	8%	\$0.020
3	0%	8%	10%	\$0.025

Imbalances under Rate IT in excess of the carryover tolerance are cashed out by the Company on a monthly basis pursuant to the same procedures applicable for firm transportation delivery imbalances. Rate IMBS was modified effective December 2, 2013 to include the Company's right to issue an OFO that directs pool operators to deliver gas at specified citygate receipt points. This modification was implemented to assist DE-Ohio in balancing its distribution system between northern and southern receipt points.

6.2.3 Negotiated Rate Customers and Curtailment

The rates for IT service are reflected in DE-Ohio's tariff, but the Company may negotiate a lower, discounted rate on an individual basis. Presently, four IT customers receive service at discounted rates. The Company reviews the eligibility and economics of discounted rate contracts prior to renewal.

DE-Ohio's interruptible transportation customers are subject to curtailment on the coldest days. The Company has an automated system in place that calls its interruptible customers in the event a curtailment is required. The Company may initiate a curtailment when, in its judgment, service to firm customers may be jeopardized. DE-Ohio initiated five IT service curtailments during the audit period.¹³ Prior to these curtailments, there were 139 customers taking service under Rate IT. After those curtailments, 22 customers switched to firm transportation service.

If a customer fails to comply with a curtailment as directed by DE-Ohio, the customer's firm supply amount is increased to the level of non-compliance. Of the 22 IT customers that switched to firm transportation service, eight voluntarily switched for their own reasons, while 14 customers switched due to the increase in their firm supply amount. The increase in firm supply amounts as a result of non-compliance during the audit period was less than 5,000 Dth. There was one customer addition to Rate IT during the audit period such that there are currently 118 customers receiving service under Rate IT.

¹³ Curtailments were initiated on January 6, 24, and 28, 2014 and January 8 and February 19, 2015.

6.3 Audit Period Imbalances

In order to minimize their balancing service requirements, suppliers serving DE-Ohio's transportation customers are encouraged to utilize the Company's interpool imbalance trading services. DE-Ohio operates an electronic bulletin board through which suppliers may post offers to purchase or sell gas supplies or trade imbalances. This trading service is provided under Rate GTS – Gas Trading Service. A charge of \$5.00 per transaction is applicable under Rate GTS. Daily imbalance trades must be made within four business days from the date of the imbalance. Monthly imbalance trades must be completed within four business days following the end of the month.

6.3.1 Firm Transportation Imbalances

The performance of suppliers in delivering the Adjusted TSQ posted by DE-Ohio is summarized in Table 17. As indicated in the "Imbalance" column under "Daily Delivery Imbalances" in Table 17, suppliers participating in the firm transportation program, with limited exceptions, delivered the Adjusted TSQ posted by DE-Ohio during the audit period. Table 17 also shows that during the audit period, firm customers paid FBS balancing charges of \$12.8 million and EFBS balancing charges of \$11.5 million which were both credited to GCR customers. Included in the imbalances shown in Table 17 but not explicitly identified are 1,355 Mcf of unauthorized OFO overdeliveries which were confiscated by the Company and 444 Mcf of unauthorized OFO underdeliveries which generated \$8,024 in revenue.

6.3.2 Interruptible Transportation Imbalances

Interruptible transportation customer imbalances are summarized in Table 18. Monthly imbalances between deliveries and consumption were generally less than 5 percent of consumption, averaging 2.5 percent during the audit period. In addition to the charges reflected in Table 18, DE-Ohio assessed interruptible transportation customers charges for violating OFOs and curtailment orders. In total, interruptible pool operators were charged \$930,233 for unauthorized underdeliveries of 57,100 Mcf; \$17,514 for unauthorized overdeliveries of 4,886 Mcf; and \$334,131 for failing to curtail deliveries of 15,848 Mcf.

6.4 Electric Department

DE-Ohio's Electric Department operates two generating plants that use natural gas for fuel—the Dick's Creek Electric Generating Station (Dicks Creek Station) and the Zimmer Electric Generating Station (Zimmer Station). Both stations take service under Rate IT. The gas requirements for these generating facilities are not purchased by personnel in DE-Ohio and DE-Kentucky Gas Operations. The Gas Department provides transportation service from the citygate to the Dicks Creek and Zimmer Stations. The Gas Department charges the Electric

Table 17.
Summary of Firm Transportation Customer Balancing Activity

MONTH	DAILY DELIVERY IMBALANCES (Mcf)										MONTHLY CONSUMPTION IMBALANCES (Dth)				FBS	EFBS
	Deliveries				Underdelivery Cashout			Overdelivery Cashout			Deliveries	Usage	Imbalance	Percent	BALANCING REVENUES	BALANCING REVENUES
	Required	Actual	EFBS/Other	Imbalance	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue						
September 2012	767,835	1,126,624	(354,092)	4,697	1,170	\$3,774	0	\$0	0	\$0	811,929	703,239	108,690	15.46%	\$70,243	\$439,774
October	1,720,135	1,907,105	(194,165)	(7,195)	9,742	36,513	(5,867)	(20,963)	(5,867)	(20,963)	1,079,230	997,155	82,075	8.23	93,244	461,186
November	3,400,296	3,269,149	133,900	2,753	4,540	18,301	(2,547)	(9,788)	(2,547)	(9,788)	2,588,694	2,179,637	409,057	18.77	177,518	482,635
December	4,551,847	4,168,799	382,222	(826)	3,390	12,340	(7,293)	(25,307)	(7,293)	(25,307)	3,431,847	3,574,174	(142,327)	-3.98	319,282	495,810
January 2013	6,276,754	5,115,551	1,074,741	(86,462)	16,485	57,849	(2,564)	(8,576)	(2,564)	(8,576)	5,347,479	5,729,412	(381,933)	-6.67	532,427	516,895
February	5,633,480	4,629,270	1,002,613	(1,597)	3,932	14,608	(2,750)	(9,740)	(2,750)	(9,740)	6,266,125	5,698,172	567,953	-9.97	525,569	522,855
March	5,263,225	4,732,733	531,480	988	1,825	7,911	(2,335)	(9,651)	(2,335)	(9,651)	5,045,122	5,232,313	(187,191)	-3.58	478,918	524,309
April	1,972,838	2,242,714	(271,888)	(2,012)	2,640	11,912	(2,813)	(12,102)	(2,813)	(12,102)	3,626,789	3,649,246	(22,457)	-0.62	470,829	295,087
May	1,002,070	1,401,533	(402,521)	(3,058)	3,058	13,730	(628)	(2,688)	(628)	(2,688)	1,433,112	1,465,377	(32,266)	-2.20	195,835	280,910
June	881,780	1,096,999	(215,407)	(188)	295	1,181	0	0	0	0	851,817	946,119	(94,302)	-9.97	128,874	277,750
July	885,973	1,100,754	(213,811)	970	226	843	(107)	(380)	(107)	(380)	860,023	799,583	60,440	7.56	109,742	270,938
August	903,834	1,043,759	(384,684)	(244,759)	17,026	65,346	(1,196)	(4,376)	(1,196)	(4,376)	881,816	754,038	127,777	16.95	111,348	263,806
Subtotal	33,260,067	31,834,990	1,088,388	(336,689)	64,329	\$244,307	(28,100)	(\$103,572)	(28,100)	(\$103,572)	32,223,982	31,728,467	495,515	1.56%	\$3,213,830	\$4,831,954
September 2013	678,825	916,010	(237,440)	(255)	255	\$965	0	\$0	0	\$0	886,065	810,360	75,705	9.34%	\$113,206	\$264,803
October	1,722,714	1,792,427	(69,984)	(271)	980	3,718	(709)	(2,564)	(709)	(2,564)	888,197	991,619	(103,422)	-10.43	137,763	271,665
November	4,057,216	3,940,852	112,909	(3,455)	5,833	23,840	(2,378)	(9,265)	(2,378)	(9,265)	3,019,183	2,514,969	504,214	20.05	334,899	280,701
December	5,751,017	5,580,063	172,556	1,602	5,787	27,411	(7,389)	(33,367)	(7,389)	(33,367)	5,112,676	5,007,875	104,801	2.09	652,310	296,047
January 2014	8,120,581	7,339,777	772,094	(8,710)	14,008	84,244	(5,298)	(30,379)	(5,298)	(30,379)	6,268,553	6,790,500	(521,946)	-7.69	873,310	301,565
February	6,212,188	5,722,368	478,639	(11,181)	19,299	101,436	(8,118)	(40,679)	(8,118)	(40,679)	8,162,878	7,250,864	912,014	12.58	920,964	311,193
March	4,591,652	4,297,707	304,362	10,417	6,673	33,045	(17,090)	(80,685)	(17,090)	(80,685)	4,947,565	5,572,336	(624,771)	-11.21	699,476	307,642
April	1,955,883	2,161,150	(203,377)	1,890	5,073	26,065	(6,963)	(34,105)	(6,963)	(34,105)	3,269,115	3,366,495	(97,380)	-2.89	468,116	229,016
May	1,328,388	1,540,774	(212,872)	(486)	5,977	29,538	(5,491)	(25,872)	(5,491)	(25,872)	1,449,564	1,598,671	(149,107)	-9.33	228,939	220,036
June	984,058	1,157,901	(174,699)	(856)	1,490	7,025	(634)	(2,850)	(634)	(2,850)	1,020,450	1,048,426	(27,975)	-2.67	151,950	211,641
July	878,269	1,063,979	(185,266)	444	1,946	7,891	(2,390)	(9,240)	(2,390)	(9,240)	854,573	891,845	(37,272)	-4.18	131,013	210,803
August	867,827	846,723	21,988	884	1,392	5,916	(2,276)	(9,222)	(2,276)	(9,222)	857,732	840,134	17,598	2.09	124,128	210,530
Subtotal	37,148,618	36,359,731	778,910	(9,977)	68,713	\$351,094	(58,736)	(\$278,228)	(58,736)	(\$278,228)	36,736,551	36,684,094	52,457	0.14%	\$4,836,073	\$3,115,640
September 2014	953,100	953,186	706	792	366	\$1,567	(1,158)	(\$4,728)	(1,158)	(\$4,728)	866,645	894,516	(27,871)	-3.12%	\$131,629	\$210,748
October	2,052,708	2,021,555	(70,294)	(101,447)	2,564	10,177	(4,279)	(16,192)	(4,279)	(16,192)	1,178,329	1,215,846	(37,517)	-3.09	177,535	217,957
November	4,668,016	4,465,748	112,846	(89,422)	12,443	57,064	(10,285)	(44,966)	(10,285)	(44,966)	3,041,211	2,566,993	474,218	18.47	357,262	217,957
December	5,206,164	5,037,262	170,733	1,831	12,936	43,646	(14,767)	(47,505)	(14,767)	(47,505)	5,018,812	5,232,965	(214,153)	-4.09	706,076	251,220
January 2015	7,194,541	6,367,192	816,763	(10,586)	21,163	64,314	(10,577)	(30,642)	(10,577)	(30,642)	6,469,516	6,357,496	112,020	1.76	840,277	258,773
February	7,337,389	6,881,671	441,979	(13,739)	27,582	85,284	(13,843)	(40,809)	(13,843)	(40,809)	6,492,622	6,352,482	140,140	2.21	857,869	256,397
March	4,430,962	4,035,137	295,733	(100,092)	16,816	46,177	(23,986)	(62,795)	(23,986)	(62,795)	6,133,969	6,126,043	7,926	0.13	808,919	256,770
April	1,897,747	2,153,947	(253,745)	2,455	4,965	13,272	(7,420)	(18,906)	(7,420)	(18,906)	2,746,721	2,831,751	(85,029)	-3.00	341,256	381,338
May	1,152,882	1,512,664	(359,975)	2,807	3,243	9,651	(6,050)	(17,164)	(6,050)	(17,164)	1,461,443	1,356,870	104,573	7.71	162,747	385,025
June	885,780	1,299,442	(417,423)	(3,761)	5,136	15,228	(1,375)	(3,887)	(1,375)	(3,887)	876,526	1,041,850	(165,324)	-15.87	127,800	382,664
July	871,527	1,230,223	(359,447)	(751)	2,222	6,806	(1,471)	(4,295)	(1,471)	(4,295)	823,700	955,461	(131,761)	-13.79	119,203	375,441
August	925,456	1,126,132	(198,409)	2,267	142	401	(2,409)	(6,487)	(2,409)	(6,487)	877,067	907,027	(29,960)	-3.30	111,864	375,401
Subtotal	37,576,272	37,084,159	182,467	(309,646)	109,578	\$353,587	(97,620)	(\$298,377)	(97,620)	(\$298,377)	35,986,561	35,839,299	147,262	0.41%	\$4,742,436	\$3,569,693
TOTAL	107,984,957	105,278,880	2,049,765	(656,312)	242,620	\$948,988	(184,456)	(\$680,177)	(184,456)	(\$680,177)	104,947,094	104,251,860	695,234	0.67%	\$12,792,339	\$11,517,287

Table 18.
Summary of Interruptible Transportation Customer Balancing Activity
(Mcf)

MONTH	IMBALANCE CARRYOVER	DELIVERIES	USAGE	MONTHLY IMBALANCE	PERCENT	IMBS CHARGES	UNDERDELIVERY CASHOUT			OVERDELIVERY CASHOUT		
							Quantity	Revenues	Price	Quantity	Revenues	Price
September 2012	34,483	1,432,486	1,425,135	7,351	0.52%	\$23,774	924.0	\$3,035	\$3.28	(560.7)	(\$1,756)	\$3.13
October	42,004	1,615,243	1,630,524	(15,281)	-0.94	27,356	4,480.3	17,096	3.82	(408.9)	(1,488)	3.64
November	30,478	1,809,394	1,823,072	(13,678)	-0.75	30,733	10,348.6	42,507	4.11	0.0	0	0.00
December	24,021	1,862,052	1,787,730	74,322	4.16	30,236	5,389.1	20,072	3.72	(46,380.5)	(164,697)	3.55
January 2013	55,731	2,051,063	2,062,100	(11,037)	-0.54	34,917	13,573.3	48,733	3.59	(3,911.6)	(13,389)	3.42
February	54,199	1,857,603	1,866,215	(8,612)	-0.46	31,564	253.4	965	3.81	(1,348.5)	(4,894)	3.63
March	45,188	1,972,702	1,940,685	32,017	1.65	32,777	760.5	3,377	4.44	(10,114.2)	(42,813)	4.23
April	67,092	1,581,439	1,594,563	(13,124)	-0.82	26,672	0.0	0	0.00	(1,007.6)	(4,440)	4.41
May	53,332	1,472,246	1,480,055	(7,809)	-0.53	24,527	679.6	3,129	4.60	(5,403.5)	(23,716)	4.39
June	41,166	1,398,303	1,407,739	(9,436)	-0.67	23,233	1,072.3	4,400	4.10	(2,250.1)	(8,802)	3.91
July	30,841	1,450,164	1,468,414	(18,250)	-1.24	24,144	7,546.8	28,885	3.83	(1,435.9)	(5,240)	3.65
August	19,450	1,522,845	1,489,239	33,606	2.26	24,437	1,250.9	4,933	3.94	(12,860.1)	(48,354)	3.76
Subtotal		20,025,540	19,975,471	50,069	0.25%	\$334,371	46,278.8	\$177,132	\$3.83	(85,681.6)	(\$319,589)	\$3.73
September 2013	40,567	1,480,040	1,478,252	1,788	0.12%	\$24,279	56.3	\$219	\$3.89	(285.4)	(\$1,058)	\$3.71
October	42,174	1,654,981	1,677,599	(22,618)	-1.35	27,679	11,949.1	46,612	3.90	0.0	0	0.00
November	32,107	1,849,466	1,882,491	(33,025)	-1.75	31,367	23,645.5	99,455	4.21	(653.1)	(2,619)	4.01
December	23,188	2,101,326	2,026,582	74,744	3.69	33,878	0.3	1	4.90	(11,992.4)	(55,801)	4.65
January 2014	83,733	2,224,364	2,192,415	31,949	1.46	36,729	775.8	4,812	6.20	(52,593.3)	(311,037)	5.91
February	94,700	2,063,609	2,126,024	(62,415)	-2.94	35,532	17,351.4	94,330	5.44	(14,995.6)	(77,722)	5.18
March	37,237	2,097,535	2,032,778	64,757	3.19	33,725	0.0	0	0.00	(17,705.7)	(86,652)	4.89
April	95,433	1,570,787	1,606,174	(35,387)	-2.20	26,431	341.8	1,820	5.32	(14,622.8)	(74,225)	5.08
May	47,115	1,581,901	1,549,340	32,561	2.10	25,243	1,179.3	6,048	5.13	(13,880.4)	(67,861)	4.89
June	65,617	1,367,059	1,398,303	(31,244)	-2.23	22,670	1,167.8	5,713	4.89	(130.1)	(607)	4.66
July	36,707	1,321,181	1,337,066	(15,885)	-1.19	21,599	1,060.6	4,467	4.21	(527.1)	(2,116)	4.02
August	21,959	1,292,528	1,290,811	1,717	0.13	20,887	17,295.4	76,338	4.41	(1,518.1)	(6,388)	4.21
Subtotal		20,604,777	20,597,835	6,942	0.03%	\$340,022	74,823.3	\$339,814	\$4.54	(128,904.0)	(\$686,086)	\$5.32
September 2014	39,407	1,320,597	1,357,318	(36,721)	-2.71%	\$21,901	21,590.4	\$96,201	\$4.46	0.0	\$0	\$0.00
October	25,719	1,527,341	1,520,563	6,778	0.45	24,600	70.1	290	4.13	(5,273.6)	(20,783)	3.94
November	27,120	1,845,971	1,801,602	44,369	2.46	29,539	5,936.5	28,382	4.78	(33,505.5)	(152,718)	4.56
December	43,085	1,904,486	1,838,271	66,215	3.60	30,209	0.0	0	0.00	(40,633.1)	(136,243)	3.35
January 2015	66,115	2,002,732	2,004,852	(2,120)	-0.11	33,033	0.0	0	0.00	(9,224.6)	(27,877)	3.02
February	59,563	2,161,977	2,144,424	17,553	0.82	35,442	0.0	0	0.00	(1,125.8)	(3,467)	3.08
March	77,824	1,824,534	1,841,236	(16,702)	-0.91	30,011	123.3	356	2.88	(4,588.7)	(12,619)	2.75
April	59,181	1,475,706	1,493,244	(17,538)	-1.17	24,068	0.0	0	0.00	(2,427.6)	(6,035)	2.69
May	40,305	1,496,613	1,483,613	13,000	0.88	23,585	2,722.2	8,577	3.15	(4,581.2)	(13,762)	3.00
June	50,748	1,456,234	1,472,306	(16,072)	-1.09	23,195	0.0	0	0.00	(5,457.0)	(16,360)	3.00
July	30,152	1,465,694	1,461,825	3,869	0.26	23,058	6,324.2	20,564	3.25	(7,994.8)	(24,784)	3.10
August	32,805	1,484,238	1,501,172	(16,934)	0.00	23,711	12,297.5	36,904	3.00	(2,202.4)	(6,301)	2.86
Subtotal		19,966,123	19,920,426	45,697	0.23%	\$327,352	49,064.2	\$191,273	\$3.90	(116,834.3)	(\$420,949)	\$3.60
TOTAL		60,596,440	60,493,732	102,708	0.17%	\$996,744	170,166.3	\$708,219	\$4.16	(331,419.9)	(\$1,426,624)	\$4.30

Department a \$0.015 per Mcf balancing fee for all deliveries to the Dicks Creek and Zimmer Stations, pursuant to Rate Schedule IMBS. Effective April 2, 2015, both the Dicks Creek and Zimmer Stations were sold to Dynegy.

6.5 Conclusions and Recommendations

6.5.1 *Capacity Assignment*

DE-Ohio's capacity assignment procedures provide for the assignment of interstate pipeline firm transportation capacity effective each November 1 and April 1 based on a supplier's aggregate customers' demands at the end of the previous September and February, respectively. The City of Cincinnati established a municipal aggregating program for its citizens and small businesses and switched to firm transportation service in October 2012. As a result, the supplier serving the City of Cincinnati's aggregation program (DE-Retail) was able to avoid an assignment of capacity effective November 1, 2012, and DE-Ohio was left with unneeded capacity.

The costs associated with the unneeded capacity were recovered entirely from GCR customers. DE-Ohio's Contract Commitment Cost Recovery Rider (Rider CCCR) was designed to recover a portion of the costs associated with unneeded interstate pipeline capacity incurred to serve GCR customers that have elected to switch to transportation service. Exeter's audit finds that a portion of the costs associated with the unneeded capacity should have been recovered under Rider CCCR rather than through the GCR. Exeter recommends that \$237,245 of the costs associated with the unneeded capacity be removed from the GCR and recovered under Rider CCCR. Exeter also recommends that DE-Ohio should investigate modifying its tariff to address the potential for a supplier to avoid the assignment of capacity.

6.5.2 *Enhanced Firm Balancing Service*

In Case No. 15-50-GA-RDR, DE-Ohio filed an application to make EFBS mandatory for suppliers serving customers with aggregate maximum daily demands greater than or equal to 20,000 Dth/day. DE-Ohio claimed that under its existing procedures for the assignment of capacity to suppliers and balancing service options, the Company could be left with insufficient firm transportation capacity to manage storage, provide balancing service, and serve its GCR customers. A hearing was held in Case No. 15-50-GA-RDR in August 2015, and the case is currently before the presiding Administrative Law Judge.

Exeter's audit confirms that under DE-Ohio's existing capacity assignment procedures and balancing service options, the Company could be left with insufficient firm transportation capacity. This could have an adverse impact on the gas costs of GCR customers. Exeter's audit

did not identify any alternatives to DE-Ohio's assignment of storage through EFBS to suppliers that would maintain a balance in the allocation of capacity costs to GCR customers and firm transportation customers.

Among the issues to be resolved in Case No. 15-50-GA-RDR is whether EFBS service should be mandatory for all suppliers or only mandatory for larger suppliers serving customers with aggregate demands in excess of 20,000 Dth/day. Exeter notes that large customers could intentionally reduce the number of customers served in order to avoid being required to subscribe to EFBS. If this were to occur, DE-Ohio could again be left with insufficient firm transportation capacity. The Retail Energy Supply Association (RESA), an intervening party in Case No. 15-50-GA-RDR, proposed that all suppliers with aggregate customer demands in excess of 1,000 Dth/day assist DE-Ohio in managing storage. However, a 1,000 Dth/day threshold could result in disproportionate allocations of storage to smaller suppliers. Since EFBS delivery quantities are based on aggregate daily demand increments of 3,000 Dth, any supplier with aggregate customer demands between 1,000 and 3,000 Dth/day would be allocated 870 Dth/day of EFBS. For a supplier with an aggregate customer demand slightly over 1,000 Dth/day, the allocated EFBS would represent 87 percent of its total aggregate daily demand. Therefore, an aggregate daily demand threshold of 6,000 Dth/day would be more appropriate to avoid both excess allocations of EFBS and *de minimus* allocations of storage to smaller suppliers. This is also consistent with the aggregate daily demand quantity at which capacity is assigned to suppliers under DE-Ohio's firm transportation program.

Approving a lower aggregate daily demand threshold could have a detrimental effect by forcing suppliers of customers with process-only load to subscribe to EFBS. Load for process-only customers is not weather dependent in the same way as heating customer load, and process-only load customers do not necessarily take deliveries on a daily basis. This would make it impractical for suppliers serving process-only load customers to manage EFBS. This could be addressed by including an exemption to mandatory EFBS for suppliers serving process-only load.

DE-Ohio is proposing to implement its proposal to make EFBS mandatory effective April 1, 2016. Whether any modifications are warranted to DE-Ohio's proposal to account for consideration of existing contractual obligations of suppliers will be addressed by the Commission.

Exeter's audit analyzed whether DE-Ohio could serve GCR customers and meet the balancing requirements of its firm customers at a reduced level of storage. This evaluation was based on the winter of 2013-2014 balancing requirements of firm customers which was included

in the Company's testimony in Case No. 15-50-GA-RDR. Exeter's analysis indicated that DE-Ohio could potentially reduce current storage levels by 20 percent, serve its GCR customers, and still meet the balancing requirements of its firm customers. This would reduce costs for both GCR and firm transportation customers. Exeter's analysis of storage was based on the usage of EFBS during the winter of 2013-2014 and, therefore, this finding could change once the Commission decides how storage should be assigned in Case No. 15-50-GA-RDR. Exeter recommends that DE-Ohio reevaluate whether it could meet its firm customers' balancing requirements at reduced storage levels once Case No. 15-50-GA-RDR is decided and the assignment provisions of EFBS are determined. Any decision to adjust current storage levels should also consider the results of the Company's capacity portfolio evaluation in the event that its propane facilities are no longer available. As indicated previously, DE-Ohio should not adjust its interstate pipeline contract storage capacity entitlements until the Company has evaluated the changes to its capacity portfolio that would be appropriate if its propane facilities were no longer available.

6.5.3 *Interruptible Transportation Service*

The current terms and conditions of DE-Ohio's interruptible transportation service provide for monthly balancing and require only a general obligation to daily balancing except on those days when an operational flow order has been issued. DE-Ohio should assess whether adopting daily balancing tolerances for IT service would improve the Company's ability to manage storage and/or reduce its contract storage capacity entitlements.

The rates applicable for interruptible monthly balancing service have remained unchanged for a number of years. The costs associated with the contract storage purchased by the Company to provide balancing services increased during the audit period and are expected to continue to increase as a result of Columbia Gas' Modernization Program. At present rates, IT customers are only responsible for approximately \$325,000 of the total annual demand charges associated with providing balancing service of \$8.5 million, or less than 5 percent. IT customers represent nearly 25 percent of total system throughput. Given the extent to which storage is used to provide balancing service to IT customers, a more significant contribution toward the recovery of storage demand charges from IT customers would be appropriate.

APPENDIX A

Audit Period Purchased Gas Activity

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Cost Billing Determinants
(Dth)

		September 2012	October 2012	November 2012	December 2012	January 2013	February 2013	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013
TRANSPORTATION SERVICE													
Duke Energy Kentucky													
FT	Reservation	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000
	Variable	292,552	279,220	1,028,064	1,528,444	1,982,107	1,810,146	1,751,301	580,422	303,125	75,487	61,988	84,748
KO Transmission													
FTS	Reservation	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000
	Released	47,145	47,145	66,564	66,564	66,564	66,564	66,564	73,575	73,575	73,575	73,575	73,575
	Net Reservation	136,855	136,855	117,436	117,436	117,436	117,436	117,436	110,425	110,425	110,425	110,425	110,425
	Variable	0	320,681	1,332,131	1,271,089	1,930,071	1,750,024	1,468,321	0	0	0	0	0
ITS	Variable	0	0	0	2,598	197,181	43,660	29,411	0	0	0	0	0
COLUMBIA GULF TRANSMISSION													
FTS-1	Reservation	111,785	111,785	163,214	163,214	163,214	163,214	163,214	111,785	111,785	111,785	111,785	111,785
	Released	31,416	31,416	80,805	80,805	80,805	80,805	80,805	68,604	68,604	68,604	68,604	68,604
	Net Reservation	80,369	80,369	82,409	82,409	82,409	82,409	82,409	43,181	43,181	43,181	43,181	43,181
	Variable	649,440	1,140,109	1,392,748	1,598,980	1,597,368	1,119,474	1,389,269	673,128	762,724	738,120	823,763	1,189,673
	Gas Commodity	660,000	1,158,664	1,415,432	1,624,969	1,623,346	1,137,681	1,411,871	683,958	775,000	750,000	837,000	1,209,000
ITS-1	Variable (a)	0	0	0	0	0	0	0	0	0	0	0	0
FTS-1	Reservation	0	0	7,000	7,000	7,000	7,000	7,000	0	0	0	0	0
Backhaul	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	0	0	7,000	7,000	7,000	7,000	7,000	0	0	0	0	0
	Variable	0	0	0	0	0	0	0	0	0	0	0	0
	Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
TEXAS GAS TRANSMISSION													
NNS	Reservation (Nom)	10,982	10,982	6,250	6,250	6,250	6,250	6,250	10,982	10,982	10,982	10,982	10,982
	Variable	115,193	166,106	142,985	146,165	156,910	135,090	149,235	106,150	55,148	111,037	98,584	43,192
	Gas Commodity	344,940	311,670	148,838	152,148	163,334	140,820	155,344	287,776	354,392	342,960	354,392	354,392
FT	Reservation	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
	Variable	201,210	350,459	387,180	307,936	507,689	540,862	552,130	746,030	298,313	259,830	238,638	238,638
	Gas Commodity	210,000	366,579	402,350	320,000	527,575	562,050	573,758	775,250	310,000	270,000	248,000	248,000
STF	Reservation	0	0	0	0	0	0	0	0	0	0	0	0
	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	0	0	0	0	0	0	0	0	0	0	0	0
	Variable	0	0	0	0	0	0	0	0	0	0	0	0
	Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
CITYGATE PURCHASES													
	Commodity	0	0	0	0	21,000	0	0	0	0	0	0	0
LANDFILL PURCHASES													
	Citygate Commodity	95,622	100,264	105,152	108,919	108,213	101,482	116,941	112,848	116,194	106,333	104,662	102,137
PIPP													
	Gas Commodity	183,000	189,100	183,000	189,100	189,100	170,800	189,100	168,000	173,600	168,000	173,600	173,600
STORAGE SERVICE													
COLUMBIA GAS													
FSS	Deliverability	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514
	Capacity	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079
	Injection	1,037,132	665,979	152,829	533,599	185,725	24,005	234,276	869,969	1,024,295	1,188,004	1,297,716	1,546,423
	Withdrawal	0	117,024	814,908	1,310,594	2,283,024	2,091,792	1,659,683	249,781	10,765	0	0	0
SST	Reservation	108,257	216,514	216,514	216,514	216,514	216,514	216,514	108,257	108,257	108,257	108,257	108,257
	Variable Injection	1,037,132	665,979	152,829	533,599	185,725	24,005	234,276	869,969	1,024,295	1,188,004	1,297,716	1,546,423
	Variable Withdrawal	0	114,727	798,912	1,284,865	2,238,209	2,050,730	1,627,105	244,873	10,554	0	0	0
TEXAS GAS TRANSMISSION													
NNS	Reservation (Unnom)	0	20,268	25,000	25,000	25,000	25,000	25,000	15,625	0	0	0	0
	Variable Withdrawal	0	0	89,224	434,798	507,473	423,824	57,216	0	0	0	0	0
	Overrun	0	0	0	0	0	0	0	0	0	0	0	0
PEAKING SERVICE													
	Reservation	0	0	0	21,000	21,000	21,000	0	0	0	0	0	0
	Gas Commodity	0	0	0	0	64,000	0	0	0	0	0	0	0
Propane	Gas Commodity	0	0	1,620	2,493	62,542	17,733	0	0	0	0	0	0
TOTAL GAS COMMODITY													
		1,493,562	2,125,277	2,256,392	2,397,649	2,759,110	2,130,366	2,447,014	2,027,830	1,729,186	1,637,293	1,717,654	2,087,129

Notes:

(a) Gas commodity costs included under FTS-1 Rate Schedule.

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Cost Billing Determinants
(Dth)

	September 2013	October 2013	November 2013	December 2013	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014
TRANSPORTATION SERVICE												
Duke Energy Kentucky												
FT Reservation	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000	180,000
Variable	88,995	446,828	1,365,882	1,621,018	2,991,737	2,152,684	1,136,488	721,002	248,513	236,371	251,770	253,537
KO Transmission												
FTS Reservation	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000	184,000
Released	73,575	73,575	96,495	96,495	96,495	96,495	96,495	51,623	51,623	51,623	51,623	51,623
Net Reservation	110,425	110,425	87,505	87,505	87,505	87,505	87,505	132,377	132,377	132,377	132,377	132,377
Variable	0	195,781	874,445	729,229	1,983,847	1,644,429	712,786	0	0	0	0	0
ITS Variable	0	0	45,580	0	573,198	340,860	101,177	0	0	0	0	0
COLUMBIA GULF TRANSMISSION												
FTS-1 Reservation	111,785	111,785	163,214	163,214	163,214	163,214	163,214	111,785	111,785	111,785	111,785	111,785
Released	68,604	68,604	116,739	116,739	116,739	116,739	116,739	77,084	52,084	52,084	52,084	52,084
Net Reservation	43,181	43,181	46,475	46,475	46,475	46,475	46,475	34,701	59,701	59,701	59,701	59,701
Variable	915,300	865,586	1,119,809	1,212,267	1,404,413	1,387,584	1,392,993	981,196	827,297	800,392	857,956	1,129,766
Gas Commodity	930,000	879,512	1,134,519	1,228,248	1,422,864	1,473,464	1,712,138	1,162,675	837,000	808,748	868,000	1,143,000
ITS-1 Variable (a)	0	0	0	0	0	86,720	296,880	168,036	0	0	0	0
FTS-1 Reservation	0	0	7,000	7,000	7,000	7,000	7,000	0	0	0	0	0
Backhaul Released	0	0	0	0	0	0	0	0	0	0	0	0
Net Reservation	0	0	7,000	7,000	7,000	7,000	7,000	0	0	0	0	0
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
TEXAS GAS TRANSMISSION												
NNS Reservation (Nom)	10,982	10,982	6,250	6,250	6,250	6,250	6,250	10,982	10,982	10,982	10,982	10,982
Variable	76,531	96,917	161,830	185,080	169,590	173,490	175,630	90,341	38,136	15,550	44,738	29,697
Gas Commodity	342,960	198,320	166,602	169,928	174,590	178,598	180,806	339,180	350,455	339,150	350,455	350,455
FT Reservation	30,000	30,000	30,000	30,000	30,000	30,000	30,000	0	0	0	0	0
Released	0	0	0	0	0	0	0	0	0	0	0	0
Net Reservation	30,000	30,000	30,000	30,000	30,000	30,000	30,000	0	0	0	0	0
Variable	173,220	496,958	549,632	603,806	747,066	830,326	908,696	0	0	0	0	0
Gas Commodity	180,000	516,425	568,156	624,154	772,242	858,308	939,319	0	0	0	0	0
STF Reservation	0	0	0	0	0	0	0	14,000	14,000	14,000	14,000	14,000
Released	0	0	0	0	0	0	0	0	0	0	0	0
Net Reservation	0	0	0	0	0	0	0	14,000	14,000	14,000	14,000	14,000
Variable	0	0	0	0	0	0	0	419,970	434,000	420,000	434,000	434,000
Gas Commodity	0	0	0	0	0	0	0	431,100	445,501	431,130	445,501	445,501
CITYGATE PURCHASES												
Commodity	0	0	0	0	218,000	90,000	226,000	0	0	0	0	0
LANDFILL PURCHASES												
Citygate Commodity	95,278	104,597	106,092	118,556	102,299	95,444	115,572	117,744	123,085	108,355	118,489	97,008
PIPP												
Gas Commodity	168,000	173,600	168,000	173,600	173,800	156,800	173,600	0	0	0	0	0
STORAGE SERVICE												
COLUMBIA GAS												
FSS Deliverability	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514	216,514
Capacity	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079	9,244,079
Injection	1,003,527	555,437	0	237,571	2,688	141,368	393,318	1,258,490	1,115,203	1,050,913	1,169,831	1,175,035
Withdrawal	0	116,413	0	1,230,136	3,038,239	2,166,939	820,046	131,088	1,574	0	0	0
SST Reservation	108,257	216,514	216,514	216,514	216,514	216,514	216,514	108,257	108,257	108,257	108,257	108,257
Variable Injection	1,003,527	555,437	239,624	237,571	2,688	141,368	393,318	1,258,490	1,115,203	1,050,913	1,169,831	1,175,035
Variable Withdrawal	0	114,135	956,502	1,206,061	2,978,779	2,124,530	803,999	128,574	1,543	0	0	0
TEXAS GAS TRANSMISSION												
NNS Reservation (Unnom)	0	20,268	25,000	25,000	25,000	25,000	25,000	15,625	0	0	0	0
Variable Withdrawal	0	0	143,749	511,689	634,371	451,991	188,884	0	0	0	0	0
Overrun	0	0	0	0	0	5,196	0	0	0	0	0	0
PEAKING SERVICE												
Reservation	0	0	0	16,000	16,000	16,000	0	0	0	0	0	0
Gas Commodity	0	0	0	112,000	178,392	112,000	0	0	0	0	0	0
Propane Gas Commodity	0	0	1,217	13,433	299,509	27,117	2,457	0	0	0	0	0
TOTAL GAS COMMODITY	1,716,238	1,872,454	2,144,586	2,439,919	3,341,496	2,991,731	3,349,892	2,050,699	1,756,041	1,688,383	1,782,445	2,035,964

Notes:

(a) Gas commodity costs included under FTS-1 Rate Schedule.

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Cost Rates
(\$/Dth)

		September 2012	October 2012	November 2012	December 2012	January 2013	February 2013	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013
TRANSPORTATION SERVICE													
Duke Energy Kentucky													
FT	Reservation	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
KO Transmission													
FTS	Reservation	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Released	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Net Reservation	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Variable	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018	0.0018
ITS	Variable	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135	0.0135
COLUMBIA GULF TRANSMISSION													
FTS-1	Reservation	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917
	Released	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917
	Net Reservation	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917
	Variable	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127	0.0127
	Gas Commodity	4.6458	4.1218	4.0104	4.0363	3.8692	3.9945	4.0989	4.4935	4.4260	4.3009	4.1638	3.8409
ITS-1	Variable (a)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FTS-1	Reservation	0.0000	0.0000	4.2917	4.2917	4.2917	4.2917	4.2917	0.0000	0.0000	0.0000	0.0000	0.0000
Backhaul	Released	0.0000	0.0000	4.2917	4.2917	4.2917	4.2917	4.2917	0.0000	0.0000	0.0000	0.0000	0.0000
	Net Reservation	0.0000	0.0000	4.2917	4.2917	4.2917	4.2917	4.2917	0.0000	0.0000	0.0000	0.0000	0.0000
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TEXAS GAS TRANSMISSION													
NNS	Reservation (Nom)	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
	Variable	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632
	Gas Commodity	3.9717	3.5808	3.4110	3.6360	3.3056	3.1686	3.3791	3.9325	3.8773	3.8181	3.7744	3.7387
FT	Reservation	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084
	Released	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084
	Net Reservation	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084
	Variable	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284	0.0284
	Gas Commodity	2.7482	3.0919	3.4626	3.6692	3.3341	3.2253	3.5357	4.0861	4.0427	3.8457	3.5539	3.3778
STF	Reservation	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Released	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Net Reservation	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CITYGATE PURCHASES													
	Commodity	0.0000	0.0000	0.0000	0.0000	3.7600	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
LANDFILL PURCHASES													
	Citygate Commodity	2.7199	3.1186	3.5778	3.8084	3.4579	3.3267	3.5327	4.0954	4.2758	4.2717	3.8197	3.5655
PIPP													
	Gas Commodity	2.6643	3.0527	3.5432	3.8090	3.4410	3.3184	3.5126	4.0970	4.2714	4.2509	3.7894	3.5330
STORAGE SERVICE													
COLUMBIA GAS													
FSS	Deliverability	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090
	Capacity	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289
	Injection	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153
	Withdrawal	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153
SST	Reservation	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510
	Variable Injection	0.0252	0.0252	0.0252	0.0252	0.0252	0.0252	0.0252	0.0188	0.0188	0.0188	0.0188	0.0188
	Variable Withdrawal	0.0297	0.0234	0.0234	0.0234	0.0234	0.0234	0.0234	0.0170	0.0170	0.0170	0.0170	0.0170
TEXAS GAS TRANSMISSION													
NNS	Reservation (Unnom)	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
	Variable Withdrawal	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632	0.0632
	Overrun	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
PEAKING SERVICE													
	Reservation	0.0000	0.0000	0.0000	0.3100	0.3100	0.2800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	3.8050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Propane	Gas Commodity	0.0000	0.0000	4.6920	4.6947	2.5182	4.8792	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Cost Rates
(\$/Dth)

		September 2013	October 2013	November 2013	December 2013	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014
TRANSPORTATION SERVICE													
Duke Energy Kentucky													
FT	Reservation	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2781	0.2699	0.2417
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
KO Transmission													
FTS	Reservation	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Released	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Net Reservation	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Variable	0.0018	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
ITS	Variable	0.0135	0.0129	0.0129	0.0129	0.0129	0.0129	0.0129	0.0129	0.0129	0.0129	0.0129	0.0129
COLUMBIA GULF TRANSMISSION													
FTS-1	Reservation	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917
	Released	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917
	Net Reservation	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917	4.2917
	Variable	0.0127	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121	0.0121
	Gas Commodity	4.0505	4.1853	3.9403	4.1155	4.4369	5.1204	4.6704	4.3483	4.2606	4.2528	3.9881	3.8707
ITS-1	Variable (a)	0.0000	0.0000	0.0000	0.0000	0.0000	0.1532	0.1532	0.1532	0.0000	0.0000	0.0000	0.0000
FTS-1	Reservation	0.0000	0.0000	4.2917	4.2917	4.2917	4.2917	4.2917	0.0000	0.0000	0.0000	0.0000	0.0000
Backhaul	Released	0.0000	0.0000	4.2917	4.2917	4.2917	4.2917	4.2917	0.0000	0.0000	0.0000	0.0000	0.0000
	Net Reservation	0.0000	0.0000	4.2917	4.2917	4.2917	4.2917	4.2917	0.0000	0.0000	0.0000	0.0000	0.0000
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TEXAS GAS TRANSMISSION													
NNS	Reservation (Nom)	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
	Variable	0.0632	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626
	Gas Commodity	3.7744	3.7550	3.4808	3.7911	4.4118	5.6170	4.8285	4.0713	3.9441	3.8976	3.8017	3.7721
FT	Reservation	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.0000	0.0000	0.0000	0.0000	0.0000
	Released	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.0000	0.0000	0.0000	0.0000	0.0000
	Net Reservation	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.4084	0.0000	0.0000	0.0000	0.0000	0.0000
	Variable	0.0284	0.0278	0.0278	0.0278	0.0278	0.0278	0.0278	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	3.5485	3.5755	3.6101	3.9727	4.5140	5.5766	4.7009	0.0000	0.0000	0.0000	0.0000	0.0000
STF	Reservation	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1200	0.1200	0.1200	0.1200	0.1200
	Released	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1200	0.1200	0.1200	0.1200	0.1200
	Net Reservation	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1200	0.1200	0.1200	0.1200	0.1200
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0212	0.0212	0.0212	0.0212	0.0212
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4.5237	4.5526	4.5130	4.1388	3.7823
CITYGATE PURCHASES													
	Commodity	0.0000	0.0000	0.0000	0.0000	8.2193	9.1267	10.5998	0.0000	0.0000	0.0000	0.0000	0.0000
LANDFILL PURCHASES													
	Citygate Commodity	3.6762	3.6055	3.6014	3.9335	4.5372	5.7159	4.9964	4.7186	4.9349	4.7545	4.3800	3.8100
PIPP													
	Gas Commodity	3.6355	3.5831	3.5831	3.8695	4.4830	5.6897	4.9739	0.0000	0.0000	0.0000	0.0000	0.0000
STORAGE SERVICE													
COLUMBIA GAS													
FSS	Deliverability	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090	1.5090
	Capacity	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289	0.0289
	Injection	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153
	Withdrawal	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153
SST	Reservation	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510
	Variable Injection	0.0188	0.0182	0.0182	0.0182	0.0182	0.0182	0.0182	0.0164	0.0164	0.0164	0.0164	0.0164
	Variable Withdrawal	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0170	0.0152	0.0152	0.0152	0.0152	0.0152
TEXAS GAS TRANSMISSION													
NNS	Reservation (Unnom)	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
	Variable Withdrawal	0.0632	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626	0.0626
	Overrun	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
PEAKING SERVICE													
	Reservation	0.0000	0.0000	0.0000	0.1550	0.1550	0.1550	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	4.7084	8.2515	11.4800	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Propane	Gas Commodity	0.0000	0.0000	5.4914	4.6739	5.1140	5.1372	5.1998	0.0000	0.0000	0.0000	0.0000	0.0000

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Cost Rates
(\$/Dth)

		September 2014	October 2014	November 2014	December 2014	January 2015	February 2015	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015
TRANSPORTATION SERVICE													
Duke Energy Kentucky													
FT	Reservation	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417	0.2417
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
KO Transmission													
FTS	Reservation	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Released	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Net Reservation	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560	0.3560
	Variable	0.0012	0.0012	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014	0.0014
ITS	Variable	0.0129	0.0129	0.0129	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131	0.0131
COLUMBIA GULF TRANSMISSION													
FTS-1	Reservation	4.2917	4.2917	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300
	Released	4.2917	4.2917	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300
	Net Reservation	4.2917	4.2917	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300
	Variable	0.0121	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123
	Gas Commodity	3.8847	3.7919	4.2169	4.1547	3.9988	3.8805	4.0534	3.0799	3.1662	3.2126	3.2694	3.2303
ITS-1	Variable (a)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
FTS-1	Reservation	0.0000	0.0000	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300
Backhaul	Released	0.0000	0.0000	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300
	Net Reservation	0.0000	0.0000	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300	3.3300
	Variable	0.0000	0.0000	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123	0.0123
	Gas Commodity	0.0000	0.0000	3.7500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TEXAS GAS TRANSMISSION													
NNS	Reservation (Nom)	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
	Variable	0.0626	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628
	Gas Commodity	3.7852	3.7424	3.9300	4.0089	3.5233	3.3990	3.4058	3.1745	3.4397	3.4834	3.5216	3.5465
FT	Reservation	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Released	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Net Reservation	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Variable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STF	Reservation	0.1200	0.1200	0.1950	0.1950	0.1950	0.1950	0.1950	0.1200	0.1200	0.1200	0.1200	0.1200
	Released	0.1200	0.1200	0.1950	0.1950	0.1950	0.1950	0.1950	0.1200	0.1200	0.1200	0.1200	0.1200
	Net Reservation	0.1200	0.1200	0.1950	0.1950	0.1950	0.1950	0.1950	0.1200	0.1200	0.1200	0.1200	0.1200
	Variable	0.0212	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214	0.0214
	Gas Commodity	3.8663	3.9102	3.9145	3.5747	2.9736	2.8077	2.7679	2.4985	2.6936	2.6996	2.7332	2.7687
CITYGATE PURCHASES													
	Commodity	0.0000	0.0000	4.5229	0.0000	3.2538	3.2522	3.3727	2.7200	0.0000	0.0000	0.0000	0.0000
LANDFILL PURCHASES													
	Citygate Commodity	3.9900	4.0100	3.6800	4.2600	3.1500	2.7800	2.8700	2.5300	2.4700	2.7900	2.7300	2.8400
PIPP													
	Gas Commodity	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STORAGE SERVICE													
COLUMBIA GAS													
FSS	Deliverability	1.5090	1.5090	1.5090	1.5090	1.5090	1.5010	1.5010	1.5010	1.5010	1.5010	1.5010	1.5010
	Capacity	0.0289	0.0289	0.0289	0.0289	0.0289	0.0288	0.0288	0.0288	0.0288	0.0288	0.0288	0.0288
	Injection	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153
	Withdrawal	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153	0.0153
SST	Reservation	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	4.4510	5.1700	5.1700	5.1700
	Variable Injection	0.0164	0.0166	0.0166	0.0166	0.0166	0.0166	0.0166	0.0192	0.0192	0.0192	0.0192	0.0192
	Variable Withdrawal	0.0152	0.0152	0.0152	0.0152	0.0152	0.0152	0.0152	0.0178	0.0178	0.0178	0.0178	0.0178
TEXAS GAS TRANSMISSION													
NNS	Reservation (Unnom)	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
	Variable Withdrawal	0.0626	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628	0.0628
	Overrun	0.4190	0.4190	0.4818	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190	0.4190
PEAKING SERVICE													
	Reservation	0.0000	0.0000	0.0000	1.7271	1.7271	1.6886	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	Gas Commodity	0.0000	0.0000	0.0000	3.6800	3.2290	3.2616	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Propane	Gas Commodity	0.0000	0.0000	10.0350	9.1747	9.4884	9.9670	10.6611	0.0000	0.0000	0.0000	0.0000	0.0000

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Costs
(\$)

	September 2012	October 2012	November 2012	December 2012	January 2013	February 2013	March 2013	April 2013	May 2013	June 2013	July 2013	August 2013
TRANSPORTATION SERVICE												
Duke Energy Kentucky												
FT Reservation	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058
Variable	0	0	0	0	0	0	0	0	0	0	0	0
KO Transmission												
FTS Reservation	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504
Released	16,784	16,784	23,697	23,697	23,697	23,697	23,697	26,193	26,193	26,193	26,193	26,193
Net Reservation	48,720	48,720	41,807	41,807	41,807	41,807	41,807	39,311	39,311	39,311	39,311	39,311
Variable	0	577	2,398	2,288	3,474	3,150	2,643	0	0	0	0	0
ITS Variable	0	0	0	35	2,662	589	397	0	0	0	0	0
COLUMBIA GULF TRANSMISSION												
FTS-1 Reservation	479,748	479,748	700,466	700,466	700,466	700,466	700,466	479,748	479,748	479,748	479,748	479,748
Released	134,828	134,828	346,791	346,791	346,791	346,791	346,791	294,428	294,428	294,428	294,428	294,428
Net Reservation	344,920	344,920	353,675	353,675	353,675	353,675	353,675	185,320	185,320	185,320	185,320	185,320
Variable	8,248	14,479	17,688	20,307	20,287	14,217	17,644	8,549	9,687	9,374	10,462	15,111
Gas Commodity	3,086,255	4,775,767	5,676,453	6,559,006	6,281,052	4,544,418	5,787,132	3,073,354	3,430,172	3,225,710	3,485,097	4,643,688
ITS-1 Variable (a)	0	0	0	0	0	0	0	0	0	0	0	0
FTS-1 Reservation	0	0	30,042	30,042	30,042	30,042	30,042	0	0	0	0	0
Backhaul Released	0	0	0	0	0	0	0	0	0	0	0	0
Net Reservation	0	0	30,042	30,042	30,042	30,042	30,042	0	0	0	0	0
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
TEXAS GAS TRANSMISSION												
NNS Reservation (Nom)	138,044	142,645	78,563	81,181	81,181	73,325	81,181	138,044	142,645	138,044	142,645	142,645
Variable	7,280	10,498	9,037	9,238	9,917	8,538	9,432	6,709	3,485	7,018	6,294	2,730
Gas Commodity	1,369,985	1,116,021	507,689	553,210	539,923	445,567	524,922	1,131,686	1,374,089	1,309,467	1,337,609	1,324,967
FT Reservation	367,560	379,812	367,560	379,812	379,812	343,056	379,812	367,560	379,812	367,560	379,812	379,812
Released	0	0	0	0	0	0	0	0	0	0	0	0
Net Reservation	367,560	379,812	367,560	379,812	379,812	343,056	379,812	367,560	379,812	367,560	379,812	379,812
Variable	5,714	9,953	10,996	8,745	14,418	15,360	15,680	21,187	8,472	7,379	6,777	6,777
Gas Commodity	577,115	1,130,327	1,393,165	1,174,150	1,758,999	1,812,776	2,028,628	3,167,778	1,253,240	1,038,350	881,375	837,690
STF Reservation	0	0	0	0	0	0	0	0	0	0	0	0
Released	0	0	0	0	0	0	0	0	0	0	0	0
Net Reservation	0	0	0	0	0	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0	0	0	0	0	0
Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
CITYGATE PURCHASES												
Commodity	0	0	0	0	78,980	0	0	0	0	0	0	0
LANDFILL PURCHASES												
Citygate Commodity	260,082	312,683	376,213	414,807	374,190	337,600	413,117	462,150	496,822	454,223	399,777	364,160
PIPP												
Gas Commodity	487,567	577,260	648,412	720,275	650,700	566,782	664,228	688,301	741,510	714,144	657,836	613,328
STORAGE SERVICE												
COLUMBIA GAS												
FSS Deliverability	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720
Capacity	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154
Injection	15,868	10,189	2,338	8,164	2,842	367	3,584	13,311	15,672	18,176	19,855	23,660
Withdrawal	0	1,790	12,468	20,052	34,930	32,004	25,393	3,821	165	0	0	0
SST Reservation	481,852	963,704	963,704	963,704	963,704	963,704	963,704	481,852	481,852	481,852	481,852	481,852
Variable Injection	26,136	16,783	3,851	13,447	4,680	805	5,904	16,355	19,257	22,334	24,397	29,073
Variable Withdrawal	0	2,685	18,695	30,066	52,374	47,987	38,074	4,163	179	0	0	0
TEXAS GAS TRANSMISSION												
NNS Reservation (Unnom)	0	263,261	314,250	324,725	324,725	293,300	324,725	196,406	0	0	0	0
Variable Withdrawal	0	0	5,639	27,479	32,072	26,786	3,816	0	0	0	0	0
Overrun	0	0	0	0	0	0	0	0	0	0	0	0
PEAKING SERVICE												
Reservation	0	0	0	6,510	6,510	5,880	0	0	0	0	0	0
Gas Commodity	0	0	0	0	243,520	0	0	0	0	0	0	0
Propane Gas Commodity	0	0	7,601	11,704	157,494	82,977	0	0	0	0	0	0

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Costs
(\$)

		September 2013	October 2013	November 2013	December 2013	January 2014	February 2014	March 2014	April 2014	May 2014	June 2014	July 2014	August 2014
TRANSPORTATION SERVICE													
Duke Energy Kentucky													
FT	Reservation	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	50,058	48,579	43,506
	Variable	0	0	0	0	0	0	0	0	0	0	0	0
KO Transmission													
FTS	Reservation	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504
	Released	26,193	26,193	34,352	34,352	34,352	34,352	34,352	18,378	18,378	18,378	18,378	18,378
	Net Reservation	39,311	39,311	31,152	31,152	31,152	31,152	31,152	47,126	47,126	47,126	47,126	47,126
	Variable	0	235	1,049	875	2,381	1,973	855	0	0	0	0	0
ITS	Variable	0	0	588	0	7,394	4,397	1,305	0	0	0	0	0
COLUMBIA GULF TRANSMISSION													
FTS-1	Reservation	479,748	479,748	700,466	700,466	700,466	700,466	700,466	479,748	479,748	479,748	479,748	479,748
	Released	294,428	294,428	501,009	501,009	501,009	501,009	501,009	330,821	223,529	223,529	223,529	223,529
	Net Reservation	185,320	185,320	199,457	199,457	199,457	199,457	199,457	148,926	256,219	256,219	256,219	256,219
	Variable	11,624	10,474	13,550	14,668	16,993	16,790	16,855	11,872	10,010	9,685	10,381	13,670
	Gas Commodity	3,766,950	3,680,995	4,470,335	5,054,807	6,313,171	7,544,755	7,998,422	5,055,606	3,566,114	3,443,707	3,461,694	4,424,254
ITS-1	Variable (a)	0	0	0	0	0	10,222	45,482	25,743	0	0	0	0
FTS-1	Reservation	0	0	30,042	30,042	30,042	30,042	30,042	0	0	0	0	0
Backhaul	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	0	0	30,042	30,042	30,042	30,042	30,042	0	0	0	0	0
	Variable	0	0	0	0	0	0	0	0	0	0	0	0
	Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
TEXAS GAS TRANSMISSION													
NNS	Reservation (Nom)	138,044	142,645	78,563	81,181	81,181	73,325	81,181	138,044	142,645	138,044	142,645	142,645
	Variable	4,837	6,067	10,131	10,333	10,616	10,860	10,994	5,655	2,387	973	2,801	1,859
	Gas Commodity	1,284,451	744,701	579,901	644,210	770,250	1,003,190	873,027	1,380,896	1,382,228	1,321,872	1,332,330	1,321,963
FT	Reservation	367,560	379,812	367,560	379,812	379,812	343,056	379,812	0	0	0	0	0
	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	367,560	379,812	367,560	379,812	379,812	343,056	379,812	0	0	0	0	0
	Variable	4,919	13,815	15,280	16,786	20,768	23,083	25,262	0	0	0	0	0
	Gas Commodity	638,730	1,848,481	2,061,090	2,479,562	3,485,898	4,786,474	4,415,655	0	0	0	0	0
STF	Reservation	0	0	0	0	0	0	0	50,400	52,080	50,400	52,080	52,080
	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	0	0	0	0	0	0	0	50,400	52,080	50,400	52,080	52,080
	Variable	0	0	0	0	0	0	0	8,903	9,201	8,904	9,201	9,201
	Gas Commodity	0	0	0	0	0	0	0	1,950,155	2,028,196	1,945,677	1,842,962	1,685,009
CITYGATE PURCHASES													
	Commodity	0	0	0	0	1,791,800	821,400	2,395,550	0	0	0	0	0
LANDFILL PURCHASES													
	Citygate Commodity	350,261	377,124	382,080	466,340	464,151	545,548	577,444	555,587	607,412	515,174	518,982	369,600
PIPP	Gas Commodity	610,772	622,020	601,969	671,740	778,252	892,139	883,461	0	0	0	0	0
STORAGE SERVICE													
COLUMBIA GAS													
FSS	Deliverability	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720	326,720
	Capacity	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154	267,154
	Injection	15,354	8,498	0	3,835	41	2,163	6,018	19,255	17,063	16,079	17,898	17,978
	Withdrawal	0	1,781	0	18,621	46,485	33,154	12,547	2,006	24	0	0	0
SST	Reservation	481,852	963,704	963,704	963,704	963,704	963,704	963,704	481,852	481,852	481,852	481,852	481,852
	Variable Injection	18,866	10,109	4,361	4,324	49	2,573	7,158	20,639	18,289	17,235	19,185	19,271
	Variable Withdrawal	0	1,940	16,281	20,503	50,639	38,117	13,688	1,954	23	0	0	0
TEXAS GAS TRANSMISSION													
NNS	Reservation (Unnom)	0	263,261	314,260	324,725	324,725	293,300	324,725	196,406	0	0	0	0
	Variable Withdrawal	0	0	8,999	32,032	39,712	28,285	12,325	0	0	0	0	0
	Overrun	0	0	0	0	0	2,177	0	0	0	0	0	0
PEAKING SERVICE													
	Reservation	0	0	0	2,480	2,480	2,480	0	0	0	0	0	0
	Gas Commodity	0	0	0	527,120	1,471,997	1,285,760	0	0	0	0	0	0
Propane	Gas Commodity	0	0	6,683	62,785	1,531,702	139,306	12,776	0	0	0	0	0

APPENDIX A
DUKE ENERGY OHIO, Inc.
Audit Period Purchased Gas Costs
(\$)

		September 2014	October 2014	November 2014	December 2014	January 2015	February 2015	March 2015	April 2015	May 2015	June 2015	July 2015	August 2015
TRANSPORTATION SERVICE													
Duke Energy Kentucky													
FT	Reservation	43,506	43,506	43,506	43,506	43,506	43,506	43,506	43,506	43,506	43,506	43,506	43,506
	Variable	0	0	0	0	0	0	0	0	0	0	0	0
KO Transmission													
FTS	Reservation	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504	65,504
	Released	18,378	18,378	15,653	15,653	15,653	15,653	15,653	5,620	5,620	5,620	5,620	5,620
	Net Reservation	47,126	47,126	49,851	49,851	49,851	49,851	49,851	59,884	59,884	59,884	59,884	59,884
	Variable	0	269	1,787	2,185	3,370	3,566	2,533	59	0	0	0	0
ITS	Variable	0	0	6	0	213	1,285	475	0	0	0	0	0
COLUMBIA GULF TRANSMISSION													
FTS-1	Reservation	479,748	479,748	209,790	209,790	209,790	209,790	209,790	104,895	104,895	104,895	104,895	104,895
	Released	223,529	223,529	112,967	112,967	112,967	112,967	112,967	41,365	41,365	41,365	41,365	41,365
	Net Reservation	256,219	256,219	96,823	96,823	96,823	96,823	96,823	63,530	63,530	63,530	63,530	63,530
	Variable	12,199	10,712	14,415	14,141	13,575	13,232	12,509	12,772	13,951	12,034	11,682	12,247
	Gas Commodity	3,962,400	3,341,209	5,036,348	4,832,342	4,465,008	4,223,256	4,170,586	3,235,930	3,633,807	3,180,480	3,141,869	3,254,577
ITS-1	Variable (a)	0	0	0	0	0	0	0	0	0	0	0	0
FTS-1	Reservation	0	0	69,930	69,930	69,930	69,930	69,930	69,930	69,930	69,930	69,930	69,930
Backhaul	Released	0	0	34,762	34,762	34,762	34,762	34,762	11,625	11,625	11,625	11,625	11,625
	Net Reservation	0	0	35,168	35,168	35,168	35,168	35,168	58,305	58,305	58,305	58,305	58,305
	Variable	0	0	105	0	0	0	0	0	0	0	0	0
	Gas Commodity	0	0	32,250	0	0	0	0	0	0	0	0	0
TEXAS GAS TRANSMISSION													
NNS	Reservation (Nom)	138,044	81,181	78,563	81,181	81,181	73,325	81,181	138,044	142,645	138,044	142,645	142,645
	Variable	1,278	7,155	11,741	10,824	12,132	10,958	11,958	6,700	2,464	4,991	21,380	21,374
	Gas Commodity	1,283,751	1,206,681	758,574	713,368	702,743	612,333	669,541	1,079,777	1,208,977	1,184,857	1,237,756	1,246,191
FT	Reservation	0	0	0	0	0	0	0	0	0	0	0	0
	Released	0	0	0	0	0	0	0	0	0	0	0	0
	Net Reservation	0	0	0	0	0	0	0	0	0	0	0	0
	Variable	0	0	0	0	0	0	0	0	0	0	0	0
	Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
STF	Reservation	50,400	52,080	245,700	253,890	253,890	229,320	253,890	50,400	52,080	50,400	52,080	52,080
	Released	0	0	136,182	140,722	140,722	127,103	140,722	16,009	16,543	16,009	16,543	16,543
	Net Reservation	50,400	52,080	109,518	113,168	113,168	102,217	113,168	34,391	35,537	34,391	35,537	35,537
	Variable	8,904	6,372	12,018	9,434	12,419	11,217	7,585	6,133	6,337	6,882	6,235	6,337
	Gas Commodity	1,666,881	1,195,125	2,255,929	1,617,045	1,770,784	1,510,195	1,006,779	734,796	818,558	890,858	817,128	841,308
CITYGATE PURCHASES													
	Commodity	0	0	1,130,715	0	1,738,464	4,141,100	927,500	81,600	0	0	0	0
LANDFILL PURCHASES													
	Citygate Commodity	421,875	438,494	385,528	496,818	357,774	265,168	315,290	307,807	298,087	322,747	318,809	360,359
PIPP													
	Gas Commodity	0	0	0	0	0	0	0	0	0	0	0	0
STORAGE SERVICE													
COLUMBIA GAS													
FSS	Deliverability	326,720	326,720	326,720	326,720	326,720	324,988	324,988	324,988	324,988	324,988	324,988	324,988
	Capacity	267,154	267,154	267,154	267,154	267,154	266,229	266,229	266,229	266,229	266,229	266,229	266,229
	Injection	16,262	8,230	7,192	854	593	931	2,014	11,698	23,115	20,680	18,947	18,083
	Withdrawal	0	1,361	18,468	24,408	31,883	26,367	24,162	1,857	0	0	0	0
SST	Reservation	481,852	963,704	963,704	963,704	963,704	963,704	963,704	481,852	481,852	559,689	559,689	559,689
	Variable Injection	17,431	8,930	7,803	926	643	1,011	2,185	14,680	29,007	25,952	23,777	22,693
	Variable Withdrawal	0	1,326	17,996	23,784	31,068	25,692	23,544	2,120	0	0	0	0
TEXAS GAS TRANSMISSION													
NNS	Reservation (Unnom)	0	263,261	314,250	324,725	324,725	293,300	324,725	196,406	0	0	0	0
	Variable Withdrawal	0	0	15,035	37,046	40,548	18,037	12,860	0	0	0	0	0
	Overrun	0	0	835	14,927	25,843	2,543	1,425	0	0	0	0	0
PEAKING SERVICE													
	Reservation	0	0	0	60,450	60,450	59,100	0	0	0	0	0	0
	Gas Commodity	0	0	0	73,600	807,250	1,923,813	0	0	0	0	0	0
Propane	Gas Commodity	0	0	84,083	1,523	243,016	808,685	18,561	0	0	0	0	0

APPENDIX B

RFP Scope of Work Company-Specific Audit Requirements

Requirement	Section
1. Review Duke's annual comparisons of its actual peak day demands with the demand forecasts by the design peak day model using actual observed peak day weather data and the use of these annual comparisons in refinement of its model.	4.4.1
2. Examine Duke's evaluation of its level of peak day coverage used for capacity planning to determine the optimal percentage level of coverages, taking into consideration new capacity options that become available during the audit period.	4.4.1
3. Evaluate the Company's analyses of its current day prior-to and day-after percentage based on actual temperature differences to develop more reasonable criteria.	4.4.4
4. Review Duke's summary and findings regarding the lost and unaccounted for gas (LUFG) for 12 months ended June 30, 2012.	5.7