

**BEFORE THE
PUBLIC UTILITIES COMMISSION
OF THE
STATE OF RHODE ISLAND
AND PROVIDENCE PLANTATIONS**

IN THE MATTER OF

**The National Grid Proposal)
For Changes In Its Distribution)
Adjustment Charge)**

Docket No. 3859

**DIRECT TESTIMONY OF WITNESS
BRUCE R. OLIVER**

On Behalf of

The Division of Public Utilities and Carriers

October 17, 2007

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I. INTRODUCTION

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS FOR THE RECORD.

A. My name is Bruce R. Oliver. My business address is 7103 Laketree Drive, Fairfax Station, Virginia, 22039.

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

A. I am employed by Revilo Hill Associates, Inc., and serve as President of the firm. I manage the firm's business and consulting activities, and I direct its preparation and presentation of economic, utility planning, and policy analyses for our clients.

Q. ON WHOSE BEHALF DO YOU APPEAR IN THIS PROCEEDING?

A. My testimony in this proceeding is presented on behalf of the Division of Public Utilities and Carriers (hereinafter "the Division").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. This testimony addresses the request of National Grid (hereinafter "National Grid" or "the Company") for a change in its Distribution Adjustment Charge ("DAC") which is set forth in testimony filed on August 1, 2007 and September 4, 2007 by witness Peter C. Czekanski on behalf of the Company. More specifically, this testimony

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1 discusses all elements of the Company's DAC calculations other than the Earnings
2 Sharing Mechanism. Issues relating to Earnings Sharing for the 12 months ended
3 June 30, 2007 will be addressed in the testimony of Division witness David Efron.

4
5 **II. DISCUSSION OF ISSUES**

6
7 **Q. WHAT IS THE DAC RATE THAT THE COMPANY PROPOSES IN THIS**
8 **PROCEEDING?**

9 A. Attachment PCC-1 to the Company's August 1, 2007 filing computes a net **credit** of
10 \$0.0021 per therm. Updated Attachment PCC-1 which is presented as part of
11 witness Czekanski's September 4, 2007 testimony in this proceeding computes a
12 DAC rate which is a **credit** of **\$0.0035** per therm. By comparison, the Company's
13 present DAC rate is \$0.0003 per therm. Thus, the DAC rate computed in the
14 Company's September 4, 2006 filing reflects a **decrease** of **\$0.0038** per therm from
15 the currently effective DAC rate.

16
17 **Q. WHAT ARE THE MAJOR COMPONENTS OF THE COMPANY'S DISTRIBUTION**
18 **ADJUSTMENT CHARGE (DAC) CALCULATIONS?**

19 A. National Grid's DAC calculations comprise nine (9) major components. The
20 components of the Company's Distribution Adjustment Charge calculations include:

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1. A System Pressure (SP) Factor
 2. An Advance Gas Technology Program (AGT) Factor
 3. A Low Income Assistance Program (LIAP) Factor
 4. An Environmental Response Cost (ERC) Factor
 5. An On-System Margin Credits (MC) Factor
 6. A Weather Normalization (WN) Factor
 7. An Earnings Sharing Mechanism (ESM)
 8. A Reconciliation (R) Factor
 9. An Allowance for Uncollectibles

12 The first eight components of the Company's DAC calculations are re-
13 examined, and subject to re-calculation on an annual basis. The last component
14 (i.e., the Allowance for Uncollectibles), was established through the Commission-
15 approved settlement in Docket No. 3401. The Reconciliation (R) Factor includes
16 adjustments for over- or under-recovery of costs during the 12-months ended June
17 30, 2007 for each of the first eight factors listed above. National Grid's proposed
18 calculations for each of the components of the DAC are reviewed below.

19

20 **A. System Pressure Factor**

21

22 **Q. WHAT IS THE PURPOSE OF THE SYSTEM PRESSURE ADJUSTMENT?**

23 A. Since the beginning of rate unbundling for firm service customers, this Commission
24 has recognized that a portion of the Company's use of its LNG facilities is associ-
25 ated with the maintenance of operating pressures on its system. Given that both

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1 sales service and transportation service customers benefit from the maintenance of
2 system operating pressures, it is appropriate that such costs be recovered from
3 customers in both of those service classifications. In the absence of the System
4 Pressure Adjustment, all of the Company's LNG costs would be recovered through
5 its Gas Cost Recovery (GCR) charges and paid for by only sales service customers.

6 Thus, it is necessary for the Company to allocate a portion of its LNG costs to
7 system pressure maintenance, and collect those costs through charges that are
8 applied to both firm sales service and firm transportation service customers. The
9 System Pressure factor within the DAC mechanism accomplishes this objective.

10
11 **Q. HOW IS THE SYSTEM PRESSURE FACTOR DETERMINED?**

12 **A.** As established in Docket No. 3401, the System Pressure factor is computed by
13 multiplying Total LNG Commodity Related Costs by the System Balancing Factor
14 (.2039) and dividing by projected, weather-normalized, annual Firm Throughput.
15 The .2039 factor reflects the results of an assessment which suggested that 20.39%
16 of LNG commodity related costs were used for System Pressure purposes, and
17 therefore, should be borne by all customers (i.e., sales and transportation service
18 customers) who utilize the Company's distribution system.

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1 **Q. WHAT IS THE LEVEL OF THE SYSTEM PRESSURE FACTOR THAT NATIONAL**
2 **GRID PROPOSES IN THIS PROCEEDING?**

3 A. Attachment PCC-2 to Mr. Czekanski's testimony filed August 1, 2007 computes a
4 System Pressure Factor of \$0.0548 per Dth. The data used in those calculations
5 were subsequently updated in Mr. Czekanski's September 4, 2007 Updated
6 Attachment PCC-2. Based on its updated calculations, National Grid now seeks a
7 System Pressure Factor of \$0.0416 per Dth. As shown in **Schedule BRO-1**, the
8 difference between these results reflects a **57% reduction** in the projected costs of
9 LNG commodity withdrawals during the months of December 2007 through
10 February 2008 compared to the data used for the prior DAC period. In addition,
11 **Schedule BRO-1** computes a **22% reduction** in total allocated System Pressure
12 Factor Costs for the forecasted DAC period versus comparable data used to
13 compute the system pressure factor in Docket No. 3760, last year's DAC
14 proceeding..

15 That 22% reduction in the Company's updated LNG Commodity Withdrawal
16 Costs is partially offset by a **\$181,242** or **27% increase** in the LNG Inventory Costs
17 reflected in National Grid's September 4, 2007, Updated version of Attachment
18 PCC-2 compared to the initial estimate of such costs that was provided in the
19 Company's August 1, 2007 version of the same attachment. The increase in
20 Inventory Costs is the result of assumptions that cause greater LNG inventory

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1 volumes to be maintained throughout most of the spring and summer months of the
2 2007-2008 DAC year. Through informal discovery with witness Beland for National
3 Grid, he indicated that the increase in LNG inventories during the summer months
4 was the result of modeling assumptions that limited the use of LNG withdrawals
5 from inventory. As a result, the Company's modeling of gas dispatch assuming
6 normal weather (i.e., the assumption under which System Pressure costs are
7 developed) yields somewhat increased inventories than would be expected if LNG
8 were used for economic dispatch to avoid more costly daily purchases.

9

10 **Q. IS THE COMPANY'S UPDATED SYSTEM PRESSURE FACTOR APPROPRI-**
11 **ATELY COMPUTED?**

12 A. I have found minor mathematical inconsistencies in the Company's Updated
13 Attachment PCC-2 that may be explained by rounding, but in any event, they have
14 no material impact on the System Pressure Factor that National Grid presents in
15 that attachment.

16

17 **Q. HAS NATIONAL GRID PROPERLY EXCLUDED LNG USED FOR ECONOMIC**
18 **DISPATCH PURPOSES FROM THE LNG COSTS THAT IT USES TO COMPUTE**
19 **ITS UPDATED SYSTEM PRESSURE FACTOR?**

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1 A. National Grid has addressed the exclusion of economically dispatched LNG costs
2 from its System Pressure Factor Costs by basing those costs on forecasted data for
3 the coming GCR period. The Company's forecasted LNG requirements assume no
4 use of LNG for economic dispatch purposes.

5

6 **Q. SHOULD THE COMMISSION ACCEPT THE COMPANY'S COMPUTED SYSTEM**
7 **PRESSURE FACTOR?**

8 A. Yes. I considered recommending elimination of the Company's projected increase
9 in projected LNG inventory costs that were simply the product of modeling
10 assumptions. But, since only 20.39% of those costs are used in National Grid's
11 System Pressure Factor computations, the impact of that adjustment would be only
12 \$0.0011 per Dth or \$0.0001 per therm. Thus, such an adjustment would have no
13 substantial impact on either the Company's computed System Pressure Factor or
14 the overall level of the DAC.

15

16 **B. Advanced Gas Technology Program Factor**

17

18 **Q. WHAT IS THE PURPOSE OF THE ADVANCED GAS TECHNOLOGY PROGRAM**
19 **FACTOR?**

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1 A. The Advanced Gas Technology (AGT) Program Factor reflects the Company's
2 renaming of its Demand Side Management (DSM) Factor. The AGT Factor
3 provides the Commission a mechanism for reflecting differences between actual
4 expenditures for AGT program rebates and the amount of funding provided for that
5 program annually through base rates. It should be noted that the Company has
6 renamed this factor to avoid confusion with the recently implemented National Grid
7 Energy Efficiency Programs. As explained in the August 1, 2007 testimony of
8 witness Czekanski for National Grid, the goal of the AGT program is to promote the
9 installation of gas technologies that increase utilization of natural gas during periods
10 of low demand.

11
12 **Q. WHAT IS THE LEVEL OF FUNDING CURRENTLY PROVIDED FOR THE**
13 **COMPANY'S AGT PROGRAM THROUGH THE BASE RATES?**

14 A. As set forth in National Grid's tariff, Section 3, Distribution Adjustment Charge,
15 Schedule A, Sheet 3, paragraph 3.2, the DSM program funding presently
16 embedded in base rates for NG is **\$301,496** per year. That tariff amount includes
17 an allowance for working capital. The actual amount provided through rates to fund
18 DSM program payments to customers is \$300,000. It appears that the Company's
19 intent is for all current DSM Program funds to be used for its AGT program.
20 However, the Company's current tariff provisions relating to its Distribution

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1 Adjustment Clause contain no reference to the AGT program. Thus, if the
2 Company's suggested name change is accepted by this Commission, the
3 references to "DSM" and "Demand Side Management" in Section 3, Schedule A,
4 Sheets 1, 2, and 3, of the Company's tariff should be eliminated and replaced with
5 "AGT" and "Advanced Gas Technology," respectively.
6

7 **Q. WILL ANY AGT (FORMERLY DSM) FUNDS BE CARRIED FORWARD FROM FY**
8 **2006?**

9 A. Yes. The Company had a carry-forward balance of uncommitted DSM funds at the
10 end of FY 2007 of \$389,113 including interest accrued during the year. Adding this
11 carry-forward balance to the annual funding provided through base rates, the
12 funding available for new projects is \$689,113, not counting any additional interest
13 that may accrue during the current fiscal year.
14

15 **Q. IS THE COMPANY PROPOSING ANY CHANGE IN FUNDING FOR DSM**
16 **PROJECTS FOR FY 2007?**

17 A. No. As a result the Advanced Gas Technology (AGT) Program Factor for the
18 coming year remains \$0.0000 per therm.
19

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1 **C. Low Income Assistance Program Factor**

2

3 **Q. WHAT IS THE PURPOSE OF THE LOW INCOME ASSISTANCE PROGRAM**
4 **(LIAP) FACTOR?**

5 A. The Low Income Assistance Program (LIAP) Factor performs a function similar to
6 that of the AGT (or DSM) Factor. It provides a mechanism for the Commission to
7 adjust the funding of the Company's Low Income Heating Assistance Program
8 (LIHEAP) and Low Income Weatherization Program activities outside the context of
9 a base rate proceeding.

10

11 **Q. WHAT IS THE LEVEL OF FUNDING PROVIDED FOR NATIONAL GRID'S LOW**
12 **INCOME ASSISTANCE PROGRAMS THROUGH ITS BASE RATE CHARGES?**

13 A. As set forth in the Company's tariff, Section 3, Distribution Adjustment Charge,
14 Schedule A, Sheet 4, paragraph 3.3, the LIAP funding presently embedded in base
15 rates for National Grid is **\$1,793,901** per year. This includes a working capital
16 allowance. After subtracting the working capital allowance, the amount of new LIAP
17 funding is \$1,785,000. That amount includes \$1,585,000 for LIHEAP and \$200,000
18 for Low Income Weatherization Program activities.

19

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1 **Q. ARE ANY FUNDS FOR LOW INCOME ASSISTANCE PROGRAMS BEING**
2 **CARRIED OVER FROM FY 2006?**

3 A. Yes. The Company reports that \$24,000 of LIHEAP funding will be carried over
4 from FY 2007 to FY 2008. Thus, the total funds available for Low Income
5 Assistance programs in FY 2008 will be \$1,809,000.

6
7 **Q. DOES NATIONAL GRID SEEK ADDITIONAL LIAP FUNDING THROUGH ITS**
8 **PROPOSED DSM FACTOR IN THIS PROCEEDING?**

9 A. No, it does not. Therefore, the LIAP factor in the Company's DAC calculations
10 remains at \$0.0000 per therm.

11

12 **D. Environment Response Cost Factor**

13

14 **Q. PLEASE DESCRIBE THE PURPOSE OF THE ENVIRONMENTAL RESPONSE**
15 **COST (ERC) FACTOR?**

16 A. The primary function of the ERC Factor is to provide the Company a means of
17 recovering "reasonable and prudently incurred" environmental response costs while
18 limiting impacts on customers' bills. Costs subject to recovery through the ERC
19 Factor include:

20

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1 (1) Costs for evaluation, remediation and clean-up of sites associated
2 with National Grid's ownership and operation of manufactured gas
3 plants, manufactured gas storage facilities, and manufactured gas
4 plant-related off-site waste disposal locations;

5
6 (2) Costs for removal and disposal of mercury regulators and meters;

7
8 (3) Costs for acquiring property associated with the clean up of such sites;
9 and

10
11 (4) Litigation costs, claims, judgments, and settlements associated with
12 environmental clean up activities.

13
14 **Q. HOW ARE REASONABLE AND PRUDENTLY INCURRED ENVIRONMENTAL**
15 **RESPONSE COSTS RECOVERED THROUGH THE ERC FACTOR?**

16 **A.** According to the terms of the settlement approved by this Commission in Docket
17 No. 3401, such Environmental Response Costs shall be recovered through a 10-
18 year straight-line amortization, subject to the restriction that the ERC Factor shall be
19 limited to an increase of no more than \$0.10 per dekatherm (i.e., \$0.01 per therm) in
20 any annual DAC filing. Moreover, the ERC Factor is computed to reflect an

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1 adjustment to the \$1,310,000 of Environmental Response Costs that is presently
2 included in National Grid's base rate charges. Thus, the dollar amount subject to
3 recovery through the ERC Factor in any year reflects the sum of all applicable 10-
4 year ERC amortizations less the \$1,310,000 of budgeted base rate recoveries, and
5 the ERC Factor reflects that net dollar amount divided by forecasted firm
6 throughput.

7
8 **Q. WHAT IS THE NET DOLLAR AMOUNT THAT NATIONAL GRID PROPOSES IN**
9 **THIS PROCEEDING FOR RECOVERY THROUGH ITS ERC FACTOR?**

10 A. As shown in Attachment PCC-4, filed on August 1, 2007, the Company seeks
11 approval of a net recovery of (\$726,094). That net dollar amount reflects:

- 12
- 13 1. A 10-year amortization of \$12,510,252 of net ERC costs incurred
14 through the end of FY 2002;
 - 15
 - 16 2. A 10-year amortization of (\$6,012,673) of net ERC costs for FY 2003;
 - 17
 - 18 3. A 10-year amortization of (\$472,960) of net ERC costs for FY 2004;
 - 19
 - 20 4. A 10-year amortization of \$136,707 of net ERC costs for FY 2005;

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5. A 10-year amortization of \$436,020 of net ERC costs for FY 2006;

6. A 10-year amortization of (\$758,291) of net ERC costs for FY 2007;
and

7. A deduction of \$1,310,000 for budgeted base rate recovery of ERC costs during the annual period in which the proposed ERC Factor will be effective.

Q. WHAT IS NET BALANCE OF THE ENVIRONMENTAL REMEDIATION COSTS TO BE RECOVERED THROUGH THE COMPANY'S ERC FACTOR?

A. The Company reports a net balance of un-recovered Environmental Response Costs at the end of FY 2007 of \$2,059,943.

Q. WHAT IS THE LEVEL OF THE ERC FACTOR THAT NATIONAL GRID PROPOSES IN THIS PROCEEDING?

A. National Grid proposes a new ERC Factor of (\$0.0021) per therm. That represents a net credit to firm customers. At present, the ERC factor is (\$0.0019) per therm.

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1 Thus, the proposed ERC factor reflects a slightly increased credit from the level
2 included in the Company's current DAC.

3
4 **Q. WHAT ARE THE MAJOR ELEMENTS OF THE ENVIRONMENTAL RESPONSE**
5 **COSTS THAT NATIONAL GRID CLAIMS FOR FY 2007?**

6 A. For FY 2007 National Grid claims a net Environment Response Cost of \$(758,291).
7 That amount represents the net of \$467,533 of new environmental expenditures
8 less \$1,225,824 of proceeds from an environmental insurance settlement. As
9 shown below, two projects accounted for nearly 75% of the total new Environmental
10 Response Costs incurred by National Grid during FY 2007. Those projects and
11 their associated costs are as follows:

12				
13	➤	Project 171	Contaminated Regulators	\$ 119,791 25.6%
14	➤	Project --	Thames & Wellington	\$ 230,231 49.3%
15	➤	All Other Projects		\$ <u>117,421</u> <u>25.1%</u>
16		Total		\$ 467,533 100.0%
17				

18 **Q. AT PAGE 9, LINES 16-18, OF WITNESS CZEKANSKI'S AUGUST 1, 2007**
19 **TESTIMONY, HE STATES THAT "[THE COMPANY'S] FY2007 ENVIRONMENTAL**
20 **RESPONSE COST DATA IS CONSIDERED PRELIMINARY AND IF THERE ARE**
21 **ANY CHANGES WHEN THE COMPANY'S BOOK ARE FINALIZED FOR THE**

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1 **FISCAL YEAR, THE COMPANY WILL FILE AN UPDATED CALCULATION.” HAS**
2 **ANY UPDATE OF THAT DATA BEEN FILED TO DATE?**

3 A. No. No further discussion of that matter is found in the Company’s September 4,
4 2007 updated testimony, and no other updates of that information have been
5 submitted to date.

6
7 **Q. DO YOU FIND ANY REASON TO QUESTION THE AMOUNT OF ENVIRON-**
8 **MENTAL RESPONSE COSTS FOR WHICH THE COMPANY SEEKS RECOVERY**
9 **IN THIS PROCEEDING?**

10 A. I have reviewed the testimony and supporting materials that witness Czekanski
11 presents on behalf of National Grid, as well as the National Grid’s Annual
12 Environmental Report for the period July 1, 2006 to June 30, 2007. Based on that
13 review, the Company’s claimed environmental response costs for FY 2007 generally
14 appear reasonable and the proposed ERC factor is appropriately computed from
15 the data National Grid has presented. However, I must offer two caveats to the
16 general assessment of the Company’s ERC costs.

17 First, National Grid’s average cost per unit for removing and replacing
18 mercury seal regulators (MSRs) during FY 2007 was more than **seven times**
19 greater than the Company’s average costs for all replacements completed prior to
20 FY 2007. In FY 2007, National Grid removed and replaced 95 MSRs at a total cost

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1 of \$119,791. That equates to an average cost per MSR of **\$1,261**. Prior to FY
2 2007, the Company replaced nearly 9,000 MSRs at cost of \$1,540,573 or the
3 equivalent of **\$171 per MSR**. Nothing in either the Company's Annual Environment
4 Report or witness Czekanski's testimony offers any justification for this rather
5 dramatic increase in the Company's costs for removing and replacing MSRs.
6 However, the Company's response to Division Data Request 2-05.b in Docket No.
7 3760 suggested that requirements for the involvement of an entity called "Clean
8 Harbors" in the removal and transport of MSRs may have contributed to the
9 reported increased in the Company's costs per MSR removed.

10 Second, Attachment PCC-4 to witness Czekanski's August 1, 2007 testimony
11 indicates that the Company received \$1,225,824 of additional environmental
12 insurance settlement proceeds. The Company's Annual Environmental Report for
13 the period July 1, 2006 to June 30, 2007 offers no discussion of those settlement
14 proceeds, and no details are provided in the Company's filed testimony and exhibits
15 in this proceeding regarding the source of those funds or the project(s) or time
16 periods to which they relate. Thus, I am unable at this time to offer any assessment
17 of the reasonableness or appropriateness of the referenced additional environ-
18 mental insurance settlement proceeds.

19
20 **E. On-System Margin Credits**

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1

2 **Q. WHAT IS THE ROLE OF THE ON-SYSTEM MARGIN CREDIT (MC) FACTOR?**

3 A. The On-System Margin Credit (MC) Factor performs two functions. First, it provides
4 National Grid a mechanism for recovery of shortfalls, if any, in the actual on-system
5 margin revenue derived from non-firm sales and transportation services relative to
6 the \$1.6 million of annual on-system margin revenue presently assumed in the
7 design of the Company's base rates. Second, the MC Factor provides a
8 mechanism for sharing of on-system margin revenue in excess of the level assumed
9 in the design of base rates. If actual non-firm margin revenue exceeds \$1.6 million
10 within the 12-month period ending June 30th of any year completed subsequent to
11 the effective date of this tariff provision, the MC Factor provides an incentive to the
12 Company to maximize such margin revenue by enabling National Grid to retain 25%
13 of such revenue while crediting 75% of on-system non-firm margins to firm service
14 customers as an offset to distribution system costs.

15

16 **Q. DID NATIONAL GRID ACHIEVE ON-SYSTEM NON-FIRM MARGINS IN EXCESS**
17 **OF \$1.6 MILLION FOR THE 12-MONTH PERIOD ENDED JUNE 30, 2007?**

18 A. Yes. Mr. Czekanski's August 1, 2007 testimony in this docket indicates that
19 National Grid recorded non-firm margin revenue for the 12-months ended June 30,
20 2007 of \$5,922,065 net of gross earnings tax (GET). Thus, \$4,322,065 of non-firm

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1 margin revenue was collected during that period in excess of the \$1.6 million annual
2 level of On-System Margin Revenue presently assumed in the design of the
3 Company's base rates. As required by the Company's tariff, 75% of that amount or
4 \$3,241,549 is subject to distribution as a credit to firm customers through the MC
5 factor in the Company's DAC calculations. The remaining 25% or \$1,080,516
6 accrues to the benefit of National Grid. In addition, National Grid has identified a
7 \$90,612 increase in its non-firm margins for FY 2006 which, after the application of
8 sharing percentages, yields an additional \$67,959 of margin sharing for the benefit
9 of firm service customers. Thus, in total the Company proposes to apply margin
10 sharing credits of \$3,309,508 resulting in an On System Margin Credit (MC) Factor
11 of \$0.0095 per therm for the November 2007 through October 2008 DAC period.

12
13 **Q. WHAT EXPLAINS THE INCREASE IN THE LEVEL OF ON-SYSTEM MARGINS**
14 **THAT NATIONAL GRID ACHIEVED IN FY 2007?**

15 A. Throughout most of the twelve month period ending June 30, 2007, the costs of fuel
16 oil alternatives were substantially above those for natural gas. Since the pricing of
17 non-firm services is based on the cost of the customer's alternative fuel, the margins
18 per therm of gas used by such customers increased with increases in the differential
19 between natural gas prices and fuel oil prices. Although natural gas prices rose
20 sharply following hurricanes Katrina and Rita in the latter part of calendar year 2005,

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1 they peaked in early December 2005 and have since fallen sharply. Fuel oil prices,
2 on the other hand, have moved significantly upward, leaving unusually large price
3 differentials between the costs of natural gas and the costs of fuel oil. For
4 example, current NYMEX natural gas commodity prices for Nov 2007 through March
5 2008 are presently averaging about \$7.80 per MMBtu. NYMEX prices for No. 2
6 Heating Oil for the same period are presently in excess of \$16.25 per MMBtu.
7 Thus, the current differential between natural gas and No. 2 heating oil prices is
8 roughly **\$8.45** per MMBtu. In other words, the average NYMEX No. 2 heating oil
9 price for the coming winter is presently more than double the equivalent price for
10 natural gas.

11 Current differentials between natural gas and heating oil prices are at or near
12 historical highs. **Schedule BRO-2** provides five years of selected historical
13 observations regarding the relative costs of natural gas and No. 2 heating oil. As
14 demonstrated in that schedule, the range of fluctuation in such differentials over the
15 last several years has been substantial, but none of the prior observations equals
16 the magnitude of the current differential. Moreover, the average price differential
17 between No. 2 Heating Oil and Natural Gas has grown steadily over the last five
18 years. For the winter of 2003-04, NYMEX pricing yielded an average price
19 differential (i.e., No. 2 Heating Oil price less Natural Gas price) of **\$0.24** per MMBtu.
20 Over the last year the differential between No. 2 Heating Oil and Natural Gas

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1 reflects an average **\$5.97** per MMBtu. The intervening winter periods had average
2 price differentials of \$1.10, \$2.44, and \$3.98 per MMBtu for the winters of 2004-05,
3 2005-06, and 2006-07 respectively.

4 Although numerous additional factors influence the burner-tip costs of natural
5 gas and fuel oil alternatives for end-users, such additional considerations often
6 further expand the effective size of cost differential between those fuels. Growth in
7 the price differentials between natural gas and fuel oil prices (viewed in terms of
8 costs per MMBtu), allowed the Company to extract increased margins from non-firm
9 customers during FY 2007, particularly from those non-firm customers who have
10 No. 2 heating oil as their only fuel oil alternative.

11
12 **Q. DO YOU FIND ANY REASON TO QUESTION THE ACCURACY OF THE**
13 **COMPANY'S DETERMINATION OF ITS MARGINS ON NON-FIRM GAS SERVICE**
14 **SERVICES FOR THE TWELVE MONTHS ENDED JUNE 30, 2007?**

15 A. Accepting *arguendo* the accuracy of the Company's representations regarding the
16 total amount of the non-firm margins that it collected during FY 2007, National Grid's
17 margin sharing calculations appear to be mathematically correct. However, I have
18 not had the opportunity to perform a detailed review of the Company's non-firm
19 margins for FY 2007. Therefore, I am not in a position to draw any conclusions

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1 regarding the accuracy of the Company's non-firm margin determinations at this
2 time.

3 Within the last couple months the Company has provided voluminous billing
4 data for its non-firm customers for FY 2006 for my review. Although the analyses of
5 that information is on-going, I have identified a number elements of the data (i.e.,
6 the data that underlie the Company's FY 2006 non-firm margin determinations and
7 the revisions to FY 2006 margins presented in Attachment PCC-5 in this
8 proceeding) that warrant further scrutiny.

9 Of particular concern is a greater than \$500,000 difference between the
10 revised net margins for FY 2006 that the Company has reported in its testimony in
11 this proceeding and the total net margins that I compute from customer-by-
12 customer, invoice-by-invoice detail that National Grid has provided. This
13 discrepancy should be addressed by the Company. In the prior year DAC Docket
14 No. 3760, National Grid reported Non-Firm Margins for FY 2006 totaling
15 \$3,496,294. In this proceeding the Company offers a \$90,612 upward adjustment
16 to the total Non-Firm margins it reported in Docket No. 3760. Thus, the Company's
17 updated FY 2006 Non-Firm Margins total \$3,586,906. The detail the Company has
18 provided in support of its FY 2006 non-firm margin revisions ties precisely to the
19 Company's Updated Non-Firm volumes (Dth) and Revenue in Attachment PCC-5,
20 page 3 of 3. However, the Non-Firm Margins computed from the Company's

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1 supporting detail reflect a total of \$4,157,782. Thus, I find an unexplained
2 difference of \$570,876 between reported margins and the detail provided.

3 I have also identified a number of smaller dollar issues that I am working with
4 the Company to investigate and resolve. In this context, I encourage the
5 Commission to allow the Division to complete a detailed audit of the billing
6 information that underpins the Company's determinations of total non-firm margin
7 revenue for FY 2006 and FY 2007.

8 Thus, I recommend that the Commission reserve any final determinations
9 regarding the appropriateness of National Grid's margin sharing calculations for
10 those years until a full audit of the data underlying those calculations has been
11 completed.

12
13 **Q. HAS YOUR REVIEW OF THE SUPPORTING DETAIL FOR NATIONAL GRID'S**
14 **FY 2006 NON-FIRM MARGINS RENDERED ANY OTHER CONCLUSIONS THAT**
15 **YOU WISH TO SHARE WITH THE COMMISSION?**

16 **A.** Yes. First, the customer-by-customer, invoice-by-invoice detail I have reviewed for
17 the Company's Non-Firm service customers indicates that of the total Non-Firm
18 margins National Grid collected during FY 2006, roughly **\$2.5 million** or nearly **60%**

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1 of the Company's total Non-Firm margins were obtained from a single account.¹
2 Although that account is a very large account, representing about **28%** of the
3 Company's reported total Non-Firm throughput, its contribution to the Company's
4 total FY 2006 Non-Firm margins was more than double its share of total Non-Firm
5 throughput for that year. Furthermore, the average margin derived from that
6 account for FY 2006 was **\$3.16** per Dth, while the average margin from all other
7 non-firm accounts in FY 2006 was **\$0.85** per Dth. Given the margins charged to the
8 referenced customer account during FY 2006, I estimate that this account could
9 have saved about **\$880,000** in total gas service charges if it had simply shifted to
10 firm gas sales service.

11
12 **Q. WAS THIS ONE LARGE CUSTOMER ACCOUNT THE ONLY NON-FIRM**
13 **ACCOUNT FOR WHICH CHARGES FOR NON-FIRM SERVICE EXCEEDED THE**
14 **CHARGES FOR SERVICE UNDER THE COMPANY'S OTHERWISE**
15 **APPLICABLE FIRM SERVICE RATES?**

16 **A.** I have not had the opportunity to compute such comparisons for each of the
17 Company's other non-firm accounts for FY 2006, but it appears that there were a
18 number of customers for whom average non-firm margins charged during FY 2006

¹ To protect the confidentiality of individual customer information, I will not name this customer or provide other customer-specific information as part of this testimony.

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1 were likely to be above the margins the customer would have paid under the
2 otherwise applicable firm rate schedule. I also observe that in several months the
3 referenced customer account paid margins that were somewhat **below** those paid
4 by a number of other non-firm customers having the same alternate fuel type.

5
6 **Q. IS THERE EVIDENCE OF RATE DISCRIMINATION AMONG NON-FIRM SERVICE**
7 **ACCOUNTS THAT HAVE SIMILAR ALTERNATE FUEL TYPES?**

8 **A.** I am not in a position at this time to offer a well-documented assessment of the
9 differences in the margins charged to customers having the same alternate fuel
10 type and the justifications for such differences. At this time I find no evidence that
11 the Company has deviated from the tariff. However, I have observed that
12 customers using non-firm transportation service generally have paid substantially
13 smaller margins per therm than customers of the same alternate fuel type that use
14 non-firm sales service. For example, Non-Firm sales service customers that use
15 No. 2 Fuel Oil as their alternate fuel had an average margin (excluding customer
16 charges) in FY 2006 of \$0.347 per therm. Non-firm transportation service
17 customers having the same alternate fuel, however, paid an average margin of
18 \$0.0665 per therm. Thus, the average margin paid by sales service customers in
19 this alternate fuel category was 5.2 times that paid by their transportation service
20 counterparts. Likewise, for customers having No. 6 Fuel Oil as their alternate fuel, I

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1 compute average FY 2006 margins (excluding customer charges) of \$0.0982 per
2 them for sales service customers and \$0.0264 for transportation service customers.

3 Based on these calculations, it appears that the average margin for sales service
4 customers was 3.7 times that for transportation service customers having the same
5 alternate fuel.

6
7 **Q. DO YOU HAVE ANY FURTHER OBSERVATIONS REGARDING THE CHARGES**
8 **PAID BY THE ONE NON-FIRM SERVICE ACCOUNT THAT YOU HAVE**
9 **HIGHLIGHTED ABOVE?**

10 A. Yes. The Commission should also note that, but for the margins derived from this
11 one large account, the Company may not have exceeded the \$1.6 million threshold
12 for margin sharing in FY 2006.² Thus, the Company's margin sharing for FY 2006
13 can essentially be attributed to the rates charged to a single account.

14

² In Docket No. 3760 National Grid computed total non-firm margins for FY 2006 of \$3,496,294 as shown in Attachment PCC-5 in that docket. Attachment PCC-5 in this proceeding reflects a \$90,612 upward revision to its previously reported non-firm margin total for FY 2006. Thus, the Company's computations now reflect total non-firm margin collections for FY 2006 of \$3,586,906. If the margins collected from the one non-firm account referenced herein were deducted from that total, National Grid total margins would be only about \$1.1 million for that year.

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1 **F. Weather Normalization Factor**

2

3 **Q. WHAT IS THE INTENDED ROLE OF NATIONAL GRID'S WEATHER NORMAL-**
4 **IZATION FACTOR?**

5 A. The Weather Normalization (WN) Factor provides a mechanism for moderating the
6 impacts of weather on the Company's base revenue. When winter weather, as
7 measured in Heating Degree Days (HDDs), is warmer than normal, National Grid's
8 collection of fixed costs through its charges for distribution service declines below
9 the level anticipated under normal weather conditions. If the resulting decline in
10 heating degree days is significant, a positive Weather Normalization Factor is
11 computed for the subsequent DAC period to compensate the Company for a portion
12 of the revenue foregone due to reduced system throughput. On the other hand,
13 colder than normal winter weather causes system throughput and distribution
14 charge revenue to increase relative to expected revenue levels under normal
15 weather conditions. If recorded HDDs are greater than normal degree day levels, a
16 negative Weather Normalization Factor (credit) returns a measure of excess
17 revenue collections to customers during the subsequent DAC period.

18 However, the Weather Normalization Factor only addresses heating degree
19 days recorded for each year that are more than 2% above or below normal heating
20 degree day levels when accumulated over the defined winter season (i.e., the

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1 months of November through April). If recorded actual HDDs are within plus or
2 minus 2% of normal levels for the winter season, no adjustment to revenue is
3 permitted and the Weather Normalization Factor for the subsequent DAC period is
4 zero. On the other hand, if total HDDs for the winter season are beyond the range
5 defined by normal HDD expectations plus or minus 2%, each heating degree day
6 beyond that range is multiplied by \$9,000 per degree day to obtain the total dollar
7 amount to be recovered from, or credited to, customers through the Weather
8 Normalization Factor.

9
10 **Q. WAS THE 2006-2007 WINTER SEASON A SUFFICIENTLY WARMER OR**
11 **COLDER THAN NORMAL TO TRIGGER THE COMPUTATION OF A NON-ZERO**
12 **WEATHER NORMALIZATION FACTOR FOR NATIONAL GRID?**

13 A. Yes. As shown in Attachment PCC-6 filed with Mr. Czekanski's August 1, 2007
14 testimony in this docket, the actual number of heating degree days (HDDs) for the
15 months of November 2006 through April 2007 was 4,584. As a result, actual
16 heating degree days for that period were 194 HDDs below normal, and 98 HDDs
17 below the threshold for allowing an upward adjustment to revenue for the Company
18 (i.e., normal heating degree days less 2% or 4,682 HDDs).

19

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1 **Q. WHAT IS THE MAGNITUDE OF THE WEATHER NORMALIZATION FACTOR**
2 **THAT RESULTS FROM THE WARMER THAN NORMAL WEATHER EXPERI-**
3 **ENCED DURING THE WINTER OF 2005-06?**

4 **A.** The Company's proposed Weather Normalization (WN) Factor is \$0.0025 per
5 therm. That factor is derived by multiplying 98 HDDs (i.e., the number of HDDs in
6 excess of the normal HDD level less 2%) by \$9,000 per excess HDD. The product
7 of that computation yields the previously mentioned \$882,000 Weather Mitigation
8 debit. Dividing that debit amount by the Company's projected Annual System
9 Throughput for the November 2007 through October 2008 period of 34,670,649
10 dekatherms produces the proposed WN Factor. The proposed WN Factor of
11 **\$0.0025 per therm** is slightly smaller than the current WN Factor which is \$0.0027
12 per therm

13
14 **Q. SHOULD THE COMMISSION ACCEPT THE COMPANY'S WEATHER NORMAL-**
15 **IZATION (WN) FACTOR CALCULATIONS?**

16 **A.** Yes. The Company's calculations supporting the determination of that debit have
17 been performed in compliance with the procedures set forth in the Company's tariff,
18 and are mathematically correct.

19

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1 **G. Reconciliation Factor**

2

3 **Q. HOW IS THE RECONCILIATION (R) FACTOR COMPUTED?**

4 A. The Reconciliation (R) Factor component of the Company's DAC adjusts for
5 differences between revenue collections associated with each component of DAC
6 and either actual costs or budgeted revenue by component, adjusted for interest on
7 deferred balances. In this proceeding, the R Factor computations include recon-
8 ciling adjustments for Advanced Gas Technology (formerly Demand Side
9 Management), Low Income Assistance, Environmental Response Costs, System
10 Pressure, On-System Margin Credits, Weather Normalization, Earnings Sharing,
11 and the previous Reconciliation Factor.

12

13 **Q. WHAT IS THE RESULT OF NATIONAL GRID'S "R" FACTOR COMPUTATIONS?**

14 A. Updated Attachment PCC-7, page 1 of 9, reflects a Reconciliation Factor of \$0.0015
15 per therm for application during the Company's 2007-2008 DAC period. The R
16 Factor, thus, results in a net charge to customers for the November 2007 – October
17 2008 period.

18

19 **Q. ARE THE RECONCILING ADJUSTMENTS COMPUTED AS PART OF THE "R"**
20 **FACTOR COMPONENT OF THE DAC REASONABLE AND APPROPRIATE?**

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1 A. Yes, I find that National Grid's reconciliation adjustments are accurately computed.

2

3 **H. Distribution Adjustment Charge Summary**

4

5 **Q. WHAT IS THE LEVEL OF THE DISTRIBUTION ADJUSTMENT CHARGE THAT**
6 **NATIONAL GRID PROPOSES IN THIS PROCEEDING?**

7 A. The Company's proposed DAC charge is presented in Updated Attachment PCC-1
8 filed on September 4, 2007. That proposed DAC, including the adjustment of
9 uncollectible accounts expense, represents a **net credit** of **\$0.0035** per therm for all
10 firm customers.

11

12 **Q. DO YOU PROPOSE ANY CHANGES TO DAC CALCULATIONS THAT NATIONAL**
13 **GRID HAS PRESENTED IN THIS PROCEEDING?**

14 A. At this time, I find no material basis for recommending changes in the Company's
15 DAC. However, my preliminary assessment of the Company's Non-Firm Margins
16 for FY 2006 suggests that further adjustment of those costs may be necessary.

17

18 **Q. DO YOU HAVE ANY FURTHER COMMENTS REGARDING THE FORECASTED**
19 **SALES AND THROUGHPUT DATA UPON WHICH THE COMPANY HAS RELIED**
20 **IN ITS PREPARATION OF ITS DAC CHARGE COMPUTATIONS?**

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1 A. Yes. Prior to the Company's filing of its August 1, 2007 testimony in this
2 proceeding, National Grid provided for my review a draft forecast with document-
3 ation of the Company's assumptions. I reviewed those documents for
4 reasonableness and suggested to the Company that it test the sensitivity of the
5 forecast to certain assumptions . National Grid responded with an additional
6 assessment of forecast sensitivities which I had the opportunity to review and
7 discuss with Mr. Czekanski before the Company finalized its forecasts of sales and
8 throughput for this proceeding. Based on this information I found the forecast to be
9 reasonable.

10 **I. Impacts on Customer Bills**

11
12 **Q. WHAT ARE THE IMPACTS ON CUSTOMERS' BILLS OF THE COMPANY'S**
13 **PROPOSED DAC?**

14 A. As shown in Attachment PCC-8 to Mr. Czekanski's September 4, 2007 testimony,
15 the effects of the Company's proposed DAC charge reflect small and slightly
16 negative (i.e., downward) adjustments to rates for all classes. The bill comparisons
17 provided in Attachment PCC-8 indicate that customers in all class would receive
18 overall rate decreases of between 0.2% and 0.3%. Those results are consistent
19 with the Commission's previously expressed interest in rate stability.

20

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1 Q. IN DOCKET 3760 YOU EXPRESSED CONCERNS REGARDING THE
2 REPRESENTATIVENESS OF THE BILL COMPARISONS THAT THE COMPANY
3 PROVIDED. DO YOU CONTINUE TO HAVE SUCH CONCERNS?

4 A. National Grid has adjusted the usage data used in Attachment PCC-8 in this
5 proceeding when compared to the usage levels used in similar bill comparisons that
6 it presented in Docket No. 3760. In doing so, the Company has also replaced
7 measures of "typical" use with measures of "average customer" use for all rate
8 classes. As shown below, the ranges of usage reflected in the Company's bill
9 comparisons now clearly capture average usage levels for all classes of customers.
10 It should be noted, however, that the measures of "average" customer use that
11 National Grid uses in Attachment PCC-8 reflect significant reductions from the
12 average use per customer figures the Company provided in Docket No. 3760.³
13 Forecasted average use per customer for the Residential Non-Heating class reflects
14 a decline of 53 therms per year or nearly 22%. Likewise, average annual use per
15 customer for the other classes shown below **declines between 21% and 23%**.

16

³ See page 28 of the Direct Testimony of Division witness Bruce R. Oliver filed October 13, 2006 in Docket No. 3760.

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	<u>Bill Comparison Usage Ranges</u>		<u>WN Annual Use/Customer</u>	
	<u>Dkt. 3760</u>	<u>Dkt. 3859</u>	<u>Actual FY 2006⁴</u>	<u>Forecasted 2008 DAC Yr</u>
1				
2				
3				
4				
5				
6	Res Non-Heating	115 - 191	123 - 256	242 189
7	Res Heating	776 - 1,294	600 - 1,247	1,164 922
8	C&I Small	932 - 1,553	824 - 1,715	1,608 1,269
9	C&I Medium	7,761 - 12,935	7,117 - 14,783	14,304 10,950
10				

11

12 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

13 **A.** Yes, it does.

14

⁴ Average weather normalized annual gas use per customer for FY 2006 as indicated in National Grid's response to Division Data Request 1-3 in Docket No. 3760.

National Grid - Gas

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Projected Changes in LNG Commodity Withdrawal Costs and Total Allocated System Pressure Costs

Month	Dkt 3760 1/ Natl Grid 9/1/2006 (A)	Dkt 3859 2/ Natl Grid 8/1/2007 (B)	Dkt 3859 3/ Natl Grid 8/1/2007 (C)	Initial Est of Change From Last Case (D)	Updated Est of Change from Last Case (E)	Updated Percent Change (F)
November	\$ 142,599	\$ 166,221	\$ 169,119	\$ 23,622	\$ 26,520	19%
December	\$ 776,453	\$ 516,329	\$ 188,544	\$ (260,124)	\$ (587,909)	-76%
January	\$ 1,607,911	\$ 1,910,370	\$ 851,235	\$ 302,459	\$ (756,677)	-47%
February	\$ 648,234	\$ 1,112,917	\$ 274,906	\$ 464,683	\$ (373,328)	-58%
March	\$ 215,007	\$ 382,518	\$ 178,554	\$ 167,511	\$ (36,453)	-17%
April	\$ 201,763	\$ 167,757	\$ 173,111	\$ (34,006)	\$ (28,652)	-14%
May	\$ 208,487	\$ 175,637	\$ 178,955	\$ (32,850)	\$ (29,532)	-14%
June	\$ 200,864	\$ 171,610	\$ 174,147	\$ (29,254)	\$ (26,717)	-13%
July	\$ 207,406	\$ 178,846	\$ 180,162	\$ (28,560)	\$ (27,244)	-13%
August	\$ 207,425	\$ 180,344	\$ 180,510	\$ (27,081)	\$ (26,915)	-13%
September	\$ 200,789	\$ 175,866	\$ 174,936	\$ (24,923)	\$ (25,853)	-13%
October	\$ 207,577	\$ 182,952	\$ 180,799	\$ (24,625)	\$ (26,778)	-13%
	<u>\$ 4,824,516</u>	<u>\$ 5,321,367</u>	<u>\$ 2,904,977</u>	<u>\$ 496,851</u>	<u>\$ (1,919,539)</u>	-40%
Dec - Feb	\$ 3,032,599	\$ 3,539,616	\$ 1,314,684	\$ 507,017	\$ (1,717,914)	-57%
Total System Pressure Costs	\$ 9,111,264	\$ 9,313,687	\$ 7,078,542	\$ 202,423	\$ (2,032,722)	-22%
System Balancing Factor	0.2039	0.2039	0.2039	0.2039	0.2039	
GCR Costs Allocated To DAC	\$ 1,857,787	\$ 1,899,061	\$ 1,443,315	\$ 41,274	\$ (414,472)	-22%

1/ Source: Docket No. 3760, Updated Attachment PCC-2, September 1, 2006. Based on actual data for November 2005 through October 2006.

2/ Source: Docket No. 3859, Attachment PCC-2, August 1, 2006. Based on projected data for November 2007 through October 2008.

3/ Source: Docket No. 3859, Updated Attachment PCC-2, September 1, 2006. Based on projected data for November 2007 through October 2008.

National Grid - Gas

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Projected Changes in LNG Inventory Costs

Month	Dkt 3760 1/ Natl Grid 9/1/2006 (A)	Dkt 3859 2/ Natl Grid 8/1/2007 (B)	Dkt 3859 3/ Natl Grid 8/1/2007 (C)	Initial Est of Change From Last Case (D)	Updated Est of Change from Last Case (E)	Percent Change From	
						Last Case Dkt 3760 (F)	Initial Estimate Dkt 3859 (G)
November	\$ 79,361	\$ 70,714	\$ 68,924	\$ (8,647)	\$ (10,437)	-13%	-3%
December	\$ 80,117	\$ 70,764	\$ 72,610	\$ (9,353)	\$ (7,507)	-9%	3%
January	\$ 81,144	\$ 70,584	\$ 70,910	\$ (10,560)	\$ (10,234)	-13%	0%
February	\$ 71,749	\$ 51,891	\$ 66,832	\$ (19,858)	\$ (4,917)	-7%	29%
March	\$ 69,279	\$ 41,002	\$ 70,433	\$ (28,277)	\$ 1,154	2%	72%
April	\$ 69,112	\$ 37,259	\$ 69,915	\$ (31,853)	\$ 803	1%	88%
May	\$ 67,385	\$ 42,595	\$ 69,131	\$ (24,790)	\$ 1,746	3%	62%
June	\$ 84,531	\$ 48,060	\$ 74,660	\$ (36,471)	\$ (9,871)	-12%	55%
July	\$ 92,907	\$ 53,404	\$ 74,796	\$ (39,503)	\$ (18,111)	-19%	40%
August	\$ 92,915	\$ 58,992	\$ 74,940	\$ (33,923)	\$ (17,975)	-19%	27%
September	\$ 92,940	\$ 64,625	\$ 74,823	\$ (28,315)	\$ (18,117)	-19%	16%
October	\$ 92,983	\$ 70,106	\$ 73,264	\$ (22,877)	\$ (19,719)	-21%	5%
	<u>\$ 974,423</u>	<u>\$ 679,996</u>	<u>\$ 861,238</u> 4/	<u>\$ (294,427)</u>	<u>\$ (113,185)</u>	-12%	27%

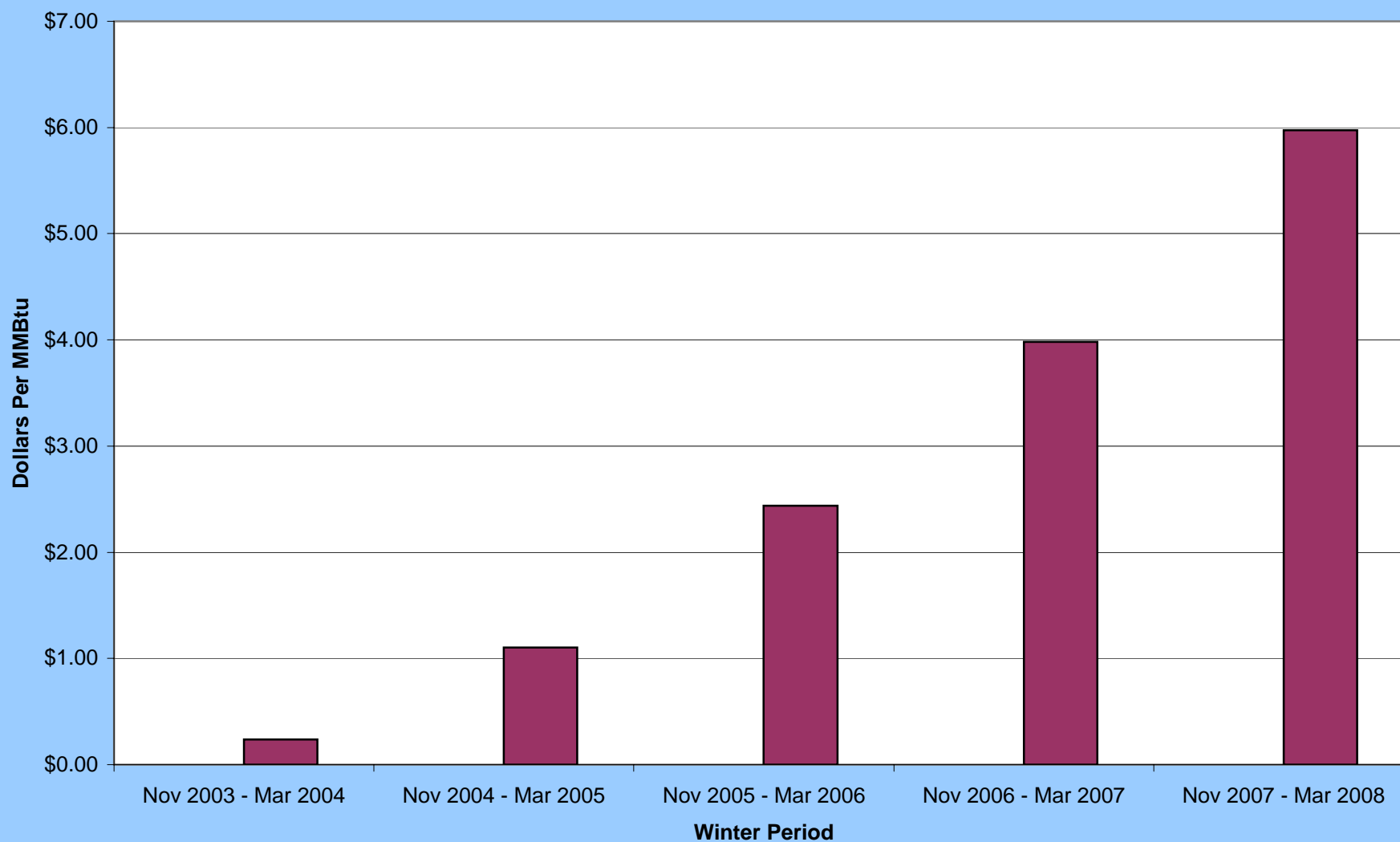
1/ Source: Docket No. 3760, Updated Attachment PCC-2, September 1, 2006. Based on actual data for November 2005 through October 2006.

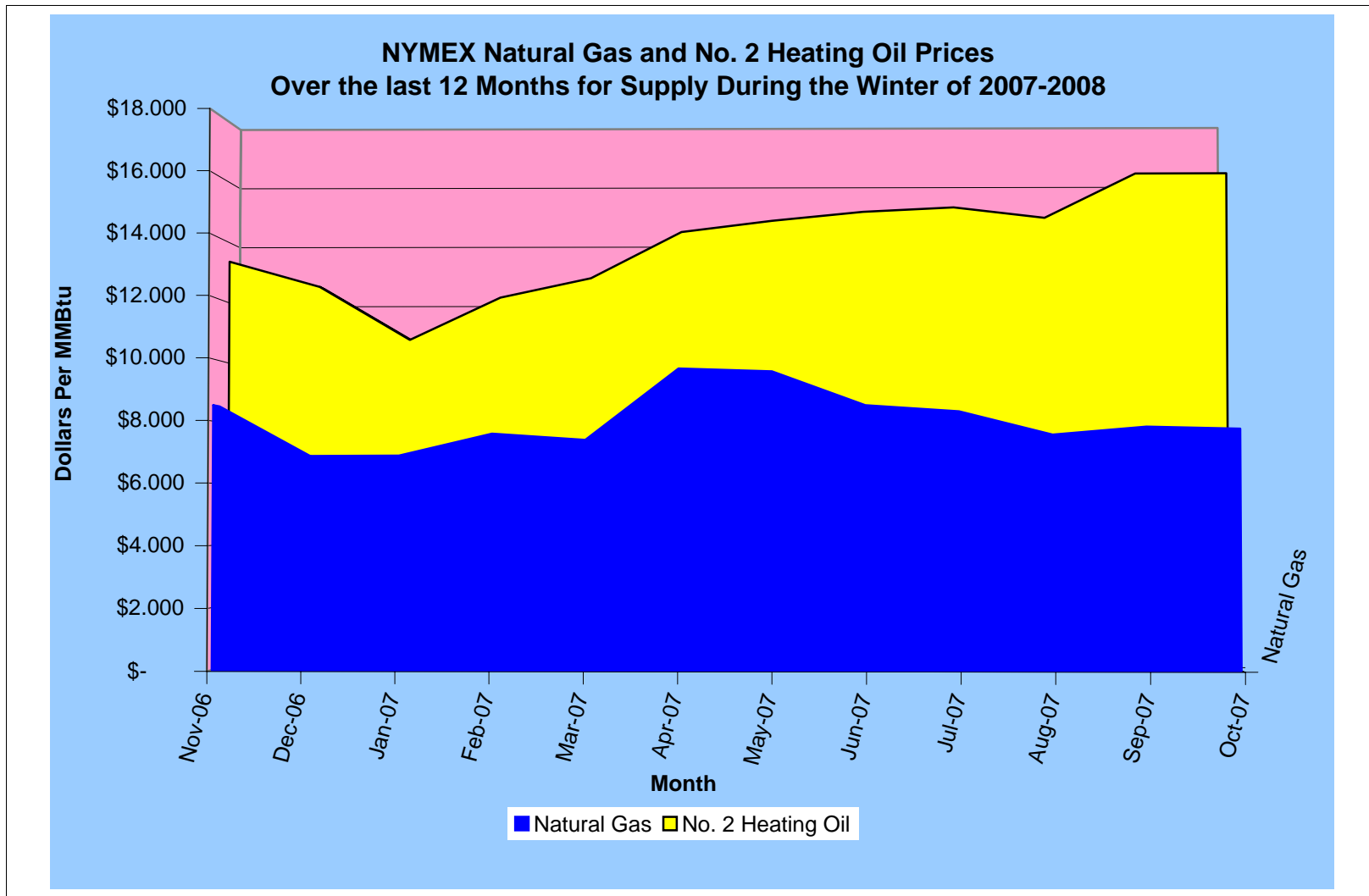
2/ Source: Docket No. 3859, Attachment PCC-2, August 1, 2006. Based on projected data for November 2007 through October 2008.

3/ Source: Docket No. 3859, Updated Attachment PCC-2, September 1, 2006. Based on projected data for November 2007 through October 2008.

4/ Note: Total differs slightly from the \$861,241 reflected in Updated Attachment PCC-2.

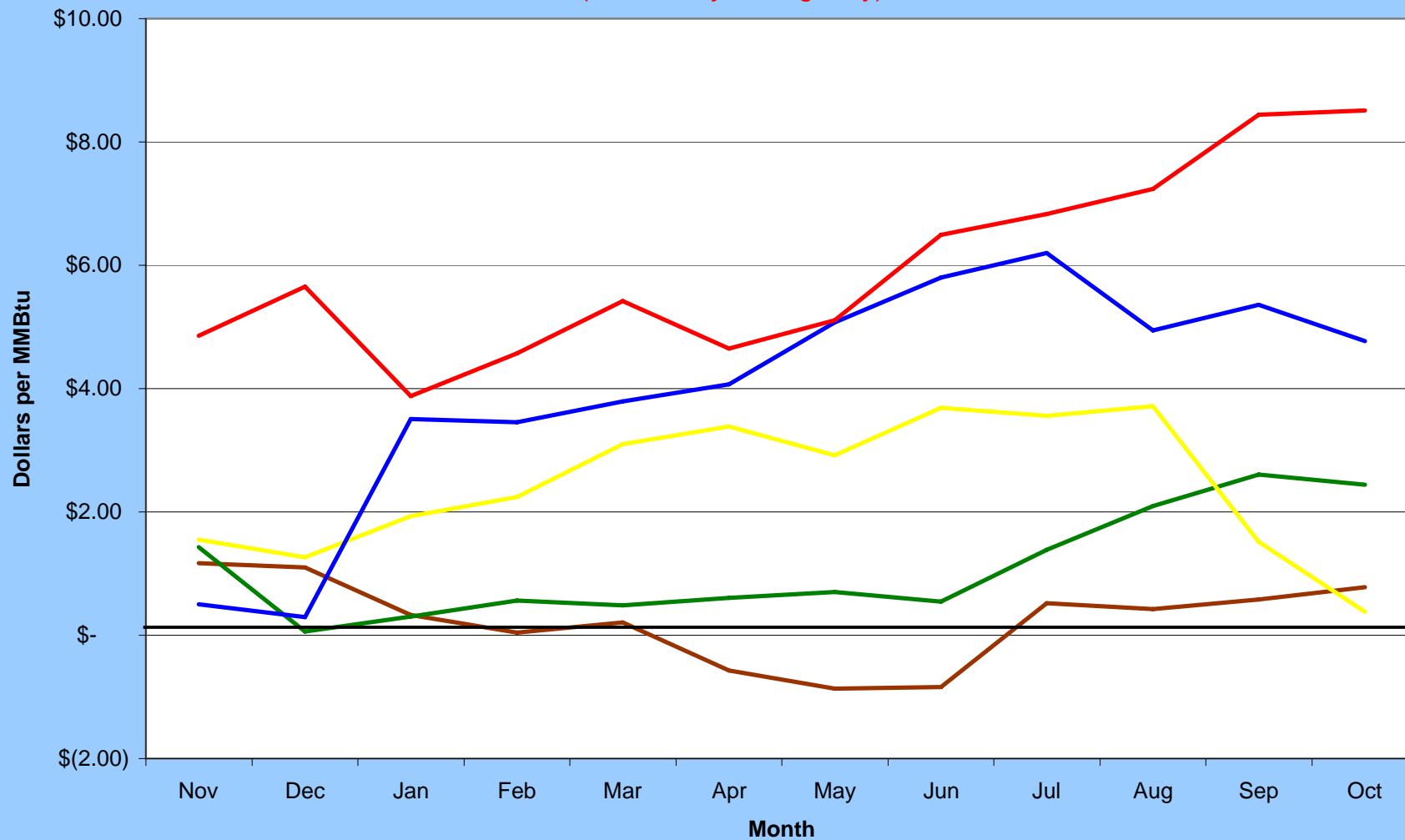
Average Heating Oil vs Natural Gas Price Differentials by Winter Period





**NYMEX No. 2 Heating Oil vs. Natural Gas Price Differentials
For 12 Months Preceding Each Winter Period**

(Commodity Pricing Only)



Winter 03-04 Winter 04-05 Winter 05-06 Winter 06-07 Winter 07-08