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 authority to increase retail natural gas rates.	))))	Case No. U-15990

DIRECT TESTIMONY OF

HARRY W. JOHNS

FOR

MICHIGAN GAS UTILITIES CORPORATION

July 1, 2009

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QUALIFICATIONS
OF
HARRY W. JOHNS
PART I

Q. Please state your name, position and business address.

A. My name is Harry W. Johns. My business address is Integrys Energy Group, Inc. ("Integrys"), 700 North Adams Street, P.O. Box 19001, Green Bay, WI 54307-9001. I am a Senior Load Forecaster in the Budgets and Forecasts Department of Integrys. Michigan Gas Utilities Corporation ("MGUC") is a wholly-owned subsidiary of Integrys. Integrys resulted from the February 21, 2007 merger between WPS Resources Corporation and Peoples Energy Corporation.

Q. For whom are you providing testimony?

A. I am providing testimony on behalf of Michigan Gas Utilities Corporation.

Q. Please describe briefly your educational, professional, and utility background.

A. I hold a PhD Degree in Economics from Kansas State University – Manhattan, Kansas. I also hold a Master of Arts Degree in Economics from University of Central Missouri, Warrensburg, Missouri. My undergraduate Degree is in Economics, with a minor in Communications, from Rhode Island College, Providence, Rhode Island. In December of 2005, I was hired by Wisconsin Public Service Corporation ("WPS Corp") as a Senior Load Forecaster in the Sales and Revenue Forecasting

Department. As a Senior Load Forecaster, I have carried out duties including various aspects of the development of the short-term and long-term electric and gas forecasts.

Q. Have you previously testified before any regulatory agency?

A. Yes, I have. I have testified before the Arkansas Public Service Commission, the Security Exchange Commissions ("SEC"), and the United States Senate Banking Committee.

HARRY W. JOHNS
DIRECT TESTIMONY
PART II

Q. What is the purpose of your pre-filed direct testimony?

A. The purpose of my pre-filed direct testimony is to provide an explanation of the methodology used to develop MGUC's weather normalization procedure, sales forecast, and fixed charge count forecast for the 2010 projected test year.

Q. Are you sponsoring any exhibits in this proceeding?

A. Yes, I am. I am sponsoring:

1. Exhibit A-5 (HWJ-1), Schedules E1, E1.1 and E2, and
2. Exhibit A-15 (HWJ-2), Schedules E1.1 and E2.

Q. Were these exhibits prepared by you or under your direction and supervision?

A. Yes, they were.

Q. Please describe Exhibit A-5 (HWJ-1), Schedule E1.

A. Exhibit A-5 (HWJ-1), Schedule E1 is MGUC's sales forecast for the years 2010 – 2014, and is included here to comply with the filing requirements of the Commission's Orders dated December 23, 2008 and February 20, 2009 issued in Case No. U-15895.

Q. Please describe Exhibit A-5 (HWJ-1), Schedules E1.1.

A. Exhibit A-5 (HWJ-1), Schedule E1.1 is MGUC's 2010 projected test year sales forecast.

Q. Please describe Exhibit A-5 (HWJ-1), Schedules E2.

A. Exhibit A-5 (HWJ-1), Schedule E2 is MGUC's 2010 projected test year fixed charge

count forecast.

Q. Please describe Exhibit A-15 (HWJ-2), Schedule E1.1.

A. Exhibit A-15 (HWJ-2), Schedule E1.1 is MGUC's 2008 historic test year sales.

Q. Please describe Exhibit A-15 (HWJ-2), Schedule E2.

A. Exhibit A-15 (HWJ-2), Schedule E2 is MGUC's 2008 historic test year fixed charge counts.

Q. Please explain how the MGUC's 2010 projected test year sales forecast was developed.

A. MGUC's 2010 projected test year sales forecast was developed in MetrixND, and is included here as Exhibit A-5 (HWJ-1), Schedule E1.1. MetrixND is a statistical software package developed by Itron, a utility consulting firm.

The models used are the Ordinary Least Squares method ("OLS"), with Auto Regressive Integrated Moving Average, Seasonal Components (ARIMA, SA), when necessary. These models are well suited for data with seasonal and cyclical components, like utility sales.

Monthly historical data from November 1997 through January 2009 was used to forecast the 2009-2014 period.

The explanatory variables employed in this forecast are:

1. Heating Degree Days ("HDD") variables,
2. Trend variables,
3. Economic variables,

4. Demographic variables, and
5. Monthly binary variables.

The monthly binary variables were used to account for the strong differences in gas usage between the winter and summer months.

Q. Please explain how normal weather was defined.

A. Normal weather was defined as the average over the 30 year period 1978-2007. This results in 6,339 HDDs, using a base temperature of 65°F.

Development of the weather data: 30 year normal weather data for four Michigan weather stations (Benton Harbor, Monroe, Coldwater, and Grand Rapids) were delivered from DTN Meteorlogix Corporation. This data includes the daily maximum temperature, daily minimum temperature, and the daily mean temperature (calculated as the average of the daily maximum and minimum) for the years 1978-2007.

The data from the individual weather stations were weighted to create variables for a 'virtual weather station' representative of the overall weather for the MGUC service territory.

The weights were developed by first taking a snapshot of the number of customers by zip code as of September, 2006. The customers captured in this snapshot were the Residential heating, Multi-Family, and Commercial and Industrial ("C&I") firm customers, exclusive of lighting customers. Based on zip code, customers were tallied by county, and each county was assigned to a weather station based on the proximity to the weather station. The weights were then calculated by taking the

number of customers assigned to each weather station divided by the total number of customers. The resulting weights were:

Benton Harbor: 37.9%

Monroe: 16.1%

Coldwater: 32.0%

Grand Rapids: 14.0%

Actual Degree Days were calculated based on the weighted hourly temperature data for the virtual weather station. The average of these 24 "degree hours" is defined as the Degree Day ("DD"). The HDD equals the maximum of {0 or (65 – 24-hour average temperature)}.

The calculation of normal DDs was similar. The daily virtual-station temperatures were determined by first finding the weighted average of the four stations using the same weights. The daily normal virtual-station temperature was then defined as the mean over the normalization period of the daily virtual-station temperatures for each day of the year. For example, if 1976-2005 was chosen for the normalization period, the daily normal virtual-station temperature for January 25 was the mean of the daily virtual-station temperatures for the 30 values of January 25 temperature for 1976-2005. The daily virtual-station temperatures were then used to calculate degree days in the same methodology mentioned above.

Weather Normalization models and methodology: Models used for the purpose of weather normalizing sales were developed using MetrixND for the weather sensitive revenue classes (Residential, Multi-Family, Small C&I and Large C&I). The C&I classes were considered together when developing the weather coefficient because the historical data MGUC obtained from Aquila was defined differently than the way

MGUC now defines them. Thus, in order to have sufficient historical data to develop a proper weather normalization model, the Small and Large C&I classes were considered together.

The weather normalization models employed sales as the dependent variable with HDD, time trend and monthly binaries, where necessary, as independent variables. Binary variables are included to account for seasonality. The time trend in the model was included to account for customer growth and other innovation not otherwise captured by the model.

The calculated coefficients were then multiplied by the difference between actual HDD for the month, and the normal HDD for the month. This weather normalization adjustment is then added or subtracted to the actual sales for the month depending if actual HDDs were below or above normal, respectively.

Residential sales and Multi-Family sales were considered together. Again, these customers were considered together since historical data from Aquila was not available on a separate Residential and Multi-Family basis, and since the vast majority of Residential and Multi-Family load is heating load. Once the total Residential and Multi-Family sales were weather normalized, the weather corrected sales were then attributed back to the Residential heating and Multi-Family classes.

For the combined C&I class, a weather normalization adjustment was developed for the combined class. These monthly sales adjustments were then allocated between Small General Service and Large General Service based on the ratio of 2007 actual monthly sales.

Q. Please explain how the forecast for each sector was developed.

A. The forecast for each sector was developed as described below:

Residential Model

The Residential forecast was based on "Use per Customer" and "Customer" models.

The explanatory variables employed in the Use per Customer model are:

1. Trend variables,
2. HDDs, and
3. Monthly binary variables.

The explanatory variables employed in the Customer model are:

1. Trend variables,
2. Monthly binary variables, and
3. A weighted economic index comprised of:
    a. People per household, and
    b. Total employment trend.

The Use per Customer model produced a declining use per customer for the forecast horizon primarily due to ongoing efficiency trends, and the weak economic conditions in MGUC's service territory.

Multi-Family Model

The Multi-Family forecast was based on "Use per Customer" and "Customer" models.

The explanatory variables employed in the Use per Customer model are:

1. Trend variables,
2. HDDs, and
3. Monthly binary variables.

The explanatory variables employed in the Customer model are:

1. Trend variables,
2. Monthly binary variables, and
3. Total Service Area Employment.

The Use per Customer model produced a declining use per customer for the forecast horizon primarily due to ongoing efficiency trends, and the weak economic conditions in MGUC's service territory.

Small General Services Model

The Small General Service forecast was based on "Use per Customer" and "Customer" models.

The explanatory variables employed in the Use per Customer model are:

1. Trend variables,
2. HDDs, and
3. Monthly binary variables.

The explanatory variables employed in the Customer model are:

1. Trend variables,
2. Monthly binary variables, and
3. Non-manufacturing employment trends.

The Use per Customer model produced a declining use per customer for the forecast horizon primarily due to ongoing efficiency trends, and the weak economic conditions in MGUC's service territory.

Large General Services Model

The Large General Service forecast was based on a "Total Sales" model only.

The explanatory variables employed in the Total Sales model are:

1. Trend variables,
2. HDDs, and
3. Monthly binary variables.

The forecast shows a negligible increase in sales due to movement by Transportation customers to the Large General Service rate schedule.

Customer Choice Transportation Forecast

This Customer Choice forecast was based on 22 monthly observations, May 2007 through February 2009.

Given the relatively few number of observations, we developed a model based on a customer forecast and actual use per customer. We assumed no customer count growth in the summer months, and made customer count growth projections for the winter months. We then multiplied the monthly customer count forecast by the actual average use per customer of the group for February 2009.

To maintain the inverted bell shaped curve that is consistent with monthly gas sales data, we developed a monthly index, using total 2010 forecasted sales of Residential and Small General Services as a proxy, with February 2009 as the base. We held sales constant after 2011.

To obtain Choice sales projections for the period 2009-2011, February 2009 use per customer was multiplied by the projected monthly customer forecast, and then multiplied by the monthly index.

Transport Forecast

The Transport Forecast for 2009-2011 was conducted by MGUC's Field Representatives on a customer-by-customer basis with input from the customers.

For 2010 and 2011, the forecasted sales for TR-1, TR-2 and TR-3 customers did not change significantly.

Reasons for Overall Decline in Sales

Q. Please summarize why MGUC's 2010 projected test year sales are forecast to decline.

A. There are several reasons. First, the prolonged economic weakness in Michigan has reduced MGUC's sales in most sectors. Second, energy efficiency due to conservation has resulted in declining use per customer, particularly Residential and Small C&I customers. Additionally, since MGUC implemented its most recent rate structure in January 2009, there has been significant movement between rate classes. Within the C&I groups, there has been a migration of Large General Service customers to the Small General Service class.

Fixed Charge Forecast

Q. Please explain the procedures used to develop fixed charge counts for the 2010 projected test year.

A. The 2008 historic test year actual fixed charge counts were used as the basis for the 2010 projected test year fixed charge counts.

For Residential General, Residential Heating, Small General Service and Customer Choice, a growth rate equal to the customer growth rate used in the sales forecast was applied to the 2008 historic test year fixed charge counts to calculate the 2010 projected test year fixed charge counts. The yearly total was then allocated back across the 12 months, using the 2008 historical test year ratios.

For all other rate schedules, due to the limited number of customers taking service under these rate schedules, trending analysis would not produce meaningful forecasts. On a historical basis, small movements up or down in the number of counts produce erratic and meaningless growth patterns. For these rate schedules, a flat growth rate was assumed. The 2010 projected test year fixed charge count is shown on Exhibit A-5 (HWJ-1), Schedule E2.

Q. Please explain how revenues were developed.

A. Please see Exhibit A-6 (DJT-1), Schedule F3 of the pre-filed direct testimony of Mr. David J. Tyler.

Q. Does this complete your pre-filed direct testimony?

A. Yes, it does.