STATE OF IOWA

BEFORE THE IOWA UTILITIES BOARD

IN RE:	:	
MIDAMERICAN ENERGY COMPANY	:	**Docket No. EEP-2012-0002**

DIRECT TESTIMONY OF BRIAN J. WIESE

Q. Please state your name and business address.

A. Brian J. Wiese. MidAmerican Energy Company (MidAmerican or Company), 4299 NW Urbandale Drive, Urbandale, Iowa, 50322.

Q. By whom are you employed and in what capacity?

A. I am employed by MidAmerican as Director, Gas Portfolio Planning and Trading, and am responsible for all procurement, hedging, and optimization activity related to regulated natural gas supply, transportation, storage and related commodity assets.

Q. Please describe your education and business experience.

A. I am a graduate of Northwestern College with a Bachelor of Arts degree in business administration; a graduate of Drake University with a master's degree in business administration; and a holder of the right to use the Chartered Financial Analyst® designation. I have been employed by MidAmerican in a variety of finance and risk management positions since 1996 and immediately

prior to assuming my current position in July 2012, held the position of Director, Risk Management since March 2007. Prior to joining MidAmerican, I was employed in the banking industry in a variety of positions since 1988.

Q. Have you testified before Iowa Utilities Board or other regulatory bodies previously?

A. No, I have not testified before Iowa Utilities Board or other regulatory bodies previously.

Q. What is the purpose of your direct testimony?

A. The purpose of my testimony is to address Energy Efficiency Plan (Plan) requirements of the following Iowa Utilities Board (Board) rules:

- 35.10(1) Forecast of Demand and Transportation Volumes
- 35.10(2) Capacity Surpluses and Shortfalls
- 35.10(3) Supply Options
- 35.10(4) Avoided Capacity and Energy Costs

Q. Are you sponsoring any exhibits in the filing?

A. Yes. I am sponsoring Exhibit___(BJW-1), which includes the following confidential schedules:

- Schedule 1: Iowa Forecasted Annual Throughput and Peak Day Demand
- Schedule 2: Historic Iowa Peak Day Demand and Annual Throughput
- Schedule 3: Comparison of Iowa Forecasted, Weather-Normalized and Actual Peak Day Demand
- Schedule 4: Iowa Forecasted Transportation Volumes
- Schedule 5: Planned Deliverability

- Schedule 6: Forecasted Iowa Capacity Surplus / Shortfall
- Schedule 7: Planned Delivery Capacity of LNG Facilities
- Schedule 8: Gas Avoided Costs
- Schedule 9: Avoided Capacity Costs
- Schedule 10: Forecast of Future Energy Costs and Avoided Energy Costs

Q. Please describe the information provided in response to Section 35.10(1), Forecast of Demand and Transportation Volumes.

A. Information presented in compliance with Section 35.10(1) reflects the 2012 forecast previously submitted as part of MidAmerican's Forecast of Demand and Transportation Volumes that is submitted annually to the Board.

Q. Does MidAmerican's Plan include a forecast of 12-month and five-year annual throughput and peak day demand by customer class pursuant to Section 35.10(1)"a"?

A. Yes. A statement of MidAmerican's current 12-month and five-year forecasts of total annual throughput and peak day demand is attached in Exhibit___(BJW-1), Confidential Schedule 1.

Q. Does MidAmerican's Plan contain an historical account of highest actual peak day demand and annual throughput for the last five years pursuant to Section 35.10(1)"b"?

A. Yes. A statement of MidAmerican's highest actual peak day demand and annual throughput for the past five years by customer class is attached in Exhibit___(BJW-1), Confidential Schedule 2.

Q. Does MidAmerican's Plan contain a comparison of the forecasts made for the preceding five years to the actual and weather-normalized peak day demand and annual throughput by customer class as required by Section 35.10(1)"c"?

A. Yes. A comparison of the forecasts made for the preceding five years to the actual and weather-normalized peak day demand and annual throughput by customer class, including an explanation of the weather-normalization procedure, is attached in Exhibit___(BJW-1), Confidential Schedule 3.

Q. Please explain how Schedule 3 was prepared.

A. The weather-normalized peak day usage in the attached peak day comparison is based on actual usage restated assuming normal weather occurred on the date of the peak. An explanation of the weather normalization procedure is included in the attached peak day comparison.

The annual throughput normalization procedure used in the attached annual throughput comparison is consistent with the normalization rules cited in 19.10(1) of the Iowa Administrative Code. The process analyzes the actual weather-determined degree days reported by weather stations throughout the service territory and adjusts the heat-sensitive customer usage to the average degree days each month. The average degree days are based on a 30-year weather period from 1981 - 2010. In the analysis, the heat-sensitive customers are found in the residential and commercial classes.

Q. Does MidAmerican's Plan include a forecast of the utility's demand for transportation volume for both peak day demand and annual throughput for each of the next five years pursuant to Section 35.10(1)"d"?

A. Yes. Exhibit___(BJW-1), Confidential Schedule 4 outlines MidAmerican's forecasted transportation volume for its Iowa jurisdiction using both peak day demand and annual throughput for each of the next five years.

Q. Please explain the existing contract deliverability by supplier, contract and rate schedule for the length of each contract.

A. Contract deliverability by supplier, contract and rate schedule for length of each contract is outlined in Exhibit___(BJW-1), Confidential Schedule 5. Details of contract deliverability are shown both for the total MidAmerican transportation and storage portfolio and for that portion allocated to Iowa.

Q. Please provide an explanation of all significant methods and data used, as well as assumptions made, in the current five-year forecast(s).

Residential and commercial annual sales forecasts were developed using statistical regression customer models and historic usage per customer. Separate usage per customer data was gathered by state jurisdiction to derive the forecasted volume for each customer class and state.

Sales forecasts for industrial and transport customers were developed using customer-specific information. These forecasts were developed from information obtained from assigned key account managers and based on customer-specific historical data, general knowledge of significant changes in planned usage and potential switching between sales and transportation service

for the early years of the forecast period (2012-2014). Nominal growth rates were applied thereafter.

Peak day demand forecasts were developed for each operational area incorporating a neural-networking forecasting model (GasDay). The model incorporates statistical regression analysis and constantly updates load curves to capture changes in customer and usage trends based on seasonality, temperatures, day-of-the-week and other variables. This is the same forecast model used to determine daily gas sales requirements throughout the heating season. Peak day demand is then extrapolated using statistically determined design day weather conditions based on cycles occurring once in every twenty years. The resulting design day conditions are replicated within the model for three consecutive days to produce a peak day forecast which occurs on a weekday during a sustained cold period. The peak day forecast is then allocated to each state jurisdiction and customer class and escalated over the five-year forecast period using growth rates consistent with the annual sales forecast.

Data used to develop the forecasts includes:

- Historical monthly customer counts and usage (from customer records).
- Historical daily usage for firm, interruptible and transportation customer classes.
- Monthly trend indicator variable (one for each month).
- Daily and monthly heating degree day variables (NOAA).
- Economic driver variables, such as Iowa non-farm employment and number of Iowa households.

- An indicator variable to capture the impact of June 2008 flooding on customer counts.

The customer model corrects for seasonality using the monthly indicator variables and identifies growth trends using the economic variables. The customer model corrects for June 2008 flood impacts using an indicator variable. The model generates a forecast of customer counts using the economic, indicator, and seasonal variables, as noted above. The forecasts for the economic driver variables are from IHS Global Insight, MidAmerican's data vendor.

Customer conversions to and from sales and transportation service in Iowa are based on historical trends or customer-specific information and do not encompass sales service unbundling pursuant to a residential or small volume customer choice program, which is not anticipated within the five-year planning horizon. Additionally, no significant changes to the Monthly Metered Transportation Service were assumed.

Transportation and industrial customer usage is assumed not to be weather sensitive. The peak day demand forecast assumes interruptible sales customer usage is curtailed when peak conditions are experienced.

The customer forecast used to generate the annual sales forecast accesses historical customer count information back to January 2000, with some models accessing information back to January 1993. Economic and demographic data used in the customer forecasts were obtained from IHS Global Insight's long-term forecast database. The economic and demographic

forecast released April 2012 was used to support the customer forecast. The information obtained was for quarterly periods and was subsequently converted to monthly information through interpolation. The quarterly data obtained is divided into seven categories which included: 1) population, 2) housing, 3) employment, 4) income, 5) gross state product, 6) industrial production indexes and 7) other drivers. The information was further segmented into subcategories; however, not all of the time series in these subcategories were relevant.

Heating and degree day variables used in the annual sales and peak day forecasts are calculated based on average daily temperatures obtained from NOAA for reporting stations in Sioux Falls, Sioux City, Waterloo, Des Moines, Omaha, Fort Dodge, Cedar Rapids, Burlington, Ottumwa and Moline. These daily temperatures were combined into degree day variables using a 65 degree base for use in the different models. The historical data is weather-normalized using degree day variables calculated from 1981 through 2010 from the above-mentioned data. The normalized usage is segmented for each customer class and a usage per customer is determined. The usage per customer is adjusted and multiplied by the customer count forecasts to derive total energy requirements for each customer class for each state jurisdiction.

Q. How did you calculate the margins of error for each assumption or forecast?

A. Margins of error are calculated separately for each model but are not analyzed or used in the planning process. Margins of error generally run at plus or minus 3 percent or lower.

Q. Please explain the results of the sensitivity analysis performed by the utility, including a specific statement of the degree of sensitivity of estimated need for capacity to potential errors in assumptions, forecasts and data.

A. An error of 10 percent in the residential customer growth projection would create an error in the annual forecast requirements of 19,630 Dth or 0.0335 percent of total annual sales requirements (0.0157 percent of annual throughput) for Iowa forecasted for this period. For the peak day demand forecast, an error of 10 percent in the residential customer growth projection would create an error in the peak day demand forecast requirements of 257 Dth or 0.0355 percent of the total peak day demand requirement (0.026 percent of peak day throughput) for Iowa forecasted for this period.

An error of 10 percent in the commercial customer growth projection would create an error in the annual forecast requirements of 4,261 Dth or 0.0073 percent of total annual sales requirements (0.0034 percent of annual throughput) for Iowa forecasted for this period. For the peak day demand forecast, an error of 10 percent in the commercial customer growth projection would create an error in the peak day demand forecast requirements of 54 Dth or 0.0074 percent of the total peak day demand requirement (0.0054 percent of peak day throughput) for Iowa forecasted for this period.

The total forecasted industrial customer sales requirements account for 2.5 percent of the total annual sales requirements for Iowa, 1.2 percent of total annual throughput for Iowa and 2.1 percent of peak day sales requirements for

Iowa. An error of 10 percent in the forecast of these volumes would yield an error of 0.25 percent of total annual sales, 0.12 percent of total annual throughput and 0.21 percent of peak day sales requirements. Transportation customers arrange for their own pipeline delivery capacity arrangements, so any errors in the transportation customer forecast would not impact capacity needs for these customers.

Q. Please describe the information provided in response to Section 35.10(2), Capacity Surpluses and Shortfalls.

A. Exhibit___(BJW-1), Confidential Schedule 6 provides a comparison of forecasted peak day demand in each year of the plan period to the total existing contract deliverability and to total existing firm deliverability in numerical and graphical formats. Forecasted peak day demand includes a reserve margin of 5 percent. Total firm deliverability includes contract deliverability and planned delivery capacity from existing liquefied natural gas (LNG) facilities. In order to meet capacity requirements, MidAmerican has several available supply options. MidAmerican anticipates utilizing four interstate pipelines to transport direct-purchase gas supplies on both a firm and an alternate firm basis.

Q. Please describe the information provided pursuant to Section 35.10(3), Supply Options.

A. Section 35.10(3) requires that MidAmerican's Plan contain supply options. The determination of capacity surplus and shortfall includes a reserve margin of 5 percent in forecasted peak demand and excludes the planned delivery capacity of existing MidAmerican-owned liquefied natural gas (LNG) facilities from

existing contract deliverability. In order to meet capacity requirements, MidAmerican has several available supply options. MidAmerican anticipates utilizing four interstate pipelines to transport direct-purchase gas supplies on both a firm and an alternate firm basis and MidAmerican also plans to utilize its LNG facilities.

Suppliers are selected based upon their financial capability, past delivery reliability, supply availability, price (including delivery costs) and MidAmerican's assessment of the future reliability of the delivery path. MidAmerican strives to reduce its gas costs by aligning the services purchased (firm entitlement, seasonal services, storage, etc.) to the most effective mix by carefully estimating gas demands and electing those options, when available, which allow maximum reliability and economic use.

To meet the supply requirements beyond its pipeline contract entitlements, MidAmerican has LNG facilities located strategically throughout its distribution system. These facilities provide a reliable supply source for meeting MidAmerican's firm requirements during extreme weather conditions. Planned delivery capacity associated with each of MidAmerican's LNG facilities is provided in Exhibit___(BJW-1), Confidential Schedule 7. Other supply options from the pipelines may be available to meet requirements. These options include interruptible service, overrun and emergency service, no-notice services and pipeline storage options. MidAmerican also has the flexibility on the systems supplied by Northern Natural Gas to dispatch gas between

operational areas within its service area, thereby utilizing the system's weather and load diversity.

Q. Please describe the information provided pursuant to Section 35.10(4), Avoided Capacity and Energy Costs.

A. MidAmerican has calculated the avoided gas costs (capacity and energy) consistent with the rules established by the Board. A forecast and summary of gas avoided capacity and energy costs including avoided costs for each of the peak and off-peak periods is provided in Exhibit___(BJW-1), Confidential Schedule 8. A general description of the methodology employed by MidAmerican to calculate the avoided gas costs follows.

Avoided energy costs were developed based upon MidAmerican's ten-year natural gas price forecast for the years 2013-2022 and costs of delivery from interstate pipelines. Beyond 2022, an annual escalation of 2.5 percent was used to complete the forecast through the year 2053.

Capacity-related costs pertain to costs associated with peak day requirements and are measured in terms of dollars per MMBtu. Energy related costs pertain to costs associated with reduction in consumption on any day and are measured in terms of dollars per MMBtu. All costs that will be avoided as a result of customers reducing use will be related to deliveries through interstate pipelines.

Energy cost is defined as the cost of the natural gas commodity and all pipeline variable costs and surcharges incurred for delivery to MidAmerican's distribution system. Energy costs for the peak period is the average cost per

MMBtu, including delivery costs, forecasted for the five month period of November through March. Energy costs for the off-peak period is the average cost per MMBtu, including delivery costs, forecasted for the seven month period of April through October.

Capacity cost is defined as all pipeline capacity costs and pipeline supply reservation fees for the peak five month period of November through March and the off-peak seven month period of April through October. The total cost for the peak period is divided by the total amount of capacity contracted for the peak period to arrive at a per unit (MMBtu) cost of peak capacity. The total cost for the off-peak period is divided by the total amount of capacity contracted for the off-peak period to arrive at a per unit (MMBtu) cost of off-peak capacity.

Peak capacity costs were computed based upon January 2012 through March 2012 and November 2012 through December 2012 entitlement levels and actual demand charges for the same time period. Off-peak capacity costs were computed based upon April 2012 through October 2012 entitlement levels and actual demand charges for the same time period. Calculations of avoided capacity costs are provided in Exhibit__(BJW-1), Confidential Schedule 9. Calculations of avoided energy costs are provided in Exhibit__(BJW-1), Confidential Schedule 10.

Q. Does this conclude your prepared direct testimony?

A. Yes.

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AFFIDAVIT
OF
BRIAN J. WIESE

STATE OF IOWA)
) ss.
COUNTY OF POLK)

I, Brian J. Wiese, being first duly sworn on oath, depose and state that I am the same Brian J. Wiese, identified in the Direct Testimony; that I have caused the Direct Testimony, to be prepared and am familiar with the contents thereof; and that the Direct Testimony, is true and correct to the best of my knowledge and belief as of the date of this Affidavit.

/s/ Brian J. Wiese
Brian J. Wiese

SUBSCRIBED AND SWORN TO before me this 30th day of, January, 2013.

/s/ Sherri Long
Notary Public in and for the State of Iowa
My commission expires on March 30, 2014