BEFORE THE PUBLIC UTILTIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

In the Matter of the Complaint by Oak Tree Energy LLC against NorthWestern Energy for refusing to enter into a Purchase Power Agreement

EL11-006

Testimony of

Steven E. Lewis

On behalf of NorthWestern Energy

Submitted: November 21, 2012

Hearing Date: December 5, 2012

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Exhibits

Testimony

Introduction and Qualifications

Q: Please state your name and business address.

A: My name is Steven E. Lewis. I am a principal and employee of Lands Energy Consulting. My business address is 2719 California Avenue SW Suite 5, Seattle, Washington 98116.

Q. Are you the same Steven E. Lewis who has previously provided testimony in this proceeding?

A. Yes, I am. My resume was attached to my prefiled direct testimony dated January 12, 2012.

Purpose of Testimony

Q What is the purpose of your testimony?

A. To provide details and an explanation of the electricity price forecasts provided to NorthWestern Energy for use in their retroactive avoided cost calculation for February 2011.

Q Is the forecast methodology similar to the methodology used for price forecast previously submitted by you as part of this Docket?

A. Yes, but certain changes have been made to improve the forecast. These changes include incorporating the Ventura natural gas delivery point into the analysis, incorporating the Big Otter and Northern Illinois points of delivery on the electrical system rather than the Minnesota Hub and Cinergy/Indiana and the use of a higher long-term escalation rate based on the 2011 Early Release Annual Energy Outlook ("AEO") projections provided by the Energy Information Administration ("EIA"). The forecast was prepared using information and market data that was available in February 2011.

Q Please briefly summarize the methodology.

A. The methodology uses known and transparent market hubs to determine the electricity prices expected at any given time in the marketplace. In forecasting electricity prices for South Dakota, it is desirable to prepare the forecast specicially keyed on delivery points in or near to South Dakota or that have a direct relationship to the energy supplies used by NorthWetern Energy in South Dakota. In this case, we focused on the Ventura points of delivery for natural gas and the Big Stone point of delivery of electricity. The historical relationship between Northern Illinois and Big Stone was used for electricity prices and the relationship between Henry Hub and Ventura was used for natural gas so that the forward trading prices for Northern Illinois and Henry Hub could be used to prepare a locally adjusted forward price curve. The

forward electricity price could be obtained from publicly availaible publications in February 2011 through December 2015 and a natural gas price projections through December 2020. The electricity price is extended through December 2020 using the relationship between electricity prices and natural gas prices for the period March 2011 through December 2015 and then using that relationship to compute the electricity prices for the period January 2016 through December 2020. The electricity and natural gas prices were projected beyond 2020 using the long term escalation rate derived from the EIA's 2011 Early Release EAO that was available in February 2011.

Q Please elaborate on how the prices were adjusted for the local points of delivery.

A. The local natural gas price was determined by using the historical relationship between Ventura prices and Heny Hub prices for daily market transactions. The historical daily prices can be obtained from the Intercontinental Exchange's website (www.theice.com). In this case, the Ventura prices are available for the period September 2008 through January 2011. The Intercontinental Exchange publishes three daily prices for Ventura, a generic Ventura price, the NBPL-Ventura price, and the NNG-Ventura price. The three delivery points have prices nearly identically to one another with a long-term difference between Ventura and NBPL-Ventura of less than a cent and a long-term difference between NNG-Ventura and NBPL-Ventura of 1.3 cents. Based on discussions with NorthWestern Energy, the three Ventura points were combined by taking the lesser of the prices on a daily basis and then subtracting 2 cents/mmbtu to approximate the lower cost to receive gas at the delivery points NorthWestern uses on the pipeline. This combined Ventura price follows a consistent pattern relative to Henry Hub being a little higher in the December and January and either even or a little lower the rest of the year. The monthly difference and a chart are enclosed in SEL-01.

The relationship between Big Stone and Illinois pricing was determined by analyzing the locational marginal prices posted by the Midwest ISO for those points of delivery. Data was available from the Midwest ISO website for the period January 2009 – September 2010. The price differential in this case did not have a discernable annual pattern and deviations from the normal pricing seemed somewhat random, so the simple average of a negative $4.46/MWh price differential was applied to the forward Northern Illinios price to compute a comparable Big Stone forward price. The results of this analysis is enclosed in a table in SEL-02.

Q What was the source of the forward prices?

A. The source for the electricity forward prices was the Northern Illinois price point as reported in the Argus US Electricity newsletter published on February 25, 2011. The source for the natural gas forward prices was the Intercontinental Exchange

Q Aren't the energy prices pretty volatile and couldn't the forward prices obtained for February 25th be significantly different than prices that would have been obtained only a few days earlier or a few days later?

A. The energy markets are pretty volatile. A review of the Argus publications before and after Feburary 25 reveals only relatively modest changes in forward prices, with a bit of a drop in the prices occurring after the forecast date of February 25th. A comparison of forward prices for the Northern Illinois delivery point as reported by Argus are included in the tables and charts in Exhibit SEL-03.

Q Please describe how you computed the long-term esclations rate used in the price forecast?

A. In response to concerns raised by the Commission regarding the escalation rates used in our prior forecasts, the EIA projection was used for the long-term escalation rate in this forecast. The EIA forecast provided in the 2011 AEO Early Release, which was published in January 2011 was used to compute a long-term nominal escalation rate for wholesale energy prices using their projected escalation in natural gas prices. This long-term escalation rate is 3.9%. The calculation of the escalation rate is included in Exhibit SEL-04.

The data from the EIA was also used to determine an effective conversion rate between real and nominal dollars. This conversion factor was used by NorthWestern Energy in their coal price forecast and is also included in Exihibit SEL-04.

Q What are the results of this forecast?

A. This forecast results in a long term levelized price forecast of $46.30/MWh. This is approximately $4.5/MWh higher than the previous February 2011 no-carbon forecast that I provided in my May 2012 testimony. The main causes for this difference are the higher long-term escalation rates applied in this forecast and the method of setting the forward price in the near term using Big Stone and Illinois delivery points resulted in a slightly higher price than the prior method of using the Minnesota Hub and the Cinergy. The results of this forecast process are summarized in Exhibit SEL-05.

Q. What carbon emission price forecast were used in the forecast?

A. Pursuant to Commission direction, we did not use any carbon emissions cost adders in the forecast.

Q. The avoided cost is to be based on data and information available in February 2011. Was all information used in the preparation of the forecast appropriate for a February 2011 forecast?

A. Yes. Care was taken to use data sets and information that was available and appropriate for use in February 2011.

Q. While the Avioded Cost and the price forecast must be based on information available in February 2011, what have the electricity markets done in the nearly 2 years since that time?

A. Current forward prices have continued to remain weak and the current reported prices for Northern Illinois are lower than the prices used from the February 2011 publication. The current 3 year average price difference is $3.93/MWh lower for on-peak (2013-2015) and $2.25/MWh lower or off-peak. A table and chart of this price comparison are included in Exhibit SEL-06.

Q. NorthWestern used an escalation rate for the construction cost of a natural gas plant. Did you provide that escalation rate to them?

A. Yes. The escalation rate was computed using the Handy-Whitman Index for the construction costs of natural gas turbogenerators in the North Central Region, which is published by Whitman, Requart and Associates. Their index is widely used in the industry to quanitify the escalation of specific utilty capital cost items. The escalation in the index for January 2001 through January 2011 is 5.84%

Q. Does that conclude your testimony?

A. Yes, it does.

Affidavit of Steven E. Lewis

STATE OF WASHINGTON)
: ss
COUNTY OF KING)

Steven E. Lewis, being first duly sworn upon oath, states and alleges as follows:

1) I am a principal and employee of Lands Energy Consulting.

2) I have read this document and am familiar with its contents, and the same are true to the best of my knowledge and belief.

Further affiant sayeth naught.

Dated at Seattle, Washington, this 20TH day of November, 2012.

Steven E. Lewis

SIGNED AND SWORN to before me this 20th day of November, 2012, by Steven E. Lewis.

LEE M. TILLMAN
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
APRIL 9, 2015

Notary Public, Washington
My appointment expires: 4/9/2015