

1 **Q. 5 Please describe the course of your professional career.**

2 A. In 1982, I joined DEGT's predecessor, Panhandle Eastern Corp., in the
3 Engineering Department. After ten years working in Engineering, I began
4 working in Operations. From September 1996 to November 2003, I was the
5 Director of Gas Control for DEGT's pipeline interests in the Northeastern United
6 States, including its interests in Maritimes and in Algonquin Gas Transmission
7 Company ("Algonquin"). Since November 2003, I have been the General
8 Manager, System Planning, for DEGT.

9 **Q. 6 Have you served on any industry boards, committees, or task forces?**

10 A. Yes. I have served as a Physical Sciences Project Advisor to the Gas Research
11 Institute. I have also served as a Member of the Gas Control Committee and the
12 Offshore Supervisory Committee of the American Gas Association. In addition, I
13 have been a member of the New York Gas Group and the Ohio/Kentucky Gas
14 Association.

15 **Q. 7 What are your current responsibilities as they relate to Maritimes?**

16 A. I am responsible for the design of the Maritimes system. This includes providing
17 the design parameters for system expansions as well as the design parameters to
18 optimize day-to-day operations on the system. I am also responsible for ensuring
19 that gas flows in a manner that will meet the contractual obligations Maritimes
20 has to its firm shippers.

21 **Q. 8 What is the purpose of your testimony in this proceeding?**

22 A. I will explain the operational benefits of Maritimes' Phase III expansion project
23 ("Phase III") to its system, its shippers, and the interstate pipeline grid in the New
24 England market area.

1 **Q. 9 Are you sponsoring any statements, schedules or exhibits in conjunction with**
2 **your direct testimony?**

3 A. Yes, I am co-sponsoring Statement O, along with Richard J. Kruse. Specifically,
4 I am sponsoring Statements O(1) and O(3), and Mr. Kruse is sponsoring
5 Statement O and Statement O(2). I am also sponsoring Exhibit Nos. ____ (CTD-2)
6 through (CTD-7).

7 **Q. 10 Please explain Statement O(1).**

8 A. Statement O(1) is a detailed system map depicting the Maritimes system.

9 **Q. 11 Please explain Statement O(3).**

10 A. Statement O(3) is a detailed description of how Maritimes designs and operates its
11 various system components.

12 **Q. 12 What is set forth in Exhibit Nos. ____ (CTD-2) through (CTD-7)?**

13 A. These exhibits contain flow diagrams that depict various system flow scenarios
14 based on the design of the system, actual system flow, and hypothetical scenarios
15 for which I made certain assumptions.

16 **Q. 13 Were these statements and exhibits prepared by you or under your direction**
17 **and supervision?**

18 A. I prepared, or directed and supervised the preparation of, each of these statements
19 and exhibits.

20 **I. BENEFITS TO THE MARITIMES SHIPPERS**

21 **Q. 14 You stated that you are providing testimony to explain the operational**
22 **benefits of Phase III to Maritimes and its shippers and to the New England**
23 **pipeline grid. What are the operational benefits of Phase III to Maritimes**
24 **and its shippers?**

25 A. The most significant operational advantage to Maritimes and its shippers
26 associated with Phase III is that the Phase III facilities provide a direct connection

1 between Maritimes and a second, major downstream pipeline. Before
2 November 24, 2003, when Maritimes placed Phase III into service, the interstate
3 pipeline owned by Tennessee Gas Pipeline Company (“Tennessee”) was the only
4 major downstream pipeline interconnected to the Maritimes system. With the
5 construction of Phase III, Maritimes now has a direct connection to the Algonquin
6 system. Exhibit No. ____ (CTD-2), attached hereto, is a flow diagram showing the
7 average design-day flow of the Maritimes system with Phase III.

8 **Q. 15 How does this additional interconnection provide an operational advantage**
9 **to Maritimes and its shippers?**

10 A. Prior to the Phase III in-service date, Maritimes’ shippers essentially had two
11 alternatives for delivering their gas. One option was to deliver gas to one or more
12 of the electric generating facilities connected to the system, which in December of
13 2003, accounted for an average of 168,854 dekatherms per day (“Dth/d”) of
14 deliveries on Maritimes, with design day delivery capacity to the generating
15 facilities attached to Maritimes being approximately 310,000 Dth/d. The
16 alternative option was to deliver gas to Tennessee at the Dracut, Massachusetts
17 interconnection. Since Maritimes receives gas from essentially a single supply
18 source, the Sable Offshore Energy Project (“SOEP”) located offshore Nova Scotia
19 near Sable Island, this means that, generally, with the exception of deliveries to
20 electric generators connected to the system, Maritimes was receiving gas at one
21 point, the United States-Canada border, and delivering the gas to a single delivery
22 point, Dracut. This leaves very little room for dealing with issues involving
23 system reliability and flexibility of service. For example, prior to the Phase III in-
24 service date, if the Tennessee system in the Dracut area were down for repairs or

1 system emergencies, or if there were some other operational constraint at Dracut,
2 unless markets were available directly on Maritimes' system, Maritimes' shippers
3 would have no other viable alternative for delivering their gas, and if the situation
4 persisted, the SOEP producers would have to shut in their production.

5 **Q. 16 Now that Phase III is in service, has the operation of the system changed?**

6 A. Yes.

7 **Q. 17 How?**

8 A. With Phase III, Maritimes has added a new downstream pipeline alternative for its
9 shippers. The Phase III facilities interconnect in Beverly, Massachusetts, with
10 Algonquin. Shippers on the Maritimes system now have the ability to deliver all
11 or any portion of their MDTQ into either Tennessee at Dracut or into Algonquin
12 at the Phase III interconnect in Beverly, respectively. This alleviates the need to
13 rely on a single downstream pipeline to take away all long-haul deliveries on the
14 system. In the example just described, in which the Dracut delivery point goes
15 down, Maritimes' shippers now have another market for their gas, and this should
16 alleviate almost any need to curtail deliveries into the system. Exhibit No. ____
17 (CTD-3), attached hereto, is a flow diagram illustrating the point that, even if
18 deliveries at Dracut are 0 Dth/d, Maritimes can still deliver its design capacity to
19 the delivery point at Beverly. Of course, this new interconnection also has
20 economic advantages for Maritimes' shippers, which are more fully discussed by
21 Dr. William B. Tye and Mr. John J. Reed in their direct testimony.

1 **Q. 18 Are there other operational advantages for Maritimes' shippers associated**
2 **with Phase III?**

3 A. Yes. Phase III provides Maritimes' shippers with direct access to the heart of the
4 Greater Boston market. Prior to the Phase III in-service date, gas flowing on
5 Maritimes that was destined for these markets had to flow on Tennessee for
6 ultimate delivery into Algonquin at the Mendon, Massachusetts interconnection
7 between Tennessee and Algonquin. With Phase III, Maritimes' shippers have the
8 ability to access the Greater Boston market directly without the increased cost and
9 scheduling and curtailment risk associated with increasing the number of
10 pipelines involved. In addition, Algonquin and Tennessee are the primary
11 pipelines delivering the majority of the gas consumed in New England. While the
12 areas they serve overlap in some communities, Algonquin primarily serves
13 Greater Boston and the communities located south of Boston, and Tennessee
14 primarily serves the communities located west and north of Boston. Phase III
15 provides Maritimes' shippers with the ability to access directly the entire Greater
16 Boston area, not just the Tennessee portion of the market, as was the case prior to
17 Phase III. Mr. Reed discusses the benefits of this access more fully in his
18 prepared direct testimony, Exhibit No. ____ (JJR-1).

19 **Q. 19 Do you have an exhibit that illustrates these benefits?**

20 A. Yes. Exhibit Nos. ____ (CTD-4) and (CTD-5), attached hereto, are two flow
21 diagrams depicting the flow on Maritimes, Tennessee and Algonquin before and
22 after Phase III went into service. Since Algonquin's mainline system is fully
23 subscribed downstream of the Mendon interconnect with Tennessee, this was not
24 a reliable way to reach the Greater Boston market.

1 Exhibit No. ____ (CTD-4) shows the actual flow on the three pipelines on a
2 peak day in March 2004, modified to illustrate what the flow would have been if
3 Phase III were not placed into service. It shows the route for gas coming from
4 offshore Nova Scotia that is destined for delivery to the Greater Boston market.
5 Shippers would deliver gas into Tennessee at Dracut, which was typically nearly
6 full. For example, Maritimes has a peak day capacity of 440,000 Dth/d at Dracut,
7 360,575 Dth/d of which is subscribed by Maritimes' long-term firm shippers with
8 Dracut as a primary delivery point, and Portland Natural Gas Transmission
9 System ("PNGTS") has a capacity of approximately 216,000 Dth/d at Dracut.
10 However, as Tennessee stated at page 5 of its Dracut Expansion Project certificate
11 application in Docket No. CP01-360, its "current capacity from Dracut is 300
12 MMcfd [or approximately 308,700 Dth/d] on a firm year-round basis."

13 From there, shippers desiring to deliver to the Greater Boston market
14 would ship on Tennessee, subject to its rates and tariff, and deliver into
15 Algonquin at Mendon, which has a receipt capacity of approximately 200,000
16 Dth/d. Any constraints at Dracut or Mendon would interfere with this delivery
17 path.

18 Exhibit No. ____ (CTD-4) reflects some assumptions on my part, of course.
19 I have assumed that all deliveries that went to Beverly on the peak day would go
20 to Dracut, and I have assumed that Algonquin would only actually be able to
21 receive less than one-sixth of that amount at Mendon, due to the fact that the
22 mainline was very full near the Mendon meter at that time. Given the
23 hypothetical nature of the flow diagram, it should not be taken as something that

1 has actually occurred, but rather, it is generally illustrative of what the operating
2 conditions would have been like given the hypothetical scenario.

3 Exhibit No. ____ (CTD-5) shows the actual flow on these three pipelines
4 on the same peak day in March 2004, now that Maritimes has placed Phase III
5 into service. Maritimes continues to have the design capability to deliver 440,000
6 Dth/d on a peak day into Dracut but now also has the same design capability at
7 Beverly. This has opened a path for deliveries directly to the Greater Boston
8 market. This path avoids going through two points on pipelines that have
9 historically operated at or near capacity on peak days in those areas: Dracut and
10 Mendon. Thus, by delivering to Beverly, Maritimes' shippers have a more
11 reliable route for getting their gas to this growing market.

12 **Q. 20 Since the Phase III in-service date, have shippers on Maritimes used**
13 **Phase III?**

14 A. Yes. Although the proportion varies daily, much of the gas on Maritimes destined
15 for markets in the Greater Boston area is scheduled for delivery at Beverly. As
16 Mr. Penney discusses more fully in his prepared direct testimony, Exhibit No. ____
17 (WCP-1), gas has flowed to Beverly under every firm service agreement under
18 Rate Schedule MN365. As Mr. Penney notes, the average daily throughput at
19 Beverly was 82,444 Dth/d for December 2003 through April 2004, with a peak
20 day throughput on December 12, 2003, of 200,501 Dth.

21 **Q. 21 What has happened to deliveries into Tennessee at Dracut since the in-**
22 **service date of Phase III?**

23 A. Deliveries into Tennessee at Dracut have decreased somewhat since the in-service
24 date of Phase III, but shippers continue to schedule substantial quantities of gas
25 for delivery at Dracut. The primary advantage for Maritimes' shippers has been

1 that more total gas can now flow to the Greater Boston area. A comparison of the
2 long-haul delivery profile on Maritimes for January 2003 to the long-haul
3 delivery profile for January 2004 illustrates the effect of Phase III on deliveries at
4 Dracut and the Greater Boston area. Average daily deliveries at Dracut in January
5 2003 were 146,797 Dth/d. In addition, in January 2003, average daily deliveries
6 from Tennessee into Algonquin at Mendon were 114,177 Dth/d. In January 2004,
7 average daily deliveries from Maritimes into Tennessee at Dracut were 133,844
8 Dth/d, from Maritimes into Algonquin at Beverly were 103,988 Dth/d, and from
9 Tennessee into Algonquin at Mendon were 119,366 Dth/d. Thus, while deliveries
10 to Dracut may be slightly lower, Maritimes' shippers now have the ability to get
11 more total gas to Algonquin and the Greater Boston market than they could before
12 Maritimes placed Phase III into service.

13 **Q. 22 What were the average daily deliveries into Algonquin from Tennessee and**
14 **Maritimes for delivery to the Boston market?**

15 A. Taking the average daily deliveries for January 2004 for both Mendon and
16 Beverly, average daily deliveries to the Boston market were 223,354 Dth.

17 **Q. 23 Before Phase III, what would have happened to Maritimes' shippers if there**
18 **was an outage at the interconnect between Tennessee and Algonquin at**
19 **Mendon for any significant length of time?**

20 A. Maritimes' shippers would not have been able to reach markets on Algonquin's
21 system via the Dracut to Mendon route on Tennessee's Zone 6. They would have
22 had to find different markets, or they would have had to attempt to schedule a
23 backhaul on Tennessee to the Mahwah, New Jersey interconnect to deliver gas
24 into Algonquin upstream of Mendon. However, Mahwah is available as a receipt
25 point only to the extent that the Algonquin mainline is not full on that portion of

1 its pipeline at the time a shipper nominates to use that point. Algonquin is
2 typically full on the mainline at the Mendon interconnect, and therefore,
3 Algonquin rarely is able to receive any meaningful quantity of gas from
4 Tennessee at Mahwah.

5 **Q. 24 Now that Phase III is in service, what would happen?**

6 A. Maritimes' shippers who were delivering into Dracut could simply nominate to
7 Beverly. All of Maritimes' long-term firm shippers have added Beverly as a
8 primary delivery point, so this nomination to a different delivery point would
9 retain primary point priority. Exhibit Nos. ___ (CTD-6) and (CTD-7), attached
10 hereto, are flow diagrams illustrating both of these hypothetical scenarios.

11 Exhibit No. ___ (CTD-6) shows this situation if Phase III were not in
12 service, again using the actual flow data from the peak day in March 2004. If the
13 interconnect at Mendon went down, there would be no meaningful way for
14 Maritimes' shippers to get their gas to the Greater Boston market. Maritimes'
15 shippers would be able to deliver into Tennessee's pipeline at Dracut, but after
16 Maritimes delivered the shippers' gas into Tennessee, the shippers' ultimate
17 delivery options would no longer include the Greater Boston market. They would
18 have to deliver to other markets served by Tennessee's system. The primary
19 assumption I have made for this flow diagram, like Exhibit No. ___ (CTD-4), is
20 that the volumes that flowed to Beverly would flow to Dracut in this scenario, but
21 it does not matter for this flow diagram, since Algonquin would not be able to
22 receive any gas at Mendon.

23 Exhibit No. ___ (CTD-7) shows this situation now that Phase III is in
24 service, using the same peak day. Maritimes' shippers would continue to be able

1 to deliver into Beverly and reach the Greater Boston market even though
2 Algonquin was losing its receipts at Mendon. The actual receipts lost at Mendon,
3 and resulting curtailments on the Algonquin system, if any, would vary depending
4 on current operating conditions on the pipe whenever the outage occurred, so the
5 degree of the problem experienced and the proportion that Phase III is able to
6 mitigate would vary. For this flow diagram, I have assumed that the deliveries at
7 Dracut and Beverly would remain the same, but obviously those numbers could
8 well change if Mendon actually went down, with the most likely result being an
9 increase in the deliveries at Beverly, depending on demand in the Greater Boston
10 market versus Tennessee's Zone 6 market demand. In any case, as this exhibit
11 illustrates, Phase III has greatly enhanced the reliability of service to Greater
12 Boston and other points in the Northeast.

13 **Q. 25 Why is the issue of reliability so important for Maritimes' shippers?**

14 A. Concern over reliability on pipelines has increased in recent times. Certain of the
15 risks involve pipeline accidents and the risk of terrorism. While nobody likes to
16 think about such things, pipelines must take them into account. The Department
17 of Transportation's Integrity Management Program regulations, codified at 49
18 CFR Part 192, and the efforts of the Department of Homeland Security are aimed
19 at reducing the risks of accidents and acts of terrorism, but the consequences of
20 such an eventuality continue to rise as demand for natural gas continues to rise.
21 An outage on part of the Northeast pipeline grid could seriously affect the
22 availability of electric power or gas for domestic, commercial, and industrial use.
23 Improvements to system reliability, such as Phase III, are crucial at this point in
24 time.

1 The Federal Energy Regulatory Commission’s Staff issued a report
2 entitled “New England Natural Gas Infrastructure” in December of 2003, in
3 Docket No. PL04-01, in which Staff concluded, at pages 23, 25, and 26, that
4 “further system integration would improve system reliability” and that “unless
5 system reliability becomes an integral component of New England’s regional
6 natural gas infrastructure planning, with the increasing demands on the natural gas
7 system, it will become increasingly difficult to maintain the historical level of
8 service.” Phase III is an improvement to system reliability and benefits shippers
9 on Maritimes, as well as end users of both gas and electricity in the Northeast
10 United States.

11 **Q. 26 Does Phase III provide other operational benefits to the Maritimes system?**

12 A. Yes.

13 **Q. 27 Please explain.**

14 A. The addition of Phase III has enhanced Maritimes’ ability to balance its system
15 and to maintain deliveries of firm transportation quantities when there are
16 temporary disruptions on the system. In particular, it is important to remember
17 that scheduled quantities never exactly match up to delivered quantities on any
18 pipeline system. Thus, it is critically important to have flexibility through the use
19 of linepack and operational assistance with interconnecting pipelines to balance
20 out flows on the system throughout the day, and pipelines with storage facilities
21 typically have more flexibility in balancing out their systems. Maritimes has no
22 storage facilities connected to its system. In addition, there are a number of other
23 variables that further complicate the ability of Maritimes to maintain its system in
24 balance. Variations in deliverability at the SOEP, the location of any other

1 receipts into the system, the actual usage by PNGTS of the 101-mile mainline
2 facilities it owns jointly with Maritimes (“Joint Facilities”), system pressure, and
3 weather all affect flows on the Maritimes system.

4 Now that Maritimes has interconnections with two major downstream
5 pipelines, with each interconnection capable of accommodating most, if not all, of
6 the entire quantity of gas each day destined from Maritimes for the Greater
7 Boston market, the task of balancing the system and ensuring that actual delivered
8 quantities equal quantities scheduled for delivery has become operationally more
9 manageable, and the likelihood of curtailments and significant system imbalances
10 has been greatly reduced. This is true because the dual downstream
11 interconnections now give Maritimes twice the ability to manage “long” or
12 “short” situations on the system.

13 **Q. 28 Please explain what you mean by “long” and “short” situations.**

14 A. If a pipeline has been receiving more gas than it is delivering, it begins to
15 accumulate too much gas in the pipe, and it is “long” on gas. It has too much
16 linepack, which is gas in the pipe for operational purposes, *i.e.*, to maintain
17 pressure and deliverability. The pipeline must move this gas off its system
18 temporarily, until the system will tolerate moving the gas back onto the system.
19 Of course, a pipeline only has the ability to move gas temporarily off its system if
20 an interconnecting pipeline with sufficient capacity has agreed to assist the first
21 pipeline in mitigating its excess linepack problem.

22 On the other hand, if the pipeline has been delivering more gas than it
23 receives, it begins to lose too much gas on the system, and it is “short” on gas. It
24 has too little linepack and will begin to suffer problems delivering gas due to

1 shortfalls in pressure. In these situations, it must temporarily obtain gas for its
2 system until it has equalized the receipts and deliveries on the system and
3 stabilized pressures, so that it has the ability to maintain scheduled service levels.
4 It obtains the gas by reaching an agreement with an interconnecting pipe that it
5 can deliver less gas into the interconnection with that pipe, temporarily, and make
6 up for it later. Thus, the pipe that is short will begin to increase its linepack.

7 **Q. 29 Would you provide an example of how Phase III has increased Maritimes’**
8 **ability to manage long and short situations on the system?**

9 A. Before Phase III, there was only one downstream pipeline interconnected with
10 Maritimes, which was Tennessee. If Maritimes was short on gas, its only source
11 for temporarily increasing linepack was Tennessee. Hypothetically, if Maritimes
12 was short by 100,000 Dth, for example, it would have had to obtain the entire
13 100,000 Dth from Tennessee. However, if Tennessee only had the ability to
14 provide Maritimes with 50,000 Dth that day, then Maritimes would not have been
15 able to fix its short position completely. It might have had to curtail deliveries on
16 the system. In the same example, however, Phase III has dramatically improved
17 the situation. Now, in this hypothetical, with connections to two different
18 pipelines, Maritimes can achieve the full 100,000 Dth it needs for optimal system
19 utilization.

20 Phase III provides similar benefits in a long situation. Prior to Phase III, if
21 Maritimes was long by 100,000 Dth, and Tennessee was only able to
22 accommodate the receipt of an additional 50,000 Dth, Maritimes would have
23 suffered operational difficulties. It might have had to curtail receipts. However,

1 with the new interconnection, Maritimes has the opportunity to shed additional
2 excess linepack on a temporary basis.

3 **Q. 30 Has Phase III enhanced Maritimes' shippers' segmentation rights?**

4 A. Yes. Firm shippers making deliveries at Dracut can segment and release their
5 capacity from Methuen to Beverly on Phase III. This opens up the Phase III
6 interconnect with Algonquin at Beverly to Western Canadian gas that has the
7 ability to enter the Phase III system from PNGTS at the Methuen interconnect
8 between Phase III and the Joint Facilities. As Mr. Reed and Mr. Penney explain
9 more fully in their direct testimony, firm shippers can segment their Phase III
10 capacity in a manner that provides them with additional economic benefits, either
11 by permitting them to deliver up to twice their MDTQ on a single day or by
12 releasing the Phase III segment to a third party who will pay transportation
13 charges that Maritimes will credit against the releasing shipper's payment
14 obligation.

15 **II. BENEFITS TO THE NEW ENGLAND PIPELINE GRID**

16 **Q. 31 How has Phase III enhanced reliability in the Northeast, generally?**

17 A. Phase III enhances the Northeast pipeline grid because it allows gas flowing on
18 both Tennessee and Algonquin, which was previously destined for the Greater
19 Boston market, to serve markets upstream of the Greater Boston area. This helps
20 to ensure adequate supplies for the upstream markets and, in my opinion, should
21 mitigate bottlenecks on the portion of the New England grid that flows west to
22 east and south to north because supply that previously was required to flow
23 through constrained areas on those portions of the grid to reach Boston is now
24 able to reach Boston via Phase III.

1 **Q. 32 Regarding deliveries of gas produced from offshore Nova Scotia, were there**
2 **any production problems at SOEP this winter?**

3 A. Yes. On January 8, 2004, and to a lesser extent for several days following, SOEP
4 was almost entirely shut in.

5 **Q. 33 Did Maritimes have to curtail its deliveries as a result?**

6 A. No. Maritimes did not have to cut deliveries during this time period.

7 **Q. 34 Operationally, how did Maritimes avoid curtailing deliveries in New England**
8 **markets this January, even though SOEP was virtually shut in for several**
9 **days?**

10 A. Maritimes made deliveries from its linepack, keeping its shippers whole by
11 delivering all scheduled volumes. Maritimes & Northeast Pipeline Limited
12 Partnership (the Canadian portion of the Maritimes project, extending from
13 Goldboro, Nova Scotia, to the Canada-US border) also absorbed a great deal of
14 the shortfall by making deliveries from its linepack, taking some of the strain off
15 the US portion of the system. Of course, these actions only helped lessen the
16 shortfall during the first day. After that, shippers had to nominate less gas from
17 SOEP, thereby essentially curtailing themselves, while Maritimes re-packed its
18 line.

19 **Q. 35 Did Phase III benefit Maritimes' shippers during the SOEP shut-in?**

20 A. Yes. Phase III helped the situation in two ways. First, Phase III has added
21 approximately 60,000 Dth of linepack, which gave Maritimes more linepack from
22 which to make its scheduled deliveries during the shut-in. Second, making
23 deliveries from its own linepack was not sufficient to handle the situation
24 completely, and in any situation like this, pipelines need help from downstream
25 pipelines. Phase III, with its interconnection with Algonquin at Beverly, gave

1 Maritimes a second downstream pipeline with which to work in an effort to keep
2 shippers whole at the delivery points, instead of having only Tennessee to help
3 with this situation.

4 **Q. 36 Does this conclude your prepared direct testimony?**

5 A. Yes, it does.

6

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

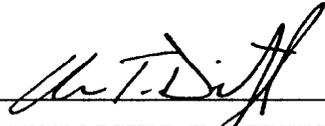
Maritimes & Northeast Pipeline, L.L.C.

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Docket No. RP04-

AFFIDAVIT OF CHRISTOPHER T. DITZEL

CHRISTOPHER T. DITZEL, being first duly sworn, on oath states that he is the witness whose Prepared Direct Testimony is filed herein; that, if asked the questions which appear in the text of aforesaid Prepared Direct Testimony, affiant would give the answers that are herein set forth; and that affiant adopts the aforesaid Prepared Direct Testimony as his sworn, direct testimony in this proceeding.



CHRISTOPHER T. DITZEL

SUBSCRIBED AND SWORN TO before me, a Notary Public in and for the State of Texas, County of Harris, this 22nd day of June, 2004.



Notary Public

My commission expires: 10-2-04

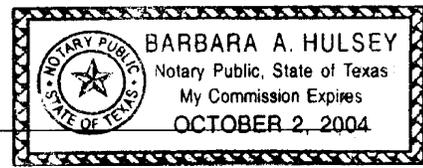


Exhibit No. ____ (CTD-2)

CRITICAL ENERGY INFRASTRUCTURE INFORMATION

REMOVED

Exhibit No. ____ (CTD-3)

CRITICAL ENERGY INFRASTRUCTURE INFORMATION

REMOVED

Exhibit No. ____ (CTD-4)

CRITICAL ENERGY INFRASTRUCTURE INFORMATION

REMOVED

Exhibit No. ____ (CTD-5)

CRITICAL ENERGY INFRASTRUCTURE INFORMATION

REMOVED

Exhibit No. ____ (CTD-6)

CRITICAL ENERGY INFRASTRUCTURE INFORMATION

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Exhibit No. ____ (CTD-7)

CRITICAL ENERGY INFRASTRUCTURE INFORMATION

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