

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

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In the matter of the application of	)	
Michigan Gas Utilities Corporation	)	
for Approval of a Gas Cost Recovery	)	Case No. U- 14715
Plan and Authorization of Gas Cost	)	
Recovery Factors for the 12-month	)	
Period April 2006 - March 2007	)	
	)	

QUALIFICATIONS AND DIRECT TESTIMONY OF

LISA M. KINDSCHY

MICHIGAN PUBLIC SERVICE COMMISSION

May 25, 2006

QUALIFICATIONS OF LISA M. KINDSCHY
CASE NUMBER U-14715
PART I

1 Q. Please state your name and business address.

2 A. My name is Lisa M. Kindschy. My business address is 6545 Mercantile Way,
3 Lansing, MI 48911.

4 Q. Where are you currently employed and in what position?

5 A. I am employed as a Public Utilities Engineer with the Michigan Public Service
6 Commission (MPSC) in the Regulated Energy Division.

7 Q. What are your responsibilities in your current position?

8 A. I perform technical analyses in Gas Cost Recovery (GCR) plan and reconciliation
9 proceedings. Also, I perform the evaluation and review of GCR plan and
10 reconciliations and develop Staff's position as appropriate. I am also responsible
11 for daily monitoring of the natural gas market and closely tracking any price
12 movement. During my time with the MPSC, I have attended two natural gas
13 outreach sessions offered by Consumers Energy Company. I have also filed
14 testimony in Consumers Energy's Gas Rate Case, U-14547. In April of 2006, I
15 attended a seminar sponsored by New Energy entitled "How to Manage Your Gas
16 Supply Portfolio in an Uncertain Gas Market." The focus of the seminar was on
17 hedging strategies and methods to reduce volatility when purchasing natural gas.

18 Q. Would you describe your educational background and work experience?

19 A. I obtained a Masters of Science degree in Biosystems Engineering from Michigan
20 State University (MSU) in May 2005. I completed a Bachelors of Science degree
21 in the same major, with honors, also from MSU in May of 2002. During my
22 undergraduate tenure, I was awarded two academic scholarships, and I was
23 inducted into Tau Beta Pi, the National Engineering Honor Society. I also

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1 worked at Consumers Energy Company from May through December 2000 as an
2 engineer in the Natural Gas Mapping Area. In April 2002, I passed the
3 Fundamentals of Engineering Exam, the first part of the process for becoming a
4 licensed Professional Engineer in the State of Michigan.

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PART II

1 Q. What is the purpose of your testimony in this proceeding?

2 A. The purpose of my testimony is to provide Staff's recommendation regarding
3 Michigan Gas Utilities Corporation's (MGU) Gas Cost Recovery (GCR) Plan,
4 former Aquila Networks, for the operational year beginning in April of 2006. In
5 addition, I will propose, on behalf of Staff, modifications to MGU's Gas
6 Purchasing Guidelines and the use of Staff's Multi-Input method to compute GCR
7 contingent factors.

8 Q. Are you sponsoring any exhibits?

9 A. Yes, I am sponsoring two exhibits:

10 Exhibit S-3 (LMK-1) Calculation of Fractional Multipliers for Staff's Multi-
11 Input GCR Contingent Factor Method

12 Exhibit S-4 (LMK-2) Proposed Gas Portfolio Using Staff's Fixed-Price
13 Purchase Tier guidelines

14 Q. Should the Commission approve MGU's GCR Plan?

15 A. Yes, the Commission should: 1) approve MGU's GCR Plan, subject to Staff's
16 proposed refinements to MGU's Gas Purchasing Guidelines; 2) approve the
17 recovery of an estimated \$229 million of gas supply expenses; and 3) establish a
18 base GCR factor of \$10.1882 per Mcf, subject to adjustment via Staff's Multi-
19 Input NYMEX GCR contingent factors on a quarterly basis.

20

21 **Gas Purchase Guidelines Recommendation**

22 Q. Currently, what are the elements of MGU's proposed fixed-price purchase
23 Guidelines?

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1 A. MGU's current Purchase Strategy Guidelines require the purchase of 35,000
2 Dth/day of fixed price supply for delivery during the winter months of November
3 through March, of which MGU will lock the prices in increments of 5,000
4 Dth/day over the seven summer months. These supplies will account for
5 approximately 50% of winter purchases. Beyond this, discretionary purchases
6 related to market opportunities would be made using a historical-quartile technical
7 indicator for future GCR periods.

8 Q. Is Staff recommending that the Commission approve MGU's proposed
9 Guidelines?

10 A. No. Staff is proposing improved guidelines that are designed to be more
11 beneficial to the company and MGU's customers. Appropriate hedging
12 guidelines must incorporate effective fixed-price targets, but the utility must
13 retain the discretion to determine how to meet the targets. Staff is recommending
14 the level of the fixed-price targets for an effective gas portfolio, but not how
15 MGU should choose to meet the Gas Purchase Guidelines. The reasonableness
16 and prudence of the company's approach to meeting the fixed-price targets will be
17 reviewed in the reconciliation.

18 Q. Would you describe the objectives of an appropriate gas-price hedging guideline
19 for MGU?

20 A. The first objective is to obtain a minimum level of fixed-price purchases of 50%
21 of winter flowing supply before the beginning of the winter heating season. The
22 second objective is to create greater diversity in the timing of fixed-price
23 commitments by locking-in a significant portion of fixed-price supply prior to the

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beginning of the GCR annual period. Minimum fixed-price commitments, made during prior GCR periods, will have a secondary impact of increasing retail rate stability. The minimum fixed-price commitments accomplish stability by having a significant portion of the underlying supply at prices that have already been fixed before the GCR Plan filing, resulting in the ability to secure favorable market opportunities over a longer period. More importantly, these purchases will not be subject to future market volatility. Staff is also proposing two intra-period fixed-price target levels to provide increased diversity for purchases made during the GCR annual period. Lastly, Staff's intent is for MGU to exercise its discretion, and expertise, to determine how to meet the proposed minimum fixed-price purchase target levels.

Q. How do the above objectives translate into Staff's specific recommendation?

A. Staff is recommending that MGU's Gas Purchasing Guidelines be reformulated into four sequential fixed-price purchase tiers that take effect both prior to and during the GCR annual period. The first fixed-price purchase target commences on the 1st of December preceding the current GCR annual period. The second fixed-price coverage target takes place on the commencement of the GCR annual period, which is April 1st. The two remaining tiers occur on July 1st, and November 1st within the current GCR period. The numerical value of each fixed-price coverage target consists of a successively increasing percentage of remaining GCR purchases. Additionally, fixed-price coverage targets are defined within a 5% range. The December 1st and April 1st tiers are 15%-20%, and 25%-30%, respectively. Two intra-period tiers, for July 1st and November 1st consist of

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1 a July 1st fixed-price target of 40% of winter pipeline flowing supply, and a
2 November 1st target of 50% of winter pipeline flowing supply. MGU's resulting
3 portfolio, based on Staff's proposed minimum fixed-price purchase tier levels, is
4 graphically shown in Exhibit S-4, page 1. Exhibit S-4, page 2 shows the
5 calculation of the volumes used in Exhibit S-4, page 1 to illustrate MGU's supply
6 portfolio in future GCR plan cases. For each tier level, Staff assumed that the
7 fixed-price volumes would be distributed equally over the remaining months of
8 the plan period. However, MGU has the discretion to allocate the fixed-price
9 supply as appropriate, taking full advantage of opportunities presented by the
10 market, as long as the minimum targets are achieved by the specified date.

11 Q. Did Staff consider a requirement for MGU to obtain 100 percent of its gas
12 purchases on a fixed-price basis?

13 A. No. The basic principle of portfolio risk management is to create a balanced
14 portfolio of offsetting risks. Such a high level of fixed-price supply actually
15 increases the level of price risk associated with gas market volatility and takes
16 away the benefits of favorable market downturns. A supply portfolio consisting
17 of approximately 1/3 fixed-price, 1/3 storage gas, and 1/3 spot constitutes an
18 appropriate balance of risks. Under this scenario, although 2/3 of supply is
19 actually purchased on an index price basis, because of storage gas, the guideline
20 effectively results in fixing 2/3 of supply.

21 Q. Can MGU exceed the minimum fixed-price commitments?

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1 A. Yes. As market opportunities present themselves, MGU may lock-in additional
2 fixed-price supplies with adequate price signals derived from its historical quartile
3 technical indicator for purchases beyond the current GCR period.

4
5 **Multi-Input GCR Contingent Method Recommendation**

6 Q. What are Staff's recommendations regarding the calculation of GCR Contingent
7 Factors?

8 A. Staff has simplified the Multi-Input Contingent Matrix from a three-input method
9 to a two-input method based upon the fixed-price purchase targets proposed
10 above.

11 Q. Why is Staff recommending a simplified multi-input method of calculating GCR
12 contingent factors, different from what MGU proposed in its plan filing?

13 A. Staff was able to develop a simplified method of calculating NYMEX GCR
14 contingent factors based upon Staff's recommended fixed-price purchase tier
15 levels. Staff reduced the number of inputs to two, which are a summer price strip
16 for summer flowing gas and storage, and a strip of the remaining months of
17 winter flowing supply. The inputs into the GCR Contingent Matrix are described
18 in more detail by Staff witness Nora Quilico. Staff eliminated the dollar cost
19 averaging (DCA) input because MGU will have the discretion to purchase gas by
20 any method, provided that the new fixed-price coverage targets are attained as
21 outlined above.

22 Q. What is the relevant price increase that should be incorporated in the calculation
23 methodology?

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1 A. Price changes related to flowing pipeline supplies during the remaining months of
2 the GCR period are primarily composed of summer and winter flowing supply
3 and storage withdrawals. The winter flowing supply is determined by a NYMEX
4 increase or decrease in the remaining winter months, November through March,
5 of the GCR period. The cost of gas purchased during the summer injection period
6 is the primary determinant of the per-unit cost of gas withdrawn from storage
7 during the winter. Thus, the relevant price increase or decrease is the NYMEX
8 price strip for the entire summer gas-storage injection period, April through
9 October. The April through October NYMEX strip is also used to account for
10 price increases or decreases in summer flowing supply. These per-unit NYMEX
11 changes constitute a future price-event and are used to determine the incremental
12 GCR contingent factors.

13 Q. With respect to the last two quarters of the GCR period, would Staff's proposed
14 new methodology entail the use of NYMEX gas futures prices relating to the prior
15 summer injection season?

16 A. Yes. The cost of gas supplies purchased for injection into storage is not recovered
17 in the GCR cost of gas until the gas is actually withdrawn. Consequently,
18 NYMEX pricing events causing an increase or decrease in the cost of gas injected
19 into storage result in a delayed impact to the GCR cost of gas sold. The complete
20 summer strip of NYMEX prices from April through October must be used to
21 adjust the GCR factor when the gas is withdrawn.

22 Q. Why is a "Multi-Input Method" necessary to calculate GCR contingent factors?

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1 A. For a gas utility such as MGU, and in fact for all of Michigan based utilities,
2 storage withdrawals during the last two quarters can account for a large portion of
3 supply serving the winter-load requirements. A single-input method does not take
4 into account such a large component of supply; therefore, a summer run-up in
5 market prices can result in a severe understatement in the true cost of gas.
6 Conversely, in the case of a run-up in winter market prices, a single input method
7 can severely overstate the true cost of gas and thereby establish excessive GCR
8 factors, to the detriment of GCR customers.

9 Q. Does a multi-input NYMEX contingent factor methodology allow for the direct
10 statement of new price ceilings within a tariff sheet, as is true for a single input
11 method?

12 A. No. Two independent NYMEX gas price events are incorporated in the revised
13 contingent GCR price ceiling. Because Staff's proposal sets new price ceilings
14 based on independent future events, several combinations are possible. For this
15 reason, GCR contingent factors must be stated on an incremental basis. The
16 incremental GCR contingent factors are added to the base GCR factor, in order to
17 determine the new GCR price ceiling. The incremental factors are stated in fixed
18 dollar amounts per unit of gas, pursuant to the requirements of Section 6h(6) of
19 Act 304. The calculation of the multiple incremental GCR contingent factors is
20 slightly more involved than a single input method, but is easy to understand. The
21 new tariff sheet resulting from the Multi-Input method is similar in form to the
22 existing single-input GCR contingent factor tariff, and retains its essential
23 character and simplicity of use.

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1 Q. What is the recommended base GCR factor to which the incremental GCR
2 contingent factors are added?

3 A. Staff's recommended base GCR factor is \$10.1882 per Mcf, as calculated by Staff
4 witness Nora Quilico.

5 Q. What is Staff's objective in developing its Multi-Input GCR contingent factor
6 method?

7 A. The objective is to refine the method of calculating GCR contingent factors in a
8 manner that provides utilities the ability to recover increases or otherwise in
9 natural-gas market prices and avoid overstating the true cost of gas, under real-
10 world conditions, yet without undue complexity in implementing new GCR price-
11 ceilings.

12 Q. Please continue.

13 A. Since the additional cost of gas is related to a run-up in the market-price of gas,
14 incremental GCR contingent factors can be calculated as the product of a
15 fractional multiplier, F_i [MMbtu/Mcf], times the per-unit change in futures prices
16 for the relevant period. Thus: $\Delta GCRfactor_i = F_i \times \Delta NYMEX_i$.

17 Q. Are you sponsoring an exhibit containing the computation method for the
18 fractional multipliers?

19 A. Yes. Staff Exhibit S-3, page 1, summarizes the data input used to quantify the
20 quarterly fractional multipliers that will be used in the current GCR period. These
21 fractional multipliers were calculated assuming that the December 1st and April 1st
22 targets were not met, as they occurred in the past. Staff is still including the July
23 1st target of 40% of winter requirements and the November 1st target of 50% of

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1 winter requirements into the calculation of the current GCR period fractional
2 multipliers. The input data is directly taken from MGU's Plan filing, Exhibit A-7,
3 page 4 of 23. Staff Exhibit S-3, page 2, shows the calculation of the two
4 fractional multipliers for each of the four quarters. The fractional multipliers
5 from Exhibit S-3, page 2 are used by Staff witness Nora Quilico.

6 Q. Should the price ceiling be increased from the current cap of \$2.00 per MMBtu?

7 A. Yes, the current cap should be raised. The increased level of volatility in the
8 North American natural gas commodity market experienced prior to and after the
9 hurricane season of 2005, has led Staff to reconsider the current cap of \$2.00 per
10 MMBtu. Staff is recommending that GCR contingent factors be capped at a level
11 that reflects no more than a \$3.00 per MMBtu increase in NYMEX natural gas
12 futures prices. Should a severe run-up in the market beyond that reflected in the
13 cap occur, the utility may file for a re-opener under section 6h(10) of Act 304.

14 Q. Does Staff's improved method of calculating GCR contingent factors allow for
15 symmetrical application, i.e. up or down in response to increases or decreases in
16 market prices?

17 A. Staff's proposed "Multi-Input" method always takes into account the correct
18 pricing for gas storage withdrawals, and does so independently of price changes
19 related to flowing pipeline supplies during remaining winter months. Therefore,
20 the refined Multi-Input method can be implemented in a symmetrical manner.

21 Q. How would this be done?

22 A. Each quarter, incremental GCR contingent factors would be determined pursuant
23 to Staff's proposed tariff supported by Ms. Quilico. The sum of the two

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1 contingent factors and the base GCR factor constitute the new GCR price ceiling,
2 regardless of whether or not the new ceiling is higher, or lower, than the currently
3 effective price ceiling.

4 Q. Would this method ever result in a GCR price ceiling that is lower than the
5 approved base GCR factor?

6 A. No. At most, it could negate a contingent price increase that was implemented in
7 a prior quarterly adjustment, but it would never result in a price ceiling below the
8 approved base GCR factor.

9 Q. Does this conclude your testimony at this time?

10 A. Yes it does.

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EXHIBITS OF
LISA M. KINDSCHY
MICHIGAN PUBLIC SERVICE COMMISSION

May 25, 2006

MGU
Calculation of Fractional Multipliers for Staff's Multi-Input GCR Contingent Factor Method
Input Data Table for Current GCR Period

Initial Volumes (Mcf)	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
Dec 1st Tier --Minimum % of Annual Purchases	0.0%												
Net Spot	1,995,431	2,406,131	1,831,728	1,754,331	1,672,456	1,871,637	2,059,755	1,298,228	1,836,635	2,141,265	1,944,176	1,667,627	22,479,400
Price fixed before Dec 1 of Prior Plan Period	0	0	0	0	0	0	0	0	0	0	0	0	0
Purchases	1,995,431	2,406,131	1,831,728	1,754,331	1,672,456	1,871,637	2,059,755	1,298,228	1,836,635	2,141,265	1,944,176	1,667,627	22,479,400
Injections (Net)	-497,760	-1,468,531	-1,348,428	-1,294,531	-1,215,056	-1,249,037	-915,882	0	0	0	0	0	-7,989,225
Withdrawals (Net)	318,229	0	0	0	0	0	380,227	1,137,372	1,719,865	1,792,635	1,448,924	1,191,973	7,989,225
Requirements	1,815,900	937,600	483,300	459,800	457,400	622,600	1,524,100	2,435,600	3,556,500	3,933,900	3,393,100	2,859,600	22,479,400
Percent of remaining purchases @ fixed-price	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Fraction remaining summer purchases @ fixed-price as of Dec 1	0.000												
Fraction remaining winter purchases @ fixed-price as of Dec 1	0.000												
Fixed Price Supply Targets	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
APRIL 1st Tier --Minimum % of Annual Purchases	0.0%												
Additional % fixed-price purchases	0.0%												
Price fixed during Dec-March of Prior Plan Period (Mcf/month)	0	0	0	0	0	0	0	0	0	0	0	0	0
New fixed-price purchase level (Mcf)	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent of remaining purchases @ fixed-price (as of April 1)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Fraction remaining summer purchases @ fixed-price as of April 1	0.000												
Fraction remaining winter purchases @ fixed-price as of April 1	0.000												
July 1st Tier: Minimum % of Winter Purchases								40.0%					
Additional % fixed-price purchases								40.0%					
April-June fixed-price purchases (Mcf/month)								706,326	729,870	729,870	659,237	729,870	3,555,172
New fixed-price purchase level (Mcf)	0	0	0	0	0	0	0	706,326	729,870	729,870	659,237	729,870	3,555,172
Percent of remaining purchases @ fixed-price (as of July 1)				21.9%	24.5%	27.7%	32.5%	40.0%	37.5%	36.8%	38.5%	43.8%	
Fraction remaining summer purchases @ fixed-price as of July 1				0.000									
Fraction remaining winter purchases @ fixed-price as of July 1				0.400									
NOV 1st Tier Minimum % of Remaining Purchases								50.0%					
Additional % fixed-price purchases								10.0%					
July-Oct fixed-price purchases (Mcf/month)								176,581	182,467	182,467	164,809	182,467	888,793
New fixed-price purchase level (Mcf)	0	0	0	0	0	0	0	882,907	912,337	912,337	824,047	912,337	4,443,966
Percent of remaining purchases @ fixed-price (as of Nov 1)								50.0%	46.9%	46.0%	48.1%	54.7%	
Fraction remaining summer purchases @ fixed-price as of Oct 1							0.000						
Fraction remaining winter purchases @ fixed-price as of Nov 1								0.500					
Final Volumes (Mcf)	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
Final fixed-price purchases	0	0	0	0	0	0	0	882,907	912,337	912,337	824,047	912,337	4,443,966
Final Spot	1,995,431	2,406,131	1,831,728	1,754,331	1,672,456	1,871,637	2,059,755	415,321	924,298	1,228,928	1,120,129	755,290	18,035,435
Final Purchases	1,995,431	2,406,131	1,831,728	1,754,331	1,672,456	1,871,637	2,059,755	1,298,228	1,836,635	2,141,265	1,944,176	1,667,627	22,479,400
Final Injections (Net)	-497,760	-1,468,531	-1,348,428	-1,294,531	-1,215,056	-1,249,037	-915,882	0	0	0	0	0	-7,989,225
Final Withdrawals (Net)	318,229	0	0	0	0	0	380,227	1,137,372	1,719,865	1,792,635	1,448,924	1,191,973	7,989,225
Final Requirements	1,815,900	937,600	483,300	459,800	457,400	622,600	1,524,100	2,435,600	3,556,500	3,933,900	3,393,100	2,859,600	22,479,400
Fraction remaining purchases fixed as of beginning of month	0.000	0.000	0.000	0.219	0.245	0.277	0.325	0.500	0.469	0.460	0.481	0.547	19.8%

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Exhibit: S-3 (LMK-1)
Witness: Lisa M. Kindschy
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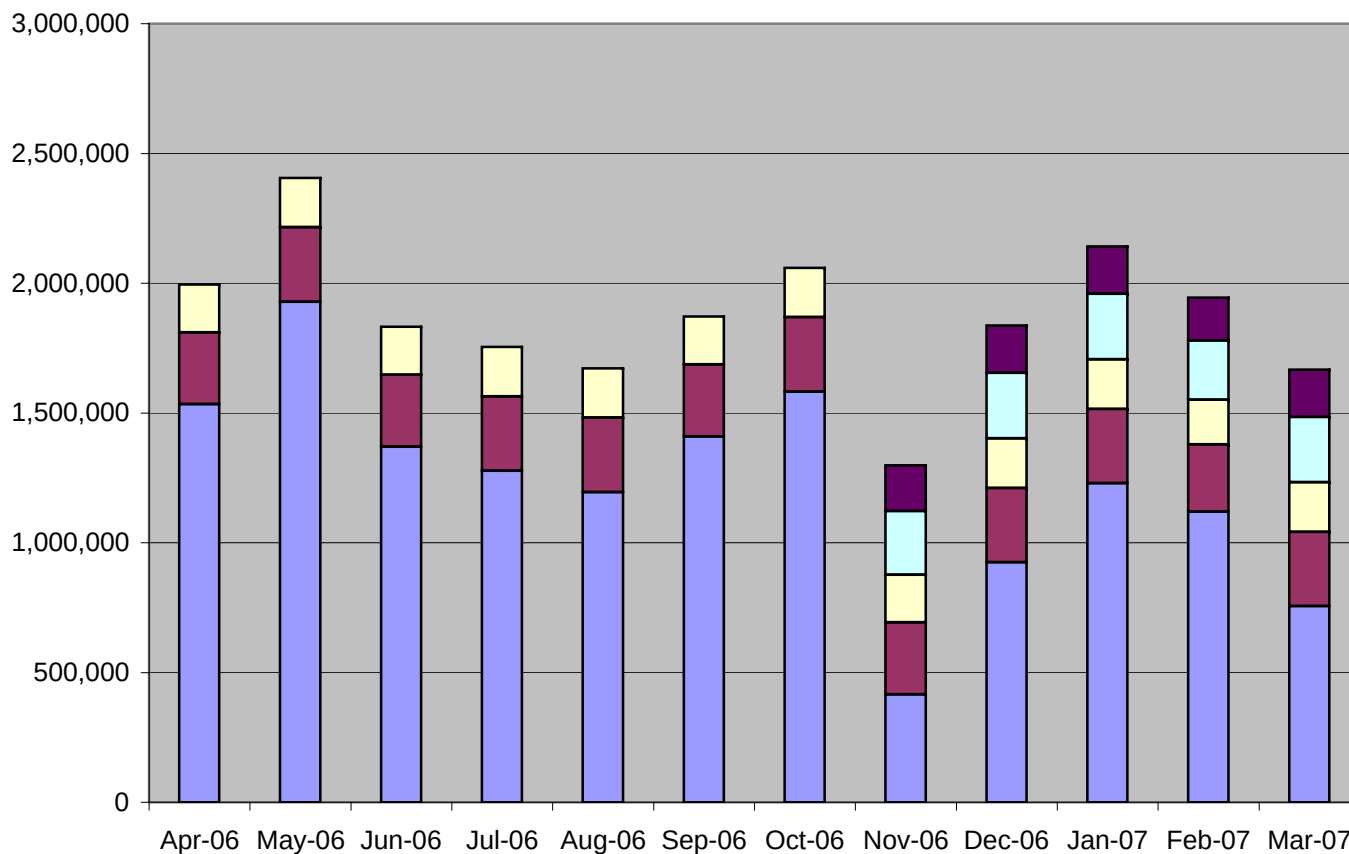
MGU

Calculation of Fractional Multipliers for Staff Multi-Input Contingent GCR Factor Method

Remaining Month Data Summary	Apr-06	Jul-06	Oct-06	Jan-07
Ps Summer purchases (Mcf Delivered)	13,591,469	7,358,179	2,059,755	0
I Storage Injections Mcf	-7,989,225	-4,674,506	-915,882	0
W Storage Withdrawals Mcf	7,989,225	7,670,996	7,670,996	4,433,532
Pw Winter Purchases (Mcf Delivered)	8,887,931	8,887,931	8,887,931	5,753,068
R Requirements Remaining Mcf	22,479,400	19,242,600	17,702,800	10,186,600
f _s fraction summer purchases @ index	1.00	1.00	1.00	0.00
f _w fraction winter purchases @ index	1.00	0.60	0.50	0.54
f _{storage} fraction total storage injections @ index	1.00			
f _{wg} fraction of working-gas inventory injected during the summer	0.93			
f _{fuel} transportation fuel	1.048			
h system-average heating value (MMbtu/Mcf @14.65dry)	1.025			
(P _s -I)*f _s /R summer flowing supply, less injections, @ index	0.249	0.139	0.065	0.000
W*(f _{storage} *f _{wg})/R winter storage withdrawals @ index	0.331	0.371	0.403	0.405
(P _w *f _w)/R winter flowing supply @ index	0.395	0.277	0.251	0.305
fixed-price supply	0.025	0.212	0.281	0.290
(Σ F) = fraction remaining requirements	1.000	1.000	1.000	1.000
Fractional Multipliers (index supply)				
F _{summer} = [(P _s -I)*f _s /R]*f _{fuel} *h	0.268	0.150	0.069	0.000
F _{storage} = [W*f _{storage} /R]*f _{fuel} *h	0.355	0.398	0.433	0.435
F _{winter} = [P _w *f _w /R]*f _{fuel} *h	0.425	0.298	0.270	0.327
(Σ F)	1.047	0.846	0.772	0.762
Combined Fractional Multipliers				
F _{summer /storage withdraw} = [(P _s -I)*f _s /R + (W*f _{storage} /R)*f _{wg}]*f _{fuel} *h	0.623	0.548	0.502	0.435
F _{winter} = (P _w *f _w)/R*f _{fuel} *h	0.425	0.298	0.270	0.327
(Σ F)	1.047	0.846	0.772	0.762

Case No.: U-14715
Exhibit: S-4 (LMK-2)
Witness: Lisa M. Kindschy
Date: May 25, 2006
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MGU Gas Portfolio Under Staff's Proposed Fixed-Price Purchase Tier Guidelines for Future GCR Periods



	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07
■ July-Oct fixed-price purchases (Mcf/month)								176,581	182,467	182,467	164,809	182,467
■ April-June fixed-price purchases (Mcf/month)								244,420	252,568	252,568	228,125	252,568
■ Price fixed during Dec-March of Prior Plan Period (Mcf/month)	184,762	190,921	184,762	190,921	190,921	184,762	190,921	184,762	190,921	190,921	172,445	190,921
■ Price fixed before Dec 1 of Prior Plan Period	277,143	286,381	277,143	286,381	286,381	277,143	286,381	277,143	286,381	286,381	258,667	286,381
■ Net Spot	1,533,526	1,928,829	1,369,823	1,277,029	1,195,154	1,409,732	1,582,453	415,321	924,298	1,228,928	1,120,129	755,290

MGU
Proposed Gas Portfolio Using Staff's Fixed-Price Purchase Tier Guidelines
Minimum Tier Volumes for Future GCR Periods

Initial Volumes (Plan Filing) (Mcf)	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
Dec 1st Tier --Minimum % of Annual Purchases	15.0%												
Net Spot	1,718,288	2,119,750	1,554,585	1,467,950	1,386,075	1,594,494	1,773,374	1,021,085	1,550,254	1,854,884	1,685,509	1,381,246	19,107,490
Price fixed before Dec 1 of Prior Plan Period	277,143	286,381	277,143	286,381	286,381	277,143	286,381	277,143	286,381	286,381	258,667	286,381	3,371,910
Injections (Net)	-497,760	-1,468,531	-1,348,428	-1,294,531	-1,215,056	-1,249,037	-915,882	0	0	0	0	0	-7,989,225
Withdrawals (Net)	318,229	0	0	0	0	0	380,227	1,137,372	1,719,865	1,792,635	1,448,924	1,191,973	7,989,225
Purchases	1,995,431	2,406,131	1,831,728	1,754,331	1,672,456	1,871,637	2,059,755	1,298,228	1,836,635	2,141,265	1,944,176	1,667,627	22,479,400
Requirements	1,815,900	937,600	483,300	459,800	457,400	622,600	1,524,100	2,435,600	3,556,500	3,933,900	3,393,100	2,859,600	22,479,400
Percent of remaining purchases @ fixed-price	15.0%	15.1%	15.5%	15.6%	15.5%	15.3%	15.4%	15.7%	14.7%	14.5%	15.1%	17.2%	
Fraction remaining summer purchases @ fixed-price as of Dec 1	0.145												
Fraction remaining winter purchases @ fixed-price as of Dec 1	0.157												
Fixed Price Supply Targets	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
APRIL 1st Tier --Minimum % of Annual Purchases	25.0%												
Additional % fixed-price purchases	10.0%												
Price fixed during Dec-March of Prior Plan Period (Mcf/month)	184,762	190,921	184,762	190,921	190,921	184,762	190,921	184,762	190,921	190,921	172,445	190,921	2,247,940
New fixed-price purchase level (Mcf)	461,905	477,302	461,905	477,302	477,302	461,905	477,302	461,905	477,302	477,302	431,112	477,302	5,619,850
Percent of remaining purchases @ fixed-price (as of April 1)	25.0%	25.2%	25.9%	26.0%	25.8%	25.5%	25.6%	26.2%	24.5%	24.1%	25.2%	28.6%	
Fraction remaining summer purchases @ fixed-price as of April 1	0.242												
Fraction remaining winter purchases @ fixed-price as of April 1	0.262												
July 1st Tier: Minimum % of Winter Purchases								40.0%					
Additional % fixed-price purchases								13.8%					
April-June fixed-price purchases (Mcf/month)								244,420	252,568	252,568	228,125	252,568	1,230,248
New fixed-price purchase level (Mcf)	461,905	477,302	461,905	477,302	477,302	461,905	477,302	706,326	729,870	729,870	659,237	729,870	5,448,985
Percent of remaining purchases @ fixed-price (as of July 1)				33.5%	34.3%	35.1%	36.8%	40.0%	37.5%	36.8%	38.5%	43.8%	
Fraction remaining summer purchases @ fixed-price as of July 1				0.257									
Fraction remaining winter purchases @ fixed-price as of July 1				0.400									
NOV 1st Tier: Minimum % of Winter Purchases								50.0%					
Additional % fixed-price purchases								10.0%					
July-Oct fixed-price purchases (Mcf/month)								176,581	182,467	182,467	164,809	182,467	888,793
New fixed-price purchase level (Mcf)	461,905	477,302	461,905	477,302	477,302	461,905	477,302	882,907	912,337	912,337	824,047	912,337	4,443,966
Percent of remaining purchases @ fixed-price (as of Nov 1)								50.0%	46.9%	46.0%	48.1%	54.7%	
Fraction remaining summer purchases @ fixed-price as of Oct 1							0.232						
Fraction remaining winter purchases @ fixed-price as of Nov 1								0.500					
Final Volumes (Mcf)	Apr-06	May-06	Jun-06	Jul-06	Aug-06	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Total
Final fixed-price purchases	461,905	477,302	461,905	477,302	477,302	461,905	477,302	882,907	912,337	912,337	824,047	912,337	7,738,891
Final Spot	1,533,526	1,928,829	1,369,823	1,277,029	1,195,154	1,409,732	1,582,453	415,321	924,298	1,228,928	1,120,129	755,290	14,740,509
Final Purchases	1,995,431	2,406,131	1,831,728	1,754,331	1,672,456	1,871,637	2,059,755	1,298,228	1,836,635	2,141,265	1,944,176	1,667,627	22,479,400
Final Injections (Net)	-497,760	-1,468,531	-1,348,428	-1,294,531	-1,215,056	-1,249,037	-915,882	0	0	0	0	0	-7,989,225
Final Withdrawals (Net)	318,229	0	0	0	0	0	380,227	1,137,372	1,719,865	1,792,635	1,448,924	1,191,973	7,989,225
Final Requirements	1,815,900	937,600	483,300	459,800	457,400	622,600	1,524,100	2,435,600	3,556,500	3,933,900	3,393,100	2,859,600	22,479,400
Fraction remaining purchases fixed as of beginning of month	0.250	0.252	0.259	0.335	0.343	0.351	0.368	0.500	0.469	0.460	0.481	0.547	34.4%

S T A T E O F M I C H I G A N
B E F O R E T H E M I C H I G A N P U B L I C S E R V I C E C O M M I S S I O N

* * * *

In the matter of the application of	)	
Michigan Gas Utility Corporation	)	
for authority to implement a gas cost	)	Case No. U- 14715
recovery plan and factors for the	)	
12-month period ending March 31, 2007	)	
	)	

Q U A L I F I C A T I O N S A N D D I R E C T T E S T I M O N Y O F

N O R A B . Q U I L I C O

M I C H I G A N P U B L I C S E R V I C E C O M M I S S I O N

May 25, 2006

QUALIFICATIONS OF NORA B. QUILICO
CASE NUMBER U-14715
PART I

1 Q. Please state your name and business address.

2 A. My name is Nora B. Quilico, and my business address is 6545 Mercantile Way,
3 Lansing, Michigan 48911.

4 Q. Ms. Quilico, where are you currently employed and in what position?

5 A. I am employed by the Michigan Public Service Commission (MPSC) as a Public
6 Utilities Engineer. I began my employment at the MPSC on September 27, 2004.

7 Q. What are your responsibilities with respect to the Michigan Gas Cost Recovery
8 Program (GCR)?

9 A. I perform technical analysis and prepare appropriate spreadsheets in GCR case
10 proceedings. This analysis leads to the development of Staff's positions and
11 recommendations regarding GCR plan and reconciliation cases.

12 Q. Would you outline your background and work experience?

13 A. I obtained a Bachelor of Science degree in Mechanical Engineering, with honors,
14 from Michigan State University, in December 2003. I was awarded the
15 Mechanical Engineering Department Scholarship for two semesters.
16 Prior to my employment at the MPSC, I worked for Saginaw County Mosquito
17 Abatement Commission (SCMAC). During my tenure with the SCMAC, I was
18 responsible for surveying and drafting sites where future construction projects
19 were being planned. Since being hired at the Michigan Public Service
20 Commission, I have successfully completed the Gas Technology Institute's Gas
21 Distribution Operation Course, and attended the two week NARUC (National
22 Association of Regulatory Utility Commissioners) session sponsored by the
23 Institute of Public Utilities at Michigan State University. I have filed testimony in

QUALIFICATIONS OF NORA B. QUILICO
CASE NUMBER U-14715
PART I

1 several GCR plan cases including Michigan Consolidated Gas' 2005-2006 plan
2 case, U-14401, Consumers' 2005-2006 plan case, U-14403, and Aquila's 2005-
3 2006 plan case, U-14400. I also testified in Michigan Consolidated Gas' 2005-
4 2006 GCR plan case, with respect to issues related to the use of the contingency
5 matrix. In April 2006 I attended a seminar sponsored by New Energy entitled
6 "How to Manage Your Gas Supply Portfolio in an Uncertain Gas Market." The
7 Seminar focused on hedging strategies and ways to reduce volatility when buying
8 natural gas.

DIRECT TESTIMONY OF NORA B. QUILICO
CASE NUMBER U-14715
PART II

1 Q. What is the purpose of your testimony in this proceeding?

2 A. The purpose of my testimony is to present the new GCR base factor calculated by
3 Staff and the Multi-Input Incremental GCR Contingent Factor Tariff.

4 Q. Are you sponsoring any exhibits in connection with your testimony?

5 A. Yes, I am sponsoring two exhibits:

6 Exhibit S-1 (NBQ-1) Incremental GCR Contingent Matrix Tariff Sheet

7 Exhibit S-2 (NBQ-2) New Base GCR Factor Calculation

8 Q. Were these exhibits prepared by you?

9 A. Yes, I was responsible for calculating the new GCR base factor using the most
10 current NYMEX strips (last 5 trading days in April) and assembling the Multi-
11 Input contingent matrix tariff sheet. The theoretical work done to create the new
12 Multi-Input fractional multipliers was performed by Staff witness, Lisa Kindschy
13 and myself.

14 Q. How was the new GCR base factor for MGU (formerly Aquila Networks)
15 calculated?

16 A. Using the company's plan filing Staff calculated new Summer and Winter
17 fractional multipliers (Exhibit S-3) for the contingency matrix. These multipliers
18 are based on the amount of fixed price supply the company secured, and will have
19 secured by November 2006, the amount of storage gas withdrawn, the index
20 based supply, and their required purchases. The first quarter fractional multipliers
21 were subsequently used to adjust the original base factor of \$12.2964/Mcf (which
22 only includes the projected cost of gas stated in Dave Tyler's testimony) down to
23 a new base factor of \$10.1882/Mcf.

DIRECT TESTIMONY OF NORA B. QUILICO
CASE NUMBER U-14715
PART II

1 Q. What is the basis for the downward adjustment of the Company's originally filed
2 base GCR factor?

3 A. MGU filed its plan case in December 2005. This filing used the April 2006-
4 March 2007 NYMEX strip averages from the first five trading days in December
5 2005 to calculate the base factor. At that time, gas prices were very high
6 following the hurricanes. Staff adjusted the original GCR factor down by using
7 the April 2006-March 2007 NYMEX strip averages from the last five trading days
8 in April 2006. To do this, the "December 2005" and "April 2006" Summer
9 (April-October 2006) and Winter (November-March 2007) strips were calculated
10 using the five day averages mentioned above. The differences in the summer
11 strips and the winter strips were calculated for the April 2006 and December 2005
12 NYMEX price averages. The absolute values of the differences were then
13 plugged into the new Multi-Input contingency matrix for the first quarter
14 adjustment.

15 Q. What was the result of this procedure?

16 A. This process resulted in a summer adjustment of -\$2.0248 and winter adjustment
17 of -\$0.2763. The adjustments are negative because the change in the NYMEX
18 summer and winter strips are negative, reflecting reduced natural gas prices
19 experienced from December 2005 to April 2006. The adjustments are then added
20 to the original base factor. This calculation is shown on exhibit S-2 (NBQ-2).

21 Q. Were there any other adjustments made to the original base factor of \$12.2964?

22 A. Yes, MGU ended the prior year with a \$4,280,233 under-recovery. This dollar
23 amount obtained from MGU's March 2006 45-day report was divided by the

DIRECT TESTIMONY OF NORA B. QUILICO
CASE NUMBER U-14715
PART II

1 projected 2006-2007 sales volume, and then added to the original base factor
2 along with the other adjustments listed. It added \$0.1928/Mcf to the factor and
3 the new base factor is \$10.1882/Mcf.

4 Q. How is this new GCR base factor to be used?

5 A. Any adjustments resulting from the new Multi-Input contingency matrix will be
6 made to this base factor. Pursuant to the Commission order in MGU's plan case,
7 U-13990; contingent factors must be applied in a symmetric manner reflecting
8 both increases and decreases in the NYMEX prices. But, in no instance will this
9 result in the new factor being lower than the Commission approved base GCR
10 factor.

11 Q. How are adjustments using the new Multi-Input contingency matrix calculated?

12 A. On the contingent matrix (Exhibit S-1 (NBQ-1)), there are Summer and Winter
13 strip averages labeled "Plan NYMEX." These are now the updated averages of
14 NYMEX data from the last five trading days in April 2006, the same averages
15 that were used to calculate Staff's proposed base factor, not the averages of
16 NYMEX price data used by the company in its original plan filing. To make an
17 adjustment, the current Summer and Winter NYMEX strip averages are
18 calculated using five day averages from the first five trading days of the month
19 prior to implementation of the adjustment. The difference between the current
20 NYMEX Summer and Winter strips and the "Plan NYMEX" strips are calculated.
21 These differences are used to locate incremental Summer and Winter adjustments
22 on the matrix. The two adjustments are added to the base GCR factor of
23 \$10.1882/Mcf.

DIRECT TESTIMONY OF NORA B. QUILICO
CASE NUMBER U-14715
PART II

1 Q. How are the current Summer and Winter NYMEX strip averages calculated when
2 the company makes a quarterly adjustment?

3 A. The Summer NYMEX strip average is calculated using an average of five days of
4 NYMEX data for the seven summer months (April-October 2006). Final closing
5 prices will be used for summer months that are no longer trading. For example,
6 when making a July adjustment the final closing price for April, May, and June
7 will be used when calculating the average. This is done because the summer strip
8 is used to adjust the price of storage gas in addition to flowing summer supplies.
9 Storage gas is injected throughout the entire summer; as a result the price of gas
10 for months that are no longer trading is needed because these months have an
11 effect on the price of gas in storage. The Winter NYMEX strip average
12 (November-March 2007) is calculated using a five day average of NYMEX price
13 data for the remaining winter months left in the plan year. For example, a January
14 adjustment would use NYMEX price data for January through March.

15 Q. How often are these adjustments to be made?

16 A. These adjustments are to be made every quarter for the four quarters of the plan
17 period. An adjustment is to be made regardless of whether the adjustment
18 increases or decreases the factor from last quarters' maximum allowable factor.
19 The adjustments can move the maximum allowable factor up or down from one
20 quarter to the next, but the GCR factor can not fall below the base factor of
21 \$10.1882/Mcf. Recalculation of the maximum allowable GCR factor every
22 quarter complies with the Commission's requirement for symmetry.

DIRECT TESTIMONY OF NORA B. QUILICO
CASE NUMBER U-14715
PART II

1 Q. What is the maximum contingent increase allowed by the matrix and
2 recommended by staff?

3 A. The matrix would allow for a maximum \$3.00 increase in the NYMEX strip
4 prices. That amount is recommended by Staff as explained by Staff witness Lisa
5 Kindschy. Any increases to the GCR factor desired beyond the \$3.00 cap on the
6 contingency matrix would require the company to file a re-opener of the plan case
7 under section 6h(10) of Act 304.

8 Q. Does this conclude your testimony at this time?

9 A. Yes, it does.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * *

In the matter of the application of	)	
Michigan Gas Utility Corporation	)	
for authority to implement a gas cost	)	Case No. U- 14715
recovery plan and factors for the	)	
12-month period ending March 31, 2007	)	
	)	

EXHIBITS OF
NORA B. QUILICO
MICHIGAN PUBLIC SERVICE COMMISSION

May 25, 2006

	April-June 1st Q		July-Sept 2nd Q		Oct-Dec 3rd Q		Jan-Mar 4th Q	
	Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
	April-Oct	Nov-Mar	April-Oct	Nov-Mar	April-Oct	Nov-Mar	April-Oct	Jan-Mar
Fractional Mult. F_m	0.623	0.425	0.548	0.298	0.502	0.270	0.435	0.327
Plan NYMEX (X_{plan})	\$7.5310	\$11.1193	\$7.5310	\$11.1193	\$7.5310	\$11.1193	\$7.5310	\$11.6835
Base GCR Factor	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882
NYMEX Increase Greater than But Less Or Equal to than	Incremental Contingent GCR Factor \$/Mcf							
\$0.00	\$0.05	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000	\$0.0000
\$0.05	\$0.10	\$0.0312	\$0.0213	\$0.0274	\$0.0149	\$0.0251	\$0.0135	\$0.0218
\$0.10	\$0.15	\$0.0623	\$0.0425	\$0.0548	\$0.0298	\$0.0502	\$0.0270	\$0.0435
\$0.15	\$0.20	\$0.0935	\$0.0638	\$0.0822	\$0.0447	\$0.0753	\$0.0405	\$0.0653
\$0.20	\$0.25	\$0.1246	\$0.0850	\$0.1096	\$0.0596	\$0.1004	\$0.0540	\$0.0870
\$0.25	\$0.30	\$0.1558	\$0.1063	\$0.1370	\$0.0745	\$0.1255	\$0.0675	\$0.1088
\$0.30	\$0.35	\$0.1869	\$0.1275	\$0.1644	\$0.0894	\$0.1506	\$0.0810	\$0.1305
\$0.35	\$0.40	\$0.2181	\$0.1488	\$0.1918	\$0.1043	\$0.1757	\$0.0945	\$0.1523
\$0.40	\$0.45	\$0.2492	\$0.1700	\$0.2192	\$0.1192	\$0.2008	\$0.1080	\$0.1740
\$0.45	\$0.50	\$0.2804	\$0.1913	\$0.2466	\$0.1341	\$0.2259	\$0.1215	\$0.1958
\$0.50	\$0.55	\$0.3115	\$0.2125	\$0.2740	\$0.1490	\$0.2510	\$0.1350	\$0.2175
\$0.55	\$0.60	\$0.3427	\$0.2338	\$0.3014	\$0.1639	\$0.2761	\$0.1485	\$0.2393
\$0.60	\$0.65	\$0.3738	\$0.2550	\$0.3288	\$0.1788	\$0.3012	\$0.1620	\$0.2610
\$0.65	\$0.70	\$0.4050	\$0.2763	\$0.3562	\$0.1937	\$0.3263	\$0.1755	\$0.2828
\$0.70	\$0.75	\$0.4361	\$0.2975	\$0.3836	\$0.2086	\$0.3514	\$0.1890	\$0.3045
\$0.75	\$0.80	\$0.4673	\$0.3188	\$0.4110	\$0.2235	\$0.3765	\$0.2025	\$0.3263
\$0.80	\$0.85	\$0.4984	\$0.3400	\$0.4384	\$0.2384	\$0.4016	\$0.2160	\$0.3480
\$0.85	\$0.90	\$0.5296	\$0.3613	\$0.4658	\$0.2533	\$0.4267	\$0.2295	\$0.3698
\$0.90	\$0.95	\$0.5607	\$0.3825	\$0.4932	\$0.2682	\$0.4518	\$0.2430	\$0.3915
\$0.95	\$1.00	\$0.5919	\$0.4038	\$0.5206	\$0.2831	\$0.4769	\$0.2565	\$0.4133
\$1.00	\$1.05	\$0.6230	\$0.4250	\$0.5480	\$0.2980	\$0.5020	\$0.2700	\$0.4350
\$1.05	\$1.10	\$0.6542	\$0.4463	\$0.5754	\$0.3129	\$0.5271	\$0.2835	\$0.4568
\$1.10	\$1.15	\$0.6853	\$0.4675	\$0.6028	\$0.3278	\$0.5522	\$0.2970	\$0.4785
\$1.15	\$1.20	\$0.7165	\$0.4888	\$0.6302	\$0.3427	\$0.5773	\$0.3105	\$0.5003
\$1.20	\$1.25	\$0.7476	\$0.5100	\$0.6576	\$0.3576	\$0.6024	\$0.3240	\$0.5220
\$1.25	\$1.30	\$0.7788	\$0.5313	\$0.6850	\$0.3725	\$0.6275	\$0.3375	\$0.5438
\$1.30	\$1.35	\$0.8099	\$0.5525	\$0.7124	\$0.3874	\$0.6526	\$0.3510	\$0.5655
\$1.35	\$1.40	\$0.8411	\$0.5738	\$0.7398	\$0.4023	\$0.6777	\$0.3645	\$0.5873
\$1.40	\$1.45	\$0.8722	\$0.5950	\$0.7672	\$0.4172	\$0.7028	\$0.3780	\$0.6090
\$1.45	\$1.50	\$0.9034	\$0.6163	\$0.7946	\$0.4321	\$0.7279	\$0.3915	\$0.6308
\$1.50	\$1.55	\$0.9345	\$0.6375	\$0.8220	\$0.4470	\$0.7530	\$0.4050	\$0.6525
\$1.55	\$1.60	\$0.9657	\$0.6588	\$0.8494	\$0.4619	\$0.7781	\$0.4185	\$0.6743
\$1.60	\$1.65	\$0.9968	\$0.6800	\$0.8768	\$0.4768	\$0.8032	\$0.4320	\$0.6960
\$1.65	\$1.70	\$1.0280	\$0.7013	\$0.9042	\$0.4917	\$0.8283	\$0.4455	\$0.7178
\$1.70	\$1.75	\$1.0591	\$0.7225	\$0.9316	\$0.5066	\$0.8534	\$0.4590	\$0.7395
\$1.75	\$1.80	\$1.0903	\$0.7438	\$0.9590	\$0.5215	\$0.8785	\$0.4725	\$0.7613
\$1.80	\$1.85	\$1.1214	\$0.7650	\$0.9864	\$0.5364	\$0.9036	\$0.4860	\$0.7830
\$1.85	\$1.90	\$1.1526	\$0.7863	\$1.0138	\$0.5513	\$0.9287	\$0.4995	\$0.8048
\$1.90	\$1.95	\$1.1837	\$0.8075	\$1.0412	\$0.5662	\$0.9538	\$0.5130	\$0.8265
\$1.95	\$2.00	\$1.2149	\$0.8288	\$1.0686	\$0.5811	\$0.9789	\$0.5265	\$0.8483

NYMEX Increase = (X - X_{plan})

X = the simple average of the actual NYMEX monthly natural gas futures contract prices, (\$/MMbtu), for the entire summer (Apr-Oct) closing prices should be used for summer months that are no longer trading, and remaining winter (Nov-Mar) months of the GCR period, (averaged over first five trading days of the month prior to implementation).

X_{plan} = the NYMEX average summer and winter strips incorporated in the calculation of the base GCR factor, as delineated in the above chart.

At least fifteen days before the beginning of each quarter, the company shall file with the Michigan Public Service Commission an updated Tariff Sheet No. 16, if NYMEX futures prices increase to a level allowing for the implementation of a higher contingent GCR price ceiling. The informational filing shall include all supporting documents necessary to verify the new price ceiling, including a copy of the calculation of the five-day average of the NYMEX strip for the remaining months of the GCR period, and a copy of the NYMEX futures prices sheets for the first five trading days of the month, such sheets being an authoritative source used by the gas industry. The filing shall be incorporated into the GCR Plan docket U-14715 with notice of filing provided to all interveners.

		April-June 1st Q		July-Sept 2nd Q		Oct-Dec 3rd Q		Jan-Mar 4th Q	
		Summer	Winter	Summer	Winter	Summer	Winter	Summer	Winter
		April-Oct	Nov-Mar	April-Oct	Nov-Mar	April-Oct	Nov-Mar	April-Oct	Jan-Mar
Fractional Mult. F_m		0.623	0.425	0.548	0.298	0.502	0.270	0.435	0.327
Plan NYMEX (X_{plan})		\$7.5310	\$11.1193	\$7.5310	\$11.1193	\$7.5310	\$11.1193	\$7.5310	\$11.6835
Base GCR Factor		\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882	\$10.1882
NYMEX Increase Greater than But Less Or Equal to than		Incremental Contingent GCR Factor \$/Mcf							
\$2.00	\$2.05	\$1.2460	\$0.8500	\$1.0960	\$0.5960	\$1.0040	\$0.5400	\$0.8700	\$0.6540
\$2.05	\$2.10	\$1.2772	\$0.8713	\$1.1234	\$0.6109	\$1.0291	\$0.5535	\$0.8918	\$0.6704
\$2.10	\$2.15	\$1.3083	\$0.8925	\$1.1508	\$0.6258	\$1.0542	\$0.5670	\$0.9135	\$0.6867
\$2.15	\$2.20	\$1.3395	\$0.9138	\$1.1782	\$0.6407	\$1.0793	\$0.5805	\$0.9353	\$0.7031
\$2.20	\$2.25	\$1.3706	\$0.9350	\$1.2056	\$0.6556	\$1.1044	\$0.5940	\$0.9570	\$0.7194
\$2.25	\$2.30	\$1.4018	\$0.9563	\$1.2330	\$0.6705	\$1.1295	\$0.6075	\$0.9788	\$0.7358
\$2.30	\$2.35	\$1.4329	\$0.9775	\$1.2604	\$0.6854	\$1.1546	\$0.6210	\$1.0005	\$0.7521
\$2.35	\$2.40	\$1.4641	\$0.9987	\$1.2878	\$0.7003	\$1.1797	\$0.6345	\$1.0223	\$0.7685
\$2.40	\$2.45	\$1.4952	\$1.0200	\$1.3152	\$0.7152	\$1.2048	\$0.6480	\$1.0440	\$0.7848
\$2.45	\$2.50	\$1.5264	\$1.0413	\$1.3426	\$0.7301	\$1.2299	\$0.6615	\$1.0658	\$0.8011
\$2.50	\$2.55	\$1.5575	\$1.0625	\$1.3700	\$0.7450	\$1.2550	\$0.6750	\$1.0875	\$0.8175
\$2.55	\$2.60	\$1.5887	\$1.0838	\$1.3974	\$0.7599	\$1.2801	\$0.6885	\$1.1093	\$0.8338
\$2.60	\$2.65	\$1.6198	\$1.1050	\$1.4248	\$0.7748	\$1.3052	\$0.7020	\$1.1310	\$0.8502
\$2.65	\$2.70	\$1.6510	\$1.1263	\$1.4522	\$0.7897	\$1.3303	\$0.7155	\$1.1528	\$0.8665
\$2.70	\$2.75	\$1.6821	\$1.1475	\$1.4796	\$0.8046	\$1.3554	\$0.7290	\$1.1745	\$0.8829
\$2.75	\$2.80	\$1.7133	\$1.1688	\$1.5070	\$0.8195	\$1.3805	\$0.7425	\$1.1963	\$0.8992
\$2.80	\$2.85	\$1.7444	\$1.1900	\$1.5344	\$0.8344	\$1.4056	\$0.7560	\$1.2180	\$0.9156
\$2.85	\$2.90	\$1.7756	\$1.2113	\$1.5618	\$0.8493	\$1.4307	\$0.7695	\$1.2398	\$0.9319
\$2.90	\$2.95	\$1.8067	\$1.2325	\$1.5892	\$0.8642	\$1.4558	\$0.7830	\$1.2615	\$0.9483
\$2.95	\$3.00	\$1.8379	\$1.2538	\$1.6166	\$0.8791	\$1.4809	\$0.7965	\$1.2833	\$0.9646

$$\text{NYMEX Increase} = (\underline{X} - \underline{X}_{\text{plan}})$$

X = the simple average of the actual NYMEX monthly natural gas futures contract prices, (\$/MMBtu), for the entire summer (Apr-Oct) closing prices should be used for summer months that are no longer trading, and remaining winter (Nov-Mar) months of the GCR period, (averaged over first five trading days of the month prior to implementation).

X_{plan} = the NYMEX average summer and winter strips incorporated in the calculation of the base GCR factor, as delineated in the above chart.

At least fifteen days before the beginning of each quarter, the company shall file with the Michigan Public Service Commission an updated Tariff Sheet No. 16, if NYMEX futures prices increase to a level allowing for the implementation of a higher contingent GCR price ceiling. The informational filing shall include all supporting documents necessary to verify the new price ceiling, including a copy of the calculation of the five-day average of the NYMEX strip for the remaining months of the GCR period, and a copy of the NYMEX futures prices sheets for the first five trading days of the month, such sheets being an authoritative source used by the gas industry. The filing shall be incorporated into the GCR Plan docket U-14715 with notice of filing provided to all interveners.

Case No.: U-14715
Exhibit: S-2 (NBQ-2)
Witness: NBQuilico
Date: May 25, 2006
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Staff's Proposed Base Factor Calculation

<u>Summer</u>	<u>Dec-05</u>	<u>Company</u> <u>Dec Ave</u>	<u>Apr-06</u>	<u>Staff</u> <u>Apr Ave</u>	<u>Difference</u>	<u>Adjustment</u>	<u>2005-2006</u> <u>Under-Collection</u>	<u>\$/Mcf</u> <u>Old Base</u>
Apr-06	\$10.934	\$10.7947	\$7.233	\$7.5310	-\$3.264	-\$2.0248	\$4,280,233	\$12.2964
May-06	\$10.692		\$7.198					
Jun-06	\$10.724		\$7.174					
Jul-06	\$10.764		\$7.423				2006-2007 Sales <u>Volume (Mcf)</u>	Total <u>Adjustments</u>
Aug-06	\$10.807		\$7.661				22,201,100	-\$2.3010
Sep-06	\$10.799		\$7.884					
Oct-06	\$10.843		\$8.143					Under- <u>Collection</u>
<u>Winter</u>								<u>\$0.1928</u>
Nov-06	\$11.309	\$11.816	\$9.582	\$11.1193	-\$0.697	-\$0.2763		
Dec-06	\$11.769		\$10.964					
Jan-07	\$12.144		\$11.748	\$11.6835				<u>New Base</u>
Feb-07	\$12.080		\$11.747					\$10.1882
Mar-07	\$11.777		\$11.555					

	<u>Mon</u> <u>4/24/2006</u>	<u>Tue</u> <u>4/25/2006</u>	<u>Wed</u> <u>4/26/2006</u>	<u>Thu</u> <u>4/27/2006</u>	<u>Fri</u> <u>4/28/2006</u>	<u>Average</u>	
Apr-07						7.233	Close
May-07						7.198	Close
Jun-07	7.786	7.455	7.271	6.805	6.555	7.174	
Jul-07	8.031	7.705	7.521	7.05	6.81	7.423	
Aug-07	8.246	7.94	7.771	7.295	7.055	7.661	
Sep-07	8.448	8.155	7.994	7.525	7.298	7.884	
Oct-07	8.658	8.375	8.234	7.785	7.663	8.143	
Nov-07	10.018	9.795	9.684	9.28	9.133	9.582	
Dec-07	11.298	11.15	11.064	10.725	10.583	10.964	
Jan-08	12.063	11.94	11.864	11.515	11.358	11.748	
Feb-08	12.058	11.94	11.859	11.515	11.365	11.747	
Mar-08	11.863	11.75	11.669	11.325	11.168	11.555	

* The December 2005 NYMEX strip numbers are averages based on the first five trading days in December.

MGU used these averages in their plan case filing for calculation of the original base factor.

** The April 2006 Nymex strip numbers are averages based on the last five trading days in April.

These averages were used by Staff to calculate the new base factor.

STATE OF MICHIGAN
BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

* * * * *

STATE OF MICHIGAN	)	
	)	Case No. U-14715
County of Ingham	)	

PROOF OF SERVICE

Angela Castle, being duly sworn, deposes and says that on May 25, 2006, A.D. she served a copy of the attached MPSC Testimony and Exhibits, by mailing copies thereof by first class mail, postage prepaid, or by inter-departmental mail, to the persons as shown on the attached service list.

Angela Castle Angela Castle	Digitally signed by Angela Castle DN: CN = Angela Castle, C = US, O = Michigan Public Service Commission, OU = Regulated Energy Division Date: 2006.05.25 11:15:50 -04'00'
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Subscribed to before me this
25th day of May 2006, A.D.

Sharron A. Allen 	Digitally signed by Sharron A. Allen DN: cn=Sharron A. Allen, c=US, o=MPSC, ou=Case Management, email=saallen@michigan.gov Date: 2006.05.25 11:44:48 -04'00'
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Notary Public Ingham County, Michigan
My Commission expires August 16, 2011

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U-14715

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