

1 I. INTRODUCTION

2 Q1. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, EMPLOYER AND
3 JOB TITLE.

4 A. My name is Michelle H. Thiry. My business address is Entergy
5 Services, Inc., Parkwood II Building, Suite 300, 10055 Grogan's Mill Road,
6 The Woodlands, Texas 77380. I am the Director, Energy Management
7 Organization ("EMO") within System Planning and Operations ("SPO"), a
8 department of Entergy Services, Inc. ("ESI"). I provide a description of
9 SPO and its responsibilities later in my testimony. ESI is the service
10 company providing engineering, technical, and other services to Entergy
11 Texas, Inc. ("ETI" or the "Company") and the other Entergy
12 Operating Companies ("EOCs").¹

13

14 Q2. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND
15 PROFESSIONAL EXPERIENCE.

16 A. I have a Bachelor of Science degree in Business Administration from
17 LeTourneau University. During my career, I have been involved in
18 numerous aspects of the oil, gas, and power industries. I was employed
19 at Mid Louisiana Gas Company ("Mid Louisiana"), an interstate natural
20 gas pipeline company, with responsibility for all aspects of natural gas

¹ In addition to ETI, the EOCs are Entergy Arkansas, Inc. ("EAI"); Entergy Gulf States Louisiana, L.L.C. ("EGSL"); Entergy Louisiana, LLC ("ELL"); Entergy Mississippi, Inc. ("EMI"); and Entergy New Orleans, Inc. ("ENOI"). Each Operating Company is a wholly-owned subsidiary of Entergy Corporation.

1 marketing and transportation, including negotiating transportation
2 agreements, performing balancing, billing, gas marketing, pipeline projects
3 and other services. While employed by Mid Louisiana, I was involved in
4 the deregulation and unbundling of the interstate natural gas pipeline
5 industry as a result of the Federal Energy Regulatory Commission's
6 ("FERC") Order No. 636.

7 I was one of the initial staff of the EMO when it was created in The
8 Woodlands in January 1997. During my tenure at the EMO, I have been
9 responsible for evaluating, negotiating and implementing transportation,
10 storage and balancing agreements for natural gas for the EOCs
11 generating stations. I have also been a gas buyer for the Operating
12 Companies' generating stations. I was promoted to Manager, Gas & Oil
13 Supply in January 2001 and served in that position through January 2004.
14 In February 2004, I assumed the position of Manager, Power Marketing
15 and was promoted to Director, Gas, Oil & Wholesale Power in February
16 2009. In 2011, I was promoted to Director, EMO.

17
18 Q3. WHAT ORGANIZATIONS ARE INVOLVED IN THE OPERATIONS OF
19 THE SYSTEM?

20 A. The SPO is responsible for the planning and operations of the Entergy
21 System, including long-term planning (as described in ETI witness
22 Robert R. Cooper's testimony). The EMO, a department within the SPO,

1 is responsible for the short-term planning of the Entergy System as well as
2 real-time operations.

3

4 Q4. WHAT ARE THE DUTIES AND RESPONSIBILITIES OF YOUR
5 CURRENT POSITION?

6 A. I am responsible for providing executive leadership for the EMO. The
7 EMO acts on behalf of the EOCs and at the general direction of the
8 Entergy Operating Committee ("Operating Committee") to plan for and to
9 procure short-term (one year or less) resources to meet customers' needs.
10 The EMO includes the Operations Planning Group, the Wholesale Power
11 Group, the Gas & Oil Group, and the Power Transactions and Dispatch
12 Group. The Operations Planning Group is responsible for developing the
13 plans for operating the Operating Companies' generating resources for a
14 time frame of a month or less. The Wholesale Power Group includes
15 power traders, and dispatchers, and is responsible for purchasing power
16 for a period of up to one year on behalf of the Operating Companies. The
17 Gas & Oil Group is comprised of gas buyers and oil buyers and is
18 responsible for purchasing gas and oil for the Operating Companies'
19 generating units and the Local Distribution Companies in Baton Rouge
20 and New Orleans, Louisiana, regardless of the time period, as well as the
21 purchase of applicable transportation for gas purchases. The Power
22 Transactions and Dispatch Group is responsible for dispatching
23 generation capacity and other resources to meet the Entergy System's

1 real-time electric demand, and for marketing of excess generation and
2 purchasing additional resources on a real-time basis.

3

4 Q5. ON WHOSE BEHALF ARE YOU TESTIFYING?

5 A. I am testifying on behalf of ETI.

6

7 Q6. PLEASE DESCRIBE THE RELATIONSHIP BETWEEN ESI AND ETI.

8 A. ESI is a subsidiary of Entergy Corporation that provides engineering,
9 regulatory support, planning, accounting and technical services to ETI and
10 the other Operating Companies. These services include the procurement
11 of fuel and purchased power for the Operating Companies and the
12 operation of the Entergy System. ESI frequently serves as agent for the
13 Operating Companies in connection with wholesale transactions.
14 Although each individual Operating Company owns its generating assets,
15 the Entergy System is planned and operated as a single, integrated
16 system (the "Entergy System" or "System") pursuant to the terms and
17 conditions of the Entergy System Agreement, which is a Federal Energy
18 Regulatory Commission ("FERC")-approved rate schedule.

19

20 II. PURPOSE OF TESTIMONY AND OVERVIEW OF FILING

21 Q7. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

22 A. The two major purposes of my testimony are to (1) present a brief
23 overview of the reconciliation that is the subject of the Company's filing;

1 and (2) provide an overview of the Gas & Oil Supply Group ("G&O Group")
2 and its strategies, practices, and procedures for procuring natural gas and
3 oil during the period July 2011 through March 2013 (the "Reconciliation
4 Period"). With respect to the overview of the Company's fuel
5 reconciliation, I will:

- 6 • present an overview of the \$909,404,274 in reconcilable costs that ETI
7 seeks to reconcile for the Reconciliation Period; and
- 8 • explain ETI's underlying strategy and process for resource and fuel
9 acquisition, including the Company's integrated portfolio approach to
10 fuel and purchased power acquisition.

11 With respect to the costs associated with the G&O Group, I will
12 demonstrate that:

- 13 • the Company's gas and oil-related expenses during the Reconciliation
14 Period were reasonable and necessary;
- 15 • the Company maintained effective cost controls;
- 16 • decision-making processes, contract negotiations, contract
17 administration, and procurement procedures pertinent to the
18 Reconciliation Period and to the Test Year were prudent and resulted
19 in a reasonable cost of reliable gas and oil for the Company and its
20 customers; and
- 21 • the Company's requested natural gas and fuel oil inventories are
22 reasonable.

1 III. OVERVIEW OF FUEL & PURCHASED POWER RECONCILIATION

2 Q8. PLEASE SUMMARIZE THE COMPANY'S FUEL RECONCILIATION
3 FILING.

4 A. During the Reconciliation Period, the Company spent approximately
5 \$909,404,274 in reconcilable fuel and purchased power to serve
6 customers, as shown in Figure MHT-1 below. These were reasonable
7 and necessary expenses incurred to provide reliable service to the
8 Company's customers.

9 In addition to the fuel and purchased power costs recoverable
10 through the fuel factor, ETI requests special circumstances to recover as
11 eligible fuel certain savings associated with capacity costs related to the
12 Frontier and Calpine purchase power contracts for the period July 2011 –
13 March 2013. Company witnesses Cooper and Margaret L. McCloskey
14 address this proposal.

Figure MHT-1
Fuel Reconciliation

Gas and Oil (Sch. I-16)*	\$ 367,711,341
Emissions Allowances (Sch. I-16)	32,187
Coal (Sch. I-16)*	73,471,932
Total Fuel Expense	\$ 441,215,460
Purchased Power Expense (Sch. H-12.4a-g)	\$ 827,173,191
Off System Sales Revenues (Sch. H-12.5b-e)	(358,984,377)
Total Purchased Power:	\$ 468,188,814
Total Texas System Expense**	\$ 909,404,274
Fuel Factor Over-Recovery Balance (Sch. I-22)***	\$ 130,664,169

Sources: Schedules I-16, H-12.4a-g, H-12.5b-e, I-22, and Direct Testimony of M. McCloskey

* Includes cost of oil burned for startup and flame stabilization.

** Amounts may not tie to Schedules due to rounding.

*** Includes the retail fixed fuel factor portion of special circumstances of \$21,492,468.

1 Company witness McCloskey addresses the calculation of the fuel factor
2 over-recovery balance.

3

4 Q9. HOW DOES THE COMPANY PROPOSE TO ADDRESS THE FUEL
5 BALANCE?

6 A. The Company proposes to roll the remaining over(under)-recovery amount
7 from this proceeding into the Company's cumulative over(under)-recovery
8 balance, after taking interim refund proceedings into account, to be
9 addressed in a future fuel proceeding.

1 Q10. WHO HAS FILED DIRECT TESTIMONY ON THE COMPANY'S BEHALF
2 REGARDING FUEL RECONCILIATION ISSUES?

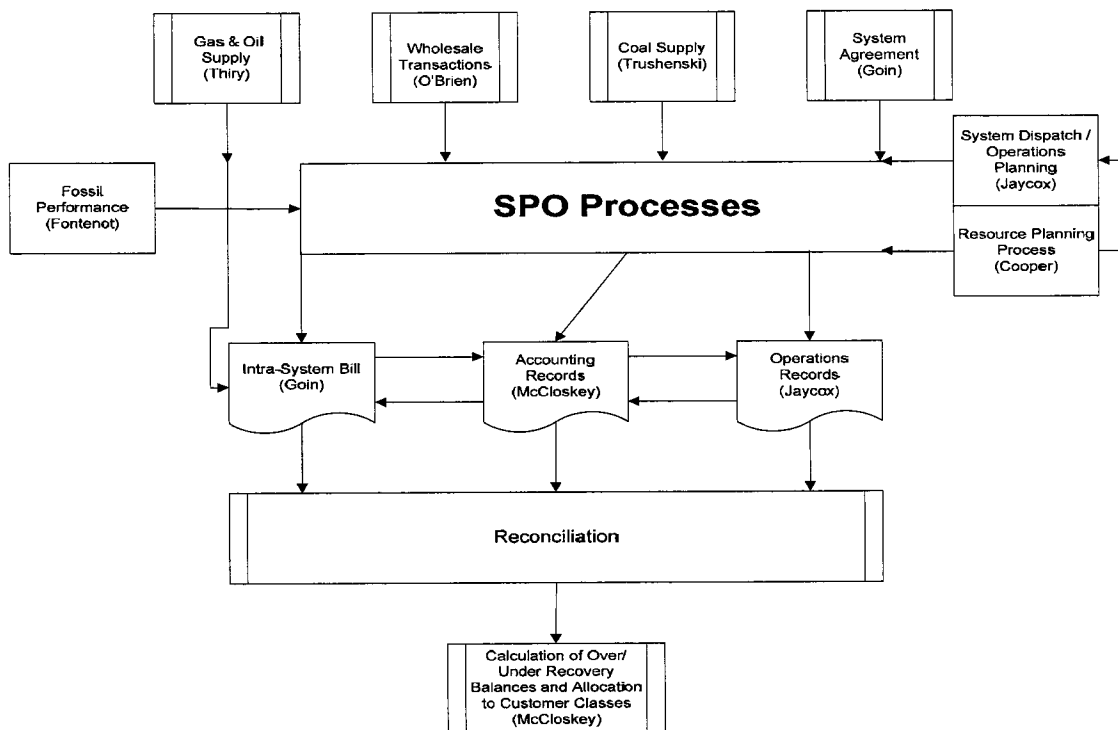
3 A. In addition to my testimony, the Company is filing the Direct Testimony of
4 seven witnesses:

- 5 • Ms. McCloskey describes the Company's accounting for fuel and
6 purchased power expenses and other related issues, explains how
7 ETI's over/(under)-recovery balances were calculated, and addresses
8 the Company's special circumstances request;
- 9 • Mr. Cooper describes the planning process that resulted in the
10 acquisition of additional resources during the Reconciliation Period and
11 addresses the Company's special circumstances request;
- 12 • Mr. Michael J. Goin describes the Entergy System Agreement, the
13 benefits that have accrued to ETI as a result of being a party to the
14 Entergy System Agreement, and the costs and revenues associated
15 with ETI's participation in the Entergy System Agreement;
- 16 • Mr. Devon S. Jaycox describes the integrated planning and operations
17 of the Entergy System, including the dispatch of the Company's
18 generating units during the Reconciliation Period;
- 19 • Mr. Andrew O'Brien describes the short-term wholesale power costs
20 during the Reconciliation Period;
- 21 • Mr. Ryan S. Trushenski addresses the Company's coal acquisition and
22 transportation processes and the Company's coal supply and
23 transportation expenses during the Reconciliation Period; and

- 1 • Mr. Gerard L. Fontenot addresses the performance of the Company's
2 fossil generating units during the Reconciliation Period.

3 An overview of ETI's fuel reconciliation process, which shows the
4 interrelationships among the various witnesses' testimony, is shown in
5 Figure MHT-2 below. Each witness will describe his role with respect to
6 the process.

Figure MHT-2
ETI Fuel Acquisition and Reconciliation Process



1 A. ETI'S Fuel and Purchased Power Procurement Process

2 Q11. WHAT IS THE COMPANY'S PHILOSOPHY REGARDING
3 PROCUREMENT OF FUEL AND PURCHASED POWER?

4 A. The Company is one of six Operating Companies that function as a single,
5 integrated utility system pursuant to the terms of the Entergy System
6 Agreement. Company witnesses Goin and Jaycox explain that the
7 Entergy System Agreement is the FERC-approved contract governing the
8 joint planning and operation of the individual systems of the Operating
9 Companies for the benefit of the System as a whole. The joint planning
10 and operation of the System requires that fuel and purchased power
11 procurement be carried out on a System-wide basis to achieve the lowest
12 reasonable System cost of energy consistent with reliability.

13 With respect to philosophy, the System is committed to providing
14 efficient, economic, and reliable electric service to its customers. Fuel and
15 purchased power costs are a significant component of the overall cost of
16 electricity. Therefore, efficiently and economically managing the System's
17 fuel and purchased power expenses is essential to maintaining the cost of
18 electricity to the System's customers at a reasonable level. The System
19 focuses on managing the overall aggregate fuel and purchased power
20 portfolio, both in terms of the mix of fuel types and purchases and the mix
21 of long- and short-term contracts and daily spot market purchases. The
22 System seeks to minimize the total energy cost to its customers while
23 maintaining reliable service. Thus, the reasonableness and prudence of

1 an individual transaction or dispatch decision can only be appropriately
2 viewed in the broader decision-making context of choosing the portfolio of
3 fuels and purchased power that will result in the lowest reasonable overall
4 energy cost for the System.

5

6 Q12. WOULD YOU PLEASE SUMMARIZE THE RESPONSIBILITIES OF THE
7 SPO?

8 A. The SPO operates as a single, unified organization having responsibility
9 for:

- 10 • creating long-term and short-term resource and fuel plans for the
11 Entergy System;
- 12 • acquiring all of the fossil fuels for the Entergy System's generating
13 units;
- 14 • buying and selling wholesale power;
- 15 • dispatching the System;
- 16 • managing fossil fuel and purchased power contracts;
- 17 • administering the Entergy System Agreement; and
- 18 • reviewing and processing the invoices for the Operating Companies'
19 (including ETI's) fossil fuel purchases and wholesale power
20 transactions.

21 Integrating all of these functions into a single organization allows the
22 System to create an effective process for determining and executing the

1 most reliable and economic fuel mix based on the facts and circumstances
2 that were known or reasonably knowable at the time.

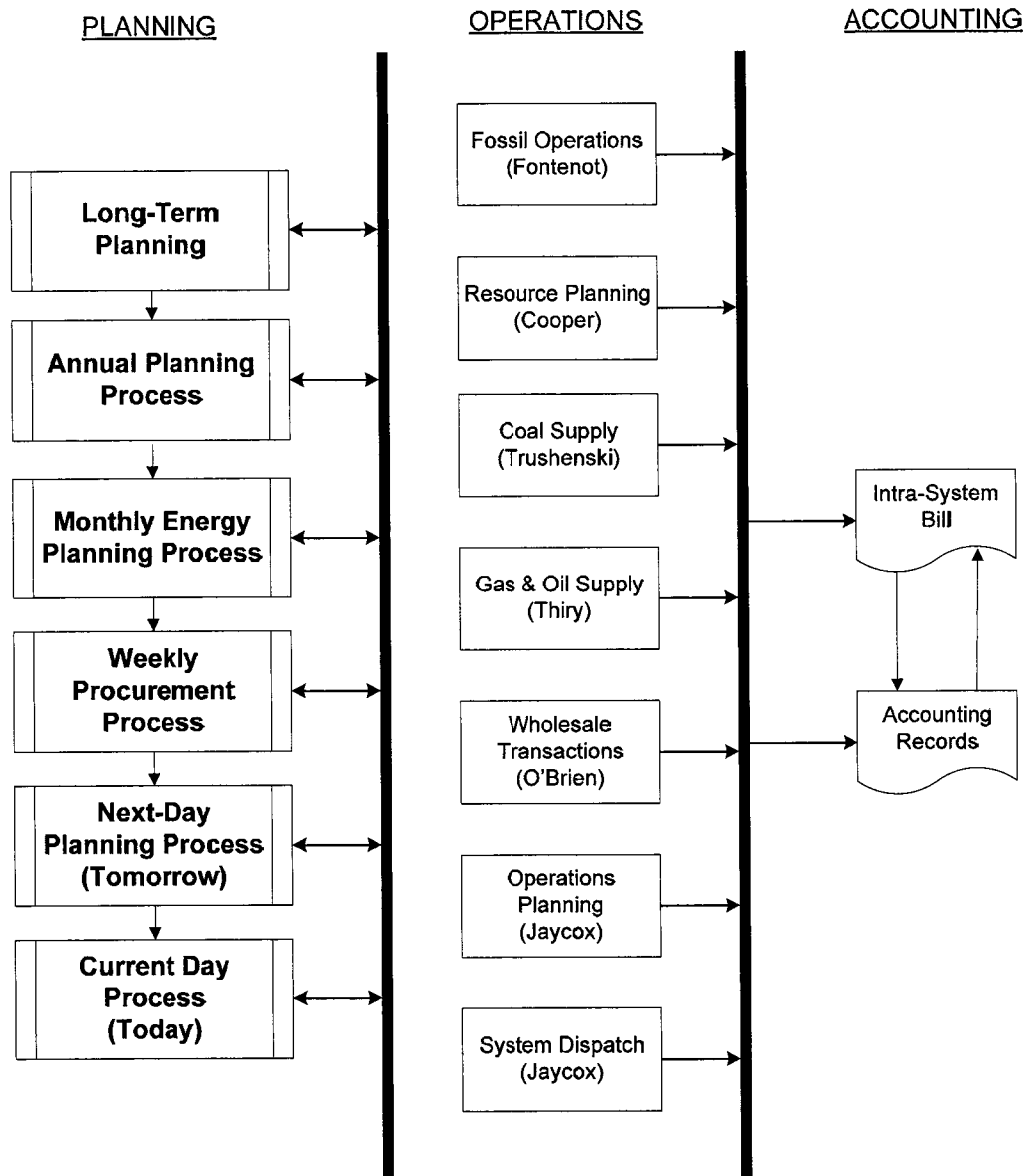
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4 Q13. PLEASE DESCRIBE THE SPO'S PROCESSES.

5 A. A general overview of the SPO's fuel and purchased power planning and
6 acquisition processes is presented below as Figure MHT-3. As shown in
7 that Figure, the processes are driven by a series of six plans starting with
8 long-term resource plans and long-term contracts, and proceeding through
9 a series of plans that focus on progressively shorter time horizons. These
10 plans provide the support for fuel, purchased power, and capacity
11 acquisitions.

12 Significantly, the processes are organized by tasks, not by
13 organizational entities. This is an important aspect of the SPO's
14 operations. Each process is performed by a team drawn from various
15 groups within the SPO or other ESI organizations. The close proximity of
16 the various entities that comprise the SPO means that the appropriate
17 skills can be brought to bear on any specific problem, regardless of the
18 specific group in which the team members work.

Figure MHT-3
System Planning and Operations Processes



- 1 Company witness Jaycox describes in detail the four shorter-term
- 2 planning processes that were particularly relevant during the
- 3 Reconciliation Period (Monthly, Weekly, Next Day, and Current Day).

1 Company witness Cooper discusses the longer-term planning processes
2 for the System.

3
4 Q14. PLEASE DESCRIBE THE PURPOSE OF EACH OF THE PLANNING
5 PROCESSES.

6 A. As noted previously, each of the plans focuses on a different time horizon
7 and therefore shapes SPO operations differently. The following summary
8 describes each of the plans:

- 9 • The long-term planning process evaluates the resource needs of the
10 Entergy System over a long-term horizon. A central component of the
11 long-term planning process is the Strategic Resource Plan ("SRP").²
12 As Company witness Cooper describes in his testimony, the SRP is a
13 set of planning principles and guidelines that gives the SPO guidance
14 on the mix of owned generation and different types of power purchases
15 that best meet customers' needs for reliable service at a reasonable
16 cost over a ten-year planning horizon. The SRP also allows for the
17 development of three-year tactical plans and annual plans for the
18 acquisition of particular resources or types of resources.
- 19 • The Annual Planning Process is limited to resources that can be made
20 available within a one-year time horizon. It brings together the
21 System's resource planners, operations planners, and the fuel and

² Previously referred to as the Strategic Supply Resource Plan.

1 purchased power buyers to consider how to meet the Company's
2 customers' needs for the peak demand seasons in light of resources
3 already acquired as part of the Long-Term Process. Among the
4 factors considered are expected System load, planning reserve
5 margin, available resources, expectations about the state of the fuel
6 and wholesale power markets, and the costs of various alternatives for
7 meeting load.

8 • The purpose of the Monthly Energy Planning Process is to develop an
9 integrated strategy among the plant operations, gas purchasing and
10 wholesale power transactions groups so as to minimize the overall
11 energy costs for the upcoming month subject to operating constraints.
12 The team that prepares the Monthly Energy Plan looks ahead to the
13 next month and determines which generating units should be expected
14 to be committed (or made available) for dispatch and what quantities of
15 gas and purchased power should be bought for the month, as opposed
16 to on a weekly, daily, or hourly basis. The Monthly Energy Plan
17 provides guidance for the fuel buyers regarding the appropriate levels
18 of natural gas and transportation capacity that should be nominated for
19 purchase in the upcoming month, and for the power marketers to pre-
20 schedule wholesale power purchases for the upcoming month.

21 • The Weekly Procurement Process provides for the optimization of
22 short-term purchases and the use of existing resources for the next
23 week, subject to the transmission network's capability and system

1 operating constraints. The Weekly Procurement Process considers
2 the potential use of the following existing resources: (1) Entergy-owned
3 generating units that are expected to be available for the coming week;
4 (2) known purchase power commitments for the upcoming week;
5 (3) prospective bids that have been received by the Company, but
6 which have not yet been accepted; and (4) purchase power offers that
7 would permit the Company to control the generation source through
8 automatic generation control ("AGC"). The Entergy Transmission
9 group, with oversight from the Independent Coordinator of
10 Transmission ("ICT"), evaluates these four groups of resources and
11 determines whether the bids or offers received in the 3rd and 4th group
12 should be accepted. If accepted, the bids or offers are granted
13 transmission service used to serve the System the following week.

14 • The Next Day Planning Process is actually part of a larger process that
15 considers both the Current Day and the upcoming week. Thus, it is
16 part of a seven-day rolling operational plan. This plan is intended to
17 identify the most economic resources that can be relied upon to meet
18 customers' energy requirements, while meeting all known operational
19 constraints. The focal point of the Next Day Planning Process is a
20 daily meeting known as the "morning meeting," which occurs early
21 each workday. This meeting begins with a presentation of the load
22 forecast for the next day. The analysis then turns to the status of the
23 System's generating units, other System conditions, fuel pricing and

1 availability, and off-system sale or purchase opportunities. The
2 analysis then considers the current market price of fuel observed by
3 gas and oil buyers and the current market price for purchased power.
4 This allows the team to consider economic trade-offs between fuel and
5 purchased power and to develop a plan to utilize the lowest-cost
6 options to meet the next day's expected System load.

7 • The Current-Day Process is focused on meeting the real-time energy
8 needs of the System's customers. The heart of the Current-Day
9 Process is the real-time dispatch of the Entergy System's generating
10 units. Real-time dispatch includes the process of continually adjusting
11 the MW output levels of each generating unit to match the customers'
12 electricity requirements and scheduled interchanges (or wholesale
13 power purchases and sales), while maintaining the frequency of the
14 electric system within prescribed parameters and adequate reserve
15 levels. Members of the Current-Day team monitor the System loads as
16 they develop so that changes in the actual loads, as compared to the
17 forecasted loads upon which the Current-Day Plan is based, can be
18 reflected in the System's operation. Other members monitor the flow
19 of natural gas to the plants vis-à-vis the nominations that were made
20 on the previous day. Still other members look for opportunities in the
21 wholesale market to either purchase economic energy that could be
22 used to displace higher cost energy or sell energy to a third-party when
23 market prices exceed the System's cost.

1 B. The Accounting Processes

2 Q15. HOW ARE THE COSTS ASSOCIATED WITH FUEL AND PURCHASED
3 POWER ACCOUNTED FOR?

4 A. Two distinct accounting processes need to be addressed to understand
5 how the costs incurred during the Reconciliation Period are booked. The
6 first deals with accounting for fuel and purchased power transactions
7 when ETI is the direct purchaser, and the second with purchased power-
8 related costs that are allocated through the Entergy System Agreement.
9 Company witness McCloskey describes the first accounting process, and
10 Company witness Goin describes the second accounting process.

11

12 Q16. PLEASE SUMMARIZE THE DIRECT ACCOUNTING PROCESS.

13 A. Invoices for the fuel consumed at ETI generating units are received by
14 several departments within the SPO. Coal-related invoices, both for the
15 commodity and for transportation, are received by Coal Supply. These
16 invoices are reviewed and then submitted into the Company's accounting
17 processes for payment and booking. Likewise, invoices for fuel oil, gas,
18 and purchased power are received within the Energy Analysis and
19 Reporting Department, reviewed for accuracy in conjunction with the
20 appropriate fuel buyers, and, are submitted to the accounting department
21 for payment and booking. Each witness responsible for purchased power,
22 gas, fuel oil, or coal-related transactions discusses the invoicing process
23 associated with their respective function.

1 Q17. PLEASE SUMMARIZE THE SYSTEM AGREEMENT ACCOUNTING
2 PROCESSES.

3 A. The Entergy System Agreement, a FERC-approved rate schedule,
4 governs the accounting for certain benefits and costs incurred by the
5 Operating Companies, including ETI, as the result of their operation as a
6 single, integrated electric system. The Operating Companies' generating
7 units are dispatched without regard to ownership or individual Operating
8 Company loads. Likewise, wholesale power purchases are made for the
9 benefit of the System. Therefore, the after-the-fact accounting processes
10 set forth in the Entergy System Agreement are necessary to allocate the
11 costs and benefits to individual Operating Companies. Company witness
12 Goin describes the Entergy System Agreement and the related
13 Service Schedules.

14 The System Agreement also governs the allocation of the costs and
15 benefits associated with the System's participation in the wholesale
16 energy markets. Costs associated with wholesale energy purchases are
17 allocated pursuant to the Entergy System Agreement, and are discussed
18 in the Direct Testimony of Company witnesses Goin and Cooper. Margins
19 associated with off-System sales also are allocated pursuant to the
20 System Agreement, and it is through the System Agreement that the
21 Operating Companies are compensated for the costs incurred to make
22 these sales.

1 Q18. DO THE PROCESSES DISCUSSED ABOVE RESULT IN BOTH
2 RECONCILABLE AND NON-RECONCILABLE FUEL COSTS?

3 A. Yes. Company witnesses McCloskey and Goin delineate the types of fuel,
4 purchased power and System Agreement-related costs that are treated as
5 reconcilable (or "eligible") and non-reconcilable (or "ineligible").
6

7 IV. NATURAL GAS

8 A. Responsibilities of the G&O Group and Overall Procurement Strategy

9 Q19. WHAT FUELS DOES THE G&O GROUP HAVE THE RESPONSIBILITY
10 FOR PURCHASING?

11 A. The G&O Group has the responsibility for purchasing natural gas and/or
12 fuel oil for all of the Operating Companies in the Entergy System, including
13 ETI. In the case of ETI, however, purchases are almost exclusively limited
14 to natural gas since distillate fuel oil is burned in very small quantities at
15 Nelson 6 and Sabine Station for startup and flame stabilization. Total fuel
16 oil purchases for ETI during the Reconciliation Period were only
17 7,868 barrels, as shown in Schedule I-16.2. Fuel oil purchases are made
18 in the spot market.
19

20 Q20. PLEASE DESCRIBE THE RESPONSIBILITIES OF THE G&O GROUP
21 WITH RESPECT TO NATURAL GAS PROCUREMENT.

22 A. As explained more fully in the Direct Testimony of Company witness
23 Jaycox, the G&O Group does not directly determine how much gas to

1 purchase. These decisions are made based on analysis, input and
2 feedback by various teams within the EMO, including the G&O Group.
3 Members of the G&O Group participate in planning teams, providing input
4 about market conditions such as price and availability of fuels. Once the
5 planning teams determine the appropriate quantities of fuel that should be
6 purchased, the G&O Group accomplishes the actual procurement.

7 The overall responsibilities of the G&O Group are to:

- 8 • conduct natural gas procurement operations in a manner that
9 supports ETI's commitment to provide high quality service and a
10 reliable supply of electric energy;
- 11 • maintain sufficient supplies of natural gas from a diverse group of
12 suppliers to reliably meet ETI's fuel requirements;
- 13 • acquire supplies of gas that provide flexibility in volumes taken at
14 reasonable prices under the facts and circumstances known or
15 knowable at the pertinent time;
- 16 • administer existing natural gas contracts in a manner that ensures a
17 reasonable cost;
- 18 • manage the inventories of natural gas; and
- 19 • participate in the planning process by supplying market prices,
20 availability, and other information regarding natural gas resources.

21 The specific responsibilities and organizational chart of the G&O Group
22 are found in Exhibit MHT-1.

1 Q21. HOW DOES ETI VERIFY INVOICES FOR GAS, OIL, AND
2 TRANSPORTATION SERVICES?

3 A. The G&O Group enters the terms of the gas-related transactions into a
4 gas transactions database, which is then used by the Energy Analysis and
5 Reporting Group to verify and approve the invoices as they are received
6 after the end of the month. Transactions relating to fuel oil purchases are
7 entered into a separate oil database contemporaneous with the deal being
8 done. As oil invoices are received, they are checked by the G&O Group
9 against the database, and processed for payment by Energy Analysis and
10 Reporting.

11

12 Q22. HOW ARE THE COMPANY'S GAS-FIRED GENERATING PLANTS
13 TYPICALLY DEPLOYED TO MEET SYSTEM ENERGY
14 REQUIREMENTS?

15 A. Although a portion of the System's base load requirements is met with
16 natural gas, the primary role of natural gas is as the swing fuel on the
17 system. Of the energy resources available to the Company, energy
18 generated from natural gas generally has the highest marginal cost, and,
19 therefore, it is most often the last resource deployed to generate electricity
20 and is generally used to follow the instantaneous energy demand of the
21 Company's customers. The fluctuation of natural gas demand resulting
22 from the changes in instantaneous energy demand is known as "swing."
23 The Company's swing requirement must be reliable and available in

1 adequate volume and flexibility to respond to changes in instantaneous
2 customer demand.

3 In addition to the generating plants that are owned and operated by
4 ETI, the Company may, subject to the terms and conditions of the
5 agreement with the East Texas Electric Cooperative ("ETEC"), take power
6 from ETEC's Hardin and San Jacinto plants. Generation from these
7 plants that goes to serve ETI load is provided under natural gas tolling
8 agreements.

9

10 Q23. WHAT IS A NATURAL GAS TOLLING AGREEMENT?

11 A. The essence of a tolling agreement is that one company provides a
12 primary fuel such as natural gas which is used by the owner of the
13 generating facility to produce and deliver electricity for a pre-established
14 tolling charge.

15

16 Q24. PLEASE SUMMARIZE THE APPROACH EMPLOYED BY THE
17 COMPANY TO MEET ITS NATURAL GAS REQUIREMENTS DURING
18 THE RECONCILIATION PERIOD.

19 A. In order to meet its natural gas requirements, the Company employed a
20 portfolio of resources designed to provide a reliable, economic, and
21 flexible supply of natural gas. This portfolio includes a mix of long-term
22 supply contracts, short-term or spot gas supply contracts (including

1 monthly, daily, and intra-day), long-term and short-term transportation
2 agreements.

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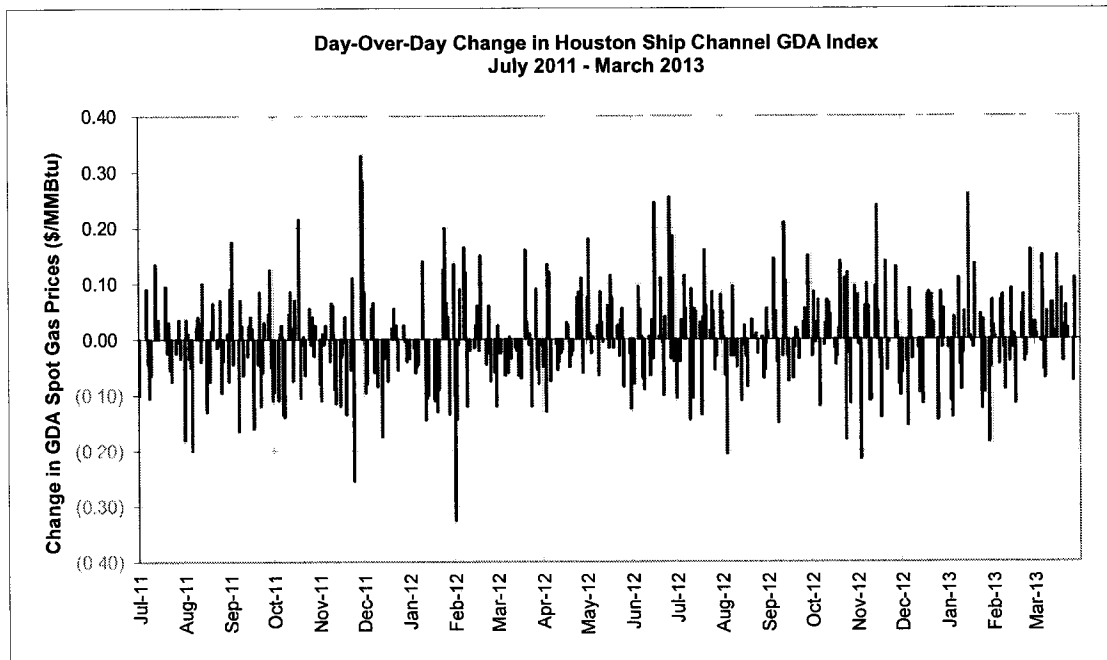
4 B. Natural Gas Markets and Indices

5 1. Overview of the Natural Gas Markets

6 Q25. PLEASE SUMMARIZE THE NATURAL GAS MARKET DURING THE
7 RECONCILIATION PERIOD.

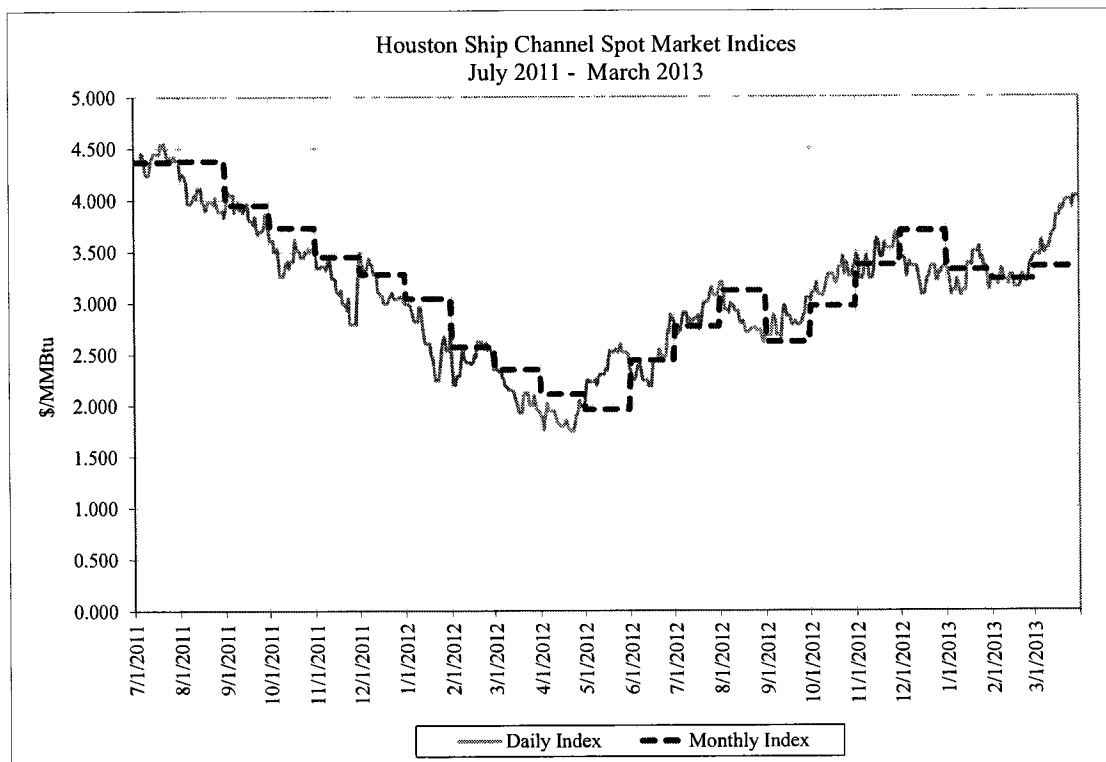
8 A. Natural gas prices during the Reconciliation Period tended to follow the
9 typical patterns of volatility. By “volatility,” I am referring to the tendency of
10 market prices to rise or fall within a specified period of time. This volatility
11 was manifested both in terms of the swing in market prices from one
12 period to the next (e.g., month-to-month, or day-to-day), as well as in the
13 range of market prices within a single trading period. This volatility is
14 exemplified in Figure MHT-4, below, which shows the day-over-day
15 changes in the Gas Daily Average (“GDA”) index price of natural gas in
16 the Houston Ship Channel (“HSC”) throughout the Reconciliation Period.

Figure MHT-4



- 1 Figure MHT-5 illustrates the changes in both the daily and monthly spot gas
- 2 market over the course of the Reconciliation Period.

Figure MHT-5



- 1
2. Gas Supply Portfolio
- 2 Q26. PLEASE DISCUSS THE COMPANY'S RELATIVE UTILIZATION OF
- 3 LONG-TERM, AND MONTHLY AND DAILY SHORT-TERM GAS
- 4 CONTRACTS DURING THE RECONCILIATION PERIOD.
- 5 A. During the Reconciliation Period, ETI's gas purchases by volume were
- 6 approximately 37 percent from long-term contracts, 41 percent from
- 7 monthly spot contracts, and 22 percent from daily spot contracts.³

³ Calculated from data provided in Schedule I-16.2.

1 Q27. PLEASE DESCRIBE THE COMPANY'S LONG-TERM GAS SUPPLY
2 CONTRACTS.

3 A. In December 2008, the Company entered into a long-term gas supply and
4 transportation agreement with Enbridge Pipelines L.P. The specific
5 pricing and quantity terms of this contract are summarized in Highly
6 Sensitive Schedule I-4, and related workpapers, and a copy of the
7 contract is provided in the highly sensitive workpapers to Schedule I-4.
8 This contract, which expired at the end of November 2012, was extended
9 under two back-to-back three month contracts. Under the terms of the
10 Enbridge contracts, gas can be delivered to both Sabine and Lewis Creek.
11 During the Reconciliation Period, these contracts provided approximately
12 41 percent of the net gas purchases for the Sabine and Lewis Creek
13 plants at a price that is competitive with or below that of gas purchased in
14 the short-term market.

15

16 Q28. HOW IS GAS SUPPLIED TO THE HARDIN AND SAN JACINTO
17 PLANTS?

18 A. Because both the Hardin and San Jacinto plants are dispatched by ETI as
19 peaking units, they are frequently operated only across the peak hours of
20 the day. This means that gas supplies to these plants must have a high
21 degree of flexibility, such that deliveries are able to commence and
22 terminate within the day on very short notice. Although the only
23 interconnecting pipeline into the Hardin plant is the Enbridge Pipeline, ETI

1 is able to leverage flexibility at Sabine Station to provide the flexibility that
2 is needed at the Hardin plant by transferring to the Hardin plant gas that
3 was purchased from Enbridge for delivery to Sabine Station. Swing
4 flexibility at the San Jacinto plant is provided by a supply contract with
5 ONEOK Marketing.
6

7 Q29. PLEASE IDENTIFY THE VARIOUS CATEGORIES OF SPOT
8 CONTRACT PURCHASES BY THE COMPANY DURING THE
9 RECONCILIATION PERIOD.

10 A. The Company's spot gas purchases during the Reconciliation Period have
11 been classified into three general categories, shown in Schedule I-16.2.
12 These categories may be identified either by the delivery period of the
13 contract, or by the relevant market index, or by a combination of the two.
14 The following table shows the various categories of spot gas contract
15 types:

Figure MHT-6

Spot Gas Contract Types (as designated in I-16.2)	Delivery Period	Relevant Pricing Index
Monthly Bid-Week Monthly GDA Next Day Current Day	Month Month Day Intraday	Inside FERC First of Month Platt's Gas Daily Average Gas Daily Average None

1 Q30. PLEASE GIVE A GENERAL DESCRIPTION OF EACH OF THESE SPOT
2 GAS CONTRACT TYPES.

3 A. As noted in the table above, spot gas purchases may be made for delivery
4 over the course of the following month, or over the course of the following
5 day or weekend, or over the course of the remainder of the current day.
6 Regardless of the delivery period covered by the contract, the gas will be
7 delivered ratably over the contract period unless the seller and/or the
8 delivering pipeline(s) agree to more flexible delivery terms. The relevant
9 pricing index for Monthly Bid-Week gas purchases is the index price that is
10 established during "bid-week." Bid-week is the last five business days of
11 the month preceding the month during which gas will be delivered. The
12 Bid-Week index price is published in *Inside FERC* at the beginning of the
13 delivery month.

14 Although it is can be purchased during Bid-Week, the relevant
15 pricing index for Monthly GDA gas is the Gas Daily Average index ("GDA
16 Index") that is published in *Platt's Gas Daily*. Under these types of
17 contracts, the Company is able to secure gas for delivery over the course
18 of the month, but is able to tie the price to the GDA index.

19 Gas purchased under a Next Day contract is typically purchased on
20 the morning of the last trading day prior to the date of delivery. The
21 relevant index for Next Day gas purchases is the GDA index.

22 Current Day gas (also referred to as "Intraday Gas") is purchased
23 for same day delivery, and is delivered over the remaining balance of the

1 day. There is no market index that is representative of Current Day gas
2 purchases.

3

4 Q31. WHAT PROCESS DOES THE COMPANY UNDERTAKE TO
5 DETERMINE HOW MUCH DAILY AND MONTHLY GAS TO
6 PURCHASE?

7 A. The overall process by which these decisions are made is discussed in
8 greater detail in the Direct Testimony of Company witness Jaycox.

9 In summary, an Operations Planning group prepares monthly gas
10 consumption forecasts using a short-term production simulation model.
11 Current projections of Entergy System operating conditions, estimated fuel
12 prices, and forecasted wholesale power costs and availability are input
13 into the simulation. The G&O Group provides projected gas and oil price
14 inputs into the model. As described by Company witness Jaycox, each
15 month the Monthly Energy Planning Team provides reasonable estimates
16 of fuel and power needs over the upcoming month so that the System can
17 make the reasonable and necessary monthly procurements of fuel and
18 power to meet customer demands.

19 The G&O Group is responsible for securing natural gas to satisfy
20 the expected requirements at each plant. Consideration is given not only
21 to the total estimated requirements for the month, but also to how each
22 plant's requirements are expected to vary throughout the month. This
23 means that fuel supplies must not only be reliable but they must be flexible

1 as well. Fuel flexibility may take one of two forms. The first is the ability to
2 change the flow of gas to match generation requirements throughout the
3 month. This may be accomplished with purchases under short-term
4 contracts in the monthly or daily spot market or by using gas storage
5 capability. The second type of flexibility that the G&O Group looks for is
6 flexibility of delivery point alternatives. Spot gas that can be moved to
7 different generating plants during the month depending on the Company's
8 generating requirements will be of more value than a similar purchase that
9 can only be delivered to a single plant. An example of this is gas
10 purchased from Enbridge, which can be delivered to either the Sabine,
11 Lewis Creek, or Hardin plants.

12 Absent unique circumstances, the System's general strategy is to
13 purchase approximately 50 percent of the monthly Entergy System spot
14 gas requirements in the monthly spot market, and the remaining
15 50 percent in the daily spot market. By purchasing only 50 percent of its
16 spot requirement on a monthly basis, the System: (1) mitigates the risk of
17 having an oversupply of natural gas on low load days; (2) positions itself to
18 be able to react to changes in load, unit availability, gas supply or
19 transportation disruptions by directing the gas to a different delivery point;
20 and (3) positions itself to take advantage of the economics offered in the
21 daily wholesale power market.

22 As indicated above, as a result of the Monthly Energy Planning
23 process, the System checks and adjusts its plans on a weekly, daily, and

1 intraday basis to determine what resources will serve the remaining
2 increment of load considering price, reliability, and flexibility. The
3 determination of the resource or fuel type that will serve this remaining
4 increment of load is made on a Next-Day basis. In this regard, every
5 business day a Next-Day Plan is developed similar to the monthly plan
6 described above, except that it takes into account changes that have
7 occurred with respect to System operating conditions, load, and fuel and
8 purchased power prices and availability since the previous energy plan
9 was prepared. Using this plan, a strategy for meeting the System's "Next
10 Day" anticipated demand and energy is developed and used as a basis for
11 purchases of natural gas in the daily market.

12

13 Q32. DOES THIS MEAN THAT SPOT GAS FOR ETI POWER PLANTS IS
14 ALWAYS PURCHASED ON A 50/50 BASIS IN THE MONTHLY AND
15 DAILY MARKETS?

16 A. No. The 50/50 strategy is applied on an Entergy System basis and not
17 necessarily on a plant-by-plant or an EOC basis. The actual quantities
18 purchased for the month during bid-week and the amounts purchased for
19 the next day in the daily markets will vary among the EOCs and even by
20 generating plant.

1 Q33. WHAT FACTORS DETERMINE HOW MUCH OF THE SPOT GAS
2 REQUIREMENTS WILL BE PURCHASED IN THE MONTHLY OR THE
3 DAILY MARKET?

4 A. There are two key factors that influence the monthly/daily mix of spot gas
5 purchases. The first factor is the expected operating mode of each
6 generating plant during the month. For example, if a generating plant is
7 expected to operate at high capacity factors for the entire month, a
8 higher percentage of its gas requirements for the month will be purchased
9 in the monthly rather than the daily spot market. The second factor is the
10 need to maintain operating flexibility in order to take advantage of
11 economic opportunities in the daily wholesale power market, and to react
12 to changes in system load or unit generation requirements.

13

14 Q34. HOW DO INTRADAY SPOT GAS PURCHASES FACTOR INTO THE
15 SYSTEM'S GAS SUPPLY PORTFOLIO?

16 A. Although the monthly, weekly, and daily plans are developed using the
17 best market and operating information available at the time, actual
18 operating conditions may be sufficiently different from the plan to warrant
19 revisions in gas supply requirements at the plants. Intraday plans are
20 used to determine what adjustments, if any, are needed in gas supply for
21 the current day. If additional gas is needed over and above the resources
22 previously committed, the System may satisfy these increased

1 requirements in the intraday market. As the name implies, the purchase
2 and delivery of intraday gas occur on the same day.

3

4 Q35. HOW DOES THE COMPANY ENSURE THAT IT IS PAYING A
5 REASONABLE PRICE FOR SPOT GAS?

6 A. To meet the estimated gas requirements for the period, each of the
7 System's gas buyers surveys the commodity and transportation markets
8 through contacts with marketers and pipelines, solicits bids from
9 competing suppliers, and monitors on-line market transactions to discover
10 market prices, availability, and flexibility. These market contacts may be
11 with different suppliers or multiple contacts with one supplier, but in either
12 case the objective is to ascertain market price, quantity and availability of
13 supply, as well as any other terms necessary to properly evaluate the
14 offers as they are being received. By necessity, these contacts are brief,
15 generally less than one minute in duration, and during that time the buyer
16 must either accept or reject the offer. Once an offer has been rejected,
17 the seller will market the gas elsewhere and the same deal may not be
18 available later.

19 During the trading period, gas buyers for the System are
20 coordinating their acquisitions for all of the EOCs. The terms of offers that
21 are being received are shared among the buyers for all the System plants
22 in order to take advantage of the best offers that are available throughout
23 the System. The offers for "delivered to plant" gas are compared to offers

1 for commodity only, with adjustments for transportation and compression
2 costs that an EOC would incur to arrange its own transportation. The
3 lowest delivered price offers are accepted consistent with the reliability
4 and flexibility requirements of the respective plants.

5

6 Q36. WHAT HAPPENS IF THE COMPANY HAS AN EXCESS SUPPLY OF
7 NATURAL GAS?

8 A. System load or generating plant fuel requirements may either increase or
9 decrease from the Monthly or Daily Plan described above. Increases in
10 load may result in additional purchases of natural gas in the intraday
11 market. If the load or generating requirement is lower than had been
12 expected, however, the System may find itself "long" on gas supply.
13 Depending upon circumstances at the time, the excess gas may be
14 injected into storage, treated as an imbalance, moved to another location,
15 or sold back into the marketplace. During the Reconciliation Period,
16 approximately 3.7 percent of the total gas purchased by the Company was
17 sold back into the marketplace.⁴ Revenues from these sales were
18 credited to fuel expense.

⁴ Taken from Schedule I-16.2, "Fossil Fuel Mix (Purchased)."

1 Q37. DID THE COMPANY PURCHASE NATURAL GAS OR
2 TRANSPORTATION SERVICE FROM ANY AFFILIATES DURING THE
3 RECONCILIATION PERIOD?

4 A. No.

5

6 3. Market Indices

7 Q38. WHAT MARKET INDEX IS REPRESENTATIVE OF THE COMMODITY
8 MARKETS IN WHICH ETI PURCHASES NATURAL GAS?

9 A. Although it is not a perfect indicator of market prices at points outside the
10 Houston Ship Channel itself, the published index for the Houston Ship
11 Channel market area is generally representative of spot gas market prices
12 and trends in the region in which the Lewis Creek and Sabine plants are
13 located.

14

15 Q39. PLEASE EXPLAIN WHY THE HOUSTON SHIP CHANNEL INDEX IS
16 "NOT A PERFECT INDICATOR" FOR GAS PURCHASES AT THE
17 COMPANY'S SABINE AND LEWIS CREEK PLANTS.

18 A. The HSC is a large market region that extends from the east side of
19 Houston to Galveston Bay, and northeastward to the Port
20 Arthur/Beaumont area. Because it is a large and imprecisely-defined
21 area, there can be considerable variation in market prices. The vast
22 majority of HSC sales occur in the geographic region that is east of
23 Houston, and bounded by Interstate 10 to the north, Interstate 45 to the

1 south, and Galveston Bay to the west. Within this central region of the
2 HSC market area, the HSC index tends to be much more representative of
3 the market price. However, in more remote locations of the HSC market
4 area, market prices are increasingly influenced by prices in other market
5 areas.

6 The Company's Sabine and Lewis Creek plants are located well
7 outside the primary marketing area of the Houston Ship Channel, as
8 shown in Exhibit MHT-2. As a result, natural gas prices at these sites are
9 greatly influenced by postings in other market areas, including TETCO
10 East Louisiana ("ELA"), TETCO West Louisiana ("WLA"), Florida Gas
11 Transmission Zone 1 ("FGT Z1"), and Transco Station 45. When natural
12 gas in these areas is trading at a premium to HSC, market prices at
13 Sabine and Lewis Creek will trade higher than the HSC index. Assuming
14 that these transactions are even reported by the seller, they may be
15 excluded from the calculation of the market index range as outliers.

16

17 Q40. ARE SPOT MARKET PRICES PUBLISHED FOR THE HOUSTON SHIP
18 CHANNEL?

19 A. Yes. The spot gas index for monthly purchases is published in *Inside*
20 *FERC*, and is representative of transactions made and reported during
21 bid-week. The spot gas index for daily purchases is published in *Gas*
22 *Daily* and is representative of transactions that are made for next-day
23 delivery. These indices represent gas that will be delivered ratably (by

1 equal hourly amounts throughout the day) throughout the delivery period.
2 Although other arrangements for swing flexibility may be agreed to by the
3 buyer, seller, and/or delivering pipeline, the cost of these additional
4 services are not reflected in the published index price.

5 In addition to the monthly and daily spot gas price indices, both Gas
6 *Daily* and *Inside FERC* publish the common range of prices reported for
7 gas transactions during the trading period that established the posted
8 index price. Exhibit MHT-3 contains an explanation of how these
9 published indices are calculated.

10

11 Q41. ARE THE PUBLISHED INDEX PRICES REPRESENTATIVE OF COST
12 OF NATURAL GAS PURCHASED AND DELIVERED TO THE PLANT?

13 A. No. The index prices represent the market prices at the Houston Ship
14 Channel. Costs such as transportation that are incurred to deliver the gas
15 to the generating plant are not included in the index price. In addition, as
16 noted previously, costs that may be incurred for the purchase of other
17 services from the supplier and/or pipeline, such as swing flexibility, are not
18 reflected in the published index prices.

19

20 Q42. ARE ANY INDICES PUBLISHED FOR INTRADAY SPOT GAS
21 PURCHASES?

22 A. No. Intraday purchases are for current day delivery and the price is highly
23 dependent on market conditions at the time.

1 Q43. WHY WOULD THE PRICE OF INTRADAY SPOT GAS DIFFER FROM
2 THE PRICE DAILY SPOT GAS PURCHASES?

3 A. Approximately 99 percent of the Company's natural gas purchases were
4 transacted prior to the expected flow day based on the Company's
5 monthly, weekly, and daily plans. However, because of differences
6 between these plans and actual operating conditions during the current
7 day, it is often necessary for the Company to re-enter the market for
8 additional gas purchases for current day delivery. The price of intraday
9 spot gas will vary from the price of gas purchased in either the Monthly or
10 the Next Day markets, reflecting different market conditions at the time
11 each of the purchases was made.

12

13 Q44. WHAT IS THE PROCESS FOR ENTERING INTO INTRADAY SPOT GAS
14 CONTRACTS?

15 A. Intraday spot gas is purchased on an "as needed" basis for current day
16 delivery. These deals are transacted on the basis of market surveys and
17 negotiations between the Company's gas buyers and prospective
18 suppliers.

1 Q45. HOW DID THE PRICES PAID BY THE COMPANY FOR MONTHLY AND
2 DAILY SPOT GAS COMPARE TO THE PUBLISHED INDICES DURING
3 THE RECONCILIATION PERIOD?

4 A. Graphic comparisons of the Company's spot gas purchases with the
5 relevant *Gas Daily* and *Inside FERC* indices are provided in
6 Exhibits MHT-4 through MHT-9. Data underlying these charts has been
7 provided in the workpapers to my exhibits. Those comparisons indicate
8 that the Company's purchases were reasonable and, with appropriate
9 adjustments for costs such as transportation and applicable taxes,
10 compare favorably with recognized market indices.

11

12 Q46. IN PREPARING THE COMPARISONS PRESENTED IN YOUR
13 TESTIMONY, WHAT DOCUMENTS SUPPORT THE PURCHASES SET
14 FORTH IN THESE COMPARISONS?

15 A. The Company has provided contract summaries in Schedule I-4 and
16 copies of these contracts as workpapers to Schedule I-4. The Company
17 has also provided its gas database transactions for the Reconciliation
18 Period, as described further below, as well as the monthly and daily
19 market index data, as workpapers to my testimony. Additionally, the
20 comparisons are based on information contained in Schedules I-16.2
21 and I-16.3.

1 Q47. WHY DID YOU USE SCHEDULES I-16.2 AND I-16.3 TO MAKE THESE
2 COMPARISONS?

3 A. These schedules contain the appropriate information required to make a
4 comparison to the various natural gas market indices. In order to provide
5 the details required by the Commission's Fuel Reconciliation Filing
6 Package instructions for preparing the natural gas portions of
7 Schedules I-16.2 and I-16.3, the Company uses data contained in the gas
8 transaction database (the "database") maintained at the EMO. This
9 database, which is included as a workpaper to my testimony, contains a
10 record of all natural gas transactions the Company made during the
11 Reconciliation Period. For each transaction, the database includes
12 information about the type of contract (*i.e.*, monthly, daily, intra-day,
13 imbalance or sale), the supplier, delivery pipeline, delivery date, volume,
14 and cost.

15

16 Q48. WHERE ARE THE COMPANY'S NATURAL GAS COSTS FOR THE
17 RECONCILIATION PERIOD REPORTED?

18 A. Eligible natural gas costs for the Reconciliation Period have been provided
19 in Schedule I-16. For reference purposes, natural gas costs allocated on
20 an operating month basis have been provided in Schedules I-16.1 (Fossil
21 Fuel Burns), I-16.2 (Fossil Fuel Purchases), and I-16.3.

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1

1 Q52. HOW ARE TRANSPORTATION RATES ON PIPELINES DETERMINED?

2 A. In the case of interstate pipelines, maximum and minimum rates are set by
3 FERC-approved tariffs. In some cases, the pipelines may offer discounts
4 to the FERC-approved tariffs. With respect to intrastate pipelines, the
5 transportation rates are set by the pipelines, or may be negotiated rates
6 based on volumetric capabilities or contract term.

7

8 Q53. WHAT FACTORS ARE CONSIDERED BY THE COMPANY WHEN
9 MAKING THE DETERMINATION WHETHER TO TRANSPORT GAS
10 FOR ITS OWN ACCOUNT?

11 A. The three primary factors considered by the Company in any fuel or fuel
12 related transaction are reliability, flexibility, and total delivered price into
13 the plant. By having its own transportation agreements with interstate
14 pipelines, the Company may be able to achieve greater flexibility and
15 potentially reduce its overall fuel costs by managing its own operational
16 balancing agreements ("OBAs").

17

18 Q54. WHAT IS AN OPERATIONAL BALANCING AGREEMENT?

19 A. Although the Company tries to match exactly its gas supply to its gas
20 requirements for electric generation, this is not possible due to the
21 dynamics of electric load. As a result, a pipeline "imbalance" may occur.
22 This imbalance represents the difference between the amount of gas that
23 the Company nominated for a certain period (and which the supplier put

1 into the pipeline) and the amount that the Company actually burned (that
2 is, taken out of the pipeline). These pipeline imbalances may either be
3 positive or negative depending upon whether the Company burned more
4 or less than the amount nominated. The Company manages these
5 imbalances throughout the month with the objective of minimizing the net
6 imbalance at the end of the month. If more gas was taken from the
7 pipeline than nominated, the Company owes the pipeline. If less gas was
8 taken than nominated, the pipeline owes the Company. These
9 imbalances are treated in accordance with the respective pipelines'
10 FERC-approved gas tariffs.

11

12 Q55. WHAT ACTIONS HAS THE COMPANY TAKEN TO UTILIZE
13 TRANSPORTATION CONTRACTS TO PROVIDE BENEFITS TO ITS
14 CUSTOMERS?

15 A. On a daily basis, members of the G&O Group are in contact with the
16 various pipelines and their electronic bulletin boards to inquire about
17 available capacity and transportation rates. Simultaneously, they are
18 scouting the market for the commodity price of gas into pipelines. The
19 transportation rates, compression costs, and commodity prices are
20 compared to the price of gas delivered-to-plant. The final determination of
21 which packages to purchase is based on flexibility, reliability, and price.

1 Q56. OTHER THAN THE COMMODITY COST OF GAS AND THE
2 ASSOCIATED TRANSPORTATION COST, ARE THERE ANY OTHER
3 MAJOR INFLUENCES ON ENTERGY'S NATURAL GAS
4 PROCUREMENT PRACTICES?

5 A. Yes. The two principal factors that influence natural gas procurement
6 practices are natural gas storage, and purchased power prices. As
7 discussed below, these factors continuously affect the options available to
8 the Company in serving load and must be considered as economic
9 alternatives to purchasing gas.

10

11 5. Natural Gas Storage

12 Q57. DOES THE COMPANY MAINTAIN NATURAL GAS IN INVENTORY?

13 A. Yes. The Spindletop gas storage facility is owned by the Company, which
14 has contracted PB Energy to operate the facilities. Under the terms of the
15 agreement with PB Energy, the Company maintains a natural gas
16 inventory that can be used to serve both Sabine and Lewis Creek
17 generating stations.

18

19 Q58. PLEASE DESCRIBE THE SPINDLETOP STORAGE FACILITY.

20 A. As detailed in Schedule I-7, the storage facility consists of two salt-dome
21 storage caverns, a compression facility used for injecting gas into the
22 caverns, and a pipeline header system that interconnects the storage
23 caverns with Sabine Station. Utilizing interconnections with Kinder

1 Morgan Tejas Gas Pipeline, Kinder Morgan Texas Pipeline, and Copano
2 Pipeline, the Company is able to deliver gas from the storage caverns to
3 the Lewis Creek power plant. Exhibit MHT-11 includes information about
4 current storage capacity, injection and withdrawal capacities, and various
5 operational constraints of the storage facility and the interconnected
6 header system.

7

8 Q59. PLEASE EXPLAIN THE OPERATIONS OF THE NATURAL GAS
9 STORAGE FACILITY.

10 A. The storage facility provides the Company a means of buying natural gas
11 at one point in time, storing it, and using it at some future point in time.
12 This gas storage facility, in many ways, can be compared to the water
13 towers many cities use to provide reliability and flexibility to their water
14 supply system. With both types of systems, a commodity is injected or
15 pumped (with compressors or water pumps) into a container (a storage
16 cavern or a water tower) and is stored for periods when supplies are not
17 available or when the sources of the commodities (gas pipelines or water
18 wells) are unable to provide the flexibility (or rate of delivery) needed to
19 serve its customers' peak needs.

1 Q60. WHAT IS THE BENEFIT TO ETI OF HAVING A NATURAL GAS
2 STORAGE FACILITY?

3 A. The primary benefits derived from the storage facility are increased supply
4 reliability and swing flexibility. The storage facility provides a reliable
5 supply of gas for Sabine Station and Lewis Creek during gas supply
6 curtailments that can occur as a result of hurricanes, freezes or other
7 unusual events. If one of these events were to occur, the gas in storage
8 would be available to supplement existing pipeline supplies. In the event
9 of a total curtailment of supply, the storage facility is capable of providing
10 100 percent of the fuel requirements for all five units at Sabine Station and
11 either one of the Lewis Creek units for a period of up to four days, at a
12 70 percent capacity factor. In addition to reliability of supply, the storage
13 facility also provides flexibility of gas supply to Sabine Station and Lewis
14 Creek, both on a daily and instantaneous basis. This flexibility allows the
15 Company to utilize less expensive forms of energy (e.g., hourly purchased
16 power) when available and it eliminates the Company's dependence on
17 pipelines and/or gas suppliers that may be unable to provide the needed
18 flexibility.

19 In addition, by being able to draw from storage, the Company is
20 able to avoid almost all intra-day gas purchases for Sabine Station. As
21 shown in Schedule I-16.2, the Company purchased approximately
22 35,000 MMBtus of intra-day (or current day) gas out of approximately
23 85.5 million total MMBtus purchased at the plant, representing

1 0.04 percent of the total purchases at Sabine Station for the entire
2 Reconciliation Period.

3
4 Q61. PLEASE DESCRIBE THE COMPANY'S NATURAL GAS INVENTORY
5 POLICY.

6 A. The Company places emphasis on maintaining a combination of storage
7 inventory or gas supplies for delivery via firm transportation agreements to
8 provide a reliable supply of fuel for generation to its plants to meet
9 customer load (including the peak generation periods) for four consecutive
10 days during times of the year in which gas industry supply disruptions are
11 more likely to occur. Historically, major supply disruptions are more likely
12 to occur during the winter and during hurricane season. As a result, the
13 Company is typically more conservative in its inventory management
14 approach during the months of June – March than it is during other times
15 of the year.

16 In general, during the months of June – March, the Company
17 attempts to maintain a level of pressure in the storage cavern that allows
18 the Company to reliably provide gas to meet its peak demand for the five
19 units at Sabine Station and one of the two units at Lewis Creek Station for
20 four consecutive days while also reserving some storage capacity for the
21 flexibility function. During the remaining months of the year, or when there
22 are discretionary volumes in storage in June – March, the Company will
23 consider withdrawing gas from inventory when the current day spot market

1 price is higher than the replacement cost, as determined by future market
2 indicators such as the NYMEX gas futures contracts. Variables such as
3 re-injection costs and carrying costs of inventory factor into the decision to
4 withdraw gas from inventory for economic reasons. The decision to plan
5 for injection (or additions to inventory), subject to the same variables, is
6 made when the cost of gas in the current market is less than the price of
7 gas at some point in the future.

8

9 Q62. PLEASE EXPLAIN WHAT IS MEANT BY DISCRETIONARY VOLUMES.

10 A. For planning purposes, the difference between the actual volume in
11 storage and what is needed to reliably meet customer load for four
12 consecutive days during the months June—March plus some storage
13 capacity for the flexibility function, is considered to be “discretionary” gas.
14 With all units on line at Sabine and Lewis Creek, there is little, if any,
15 discretionary volume. But should one or more units come off for
16 maintenance or for economic reasons for extended periods, discretionary
17 volumes may become available and may be used to take advantage of
18 economic opportunities.