



City of Grand Island

Tuesday, April 10, 2012

Council Session

Item I2

#2012-100 - Consideration of Approving the Power Sales Agreement for Broken Bow Wind Project

Staff Contact: Tim Luchsinger, Robert Sivick

Council Agenda Memo

From: Tim Luchsinger, Utilities Director
Robert Sivick, City Attorney

Meeting: April 10, 2012

Subject: Power Sales Agreement for Broken Bow Wind Project

Item #'s: I-2

Presenter(s): Tim Luchsinger, Utilities Director

Background

The Utilities Department has made efforts to be involved in developing technologies regarding renewable energy. Presently, the most cost effective form of renewable energy in this area is wind energy. Since 1998, the City's Utilities Department has participated with other of the state's utilities in Wind Turbine projects.

Springview Project:

Grand Island first became involved with wind energy in 1998 with the development of the "Nebraska Distributed Wind Generation Project" or NDWG, often referred to as the "Springview Project" because of its proximity to that community in north central Nebraska. The project included two 750 kilowatt wind turbines installed near Springview, Nebraska. Half of the cost of the project was funded by a grant from the Electric Power Research Institute/Department of Energy-Turbine Verification Program. NDWG was a joint project among Nebraska utilities that included Auburn Utilities, Grand Island Utilities, KBR Power District, Lincoln Electric System, the Municipal Energy Agency of Nebraska and Nebraska Public Power District (NPPD). Grand Island received an average of six megawatt hours of energy per month from NDWG. This is enough energy to supply approximately six houses for one month. Due to rising maintenance costs, increasing equipment failures and unit downtime, this facility was decommissioned in August, 2007. Including the salvage value of the turbines, the final production cost was approximately \$23/megawatt hour. Recently, two new wind turbines were installed at the Springview site. More information regarding this installation is given in the Discussion portion of this memo.

Ainsworth Project:

Grand Island is a participant in the Ainsworth Wind Energy Farm (AWEF) near Ainsworth, NE. This facility was constructed in 2005 and consists of thirty-six 1.65

megawatt turbines for a total project output of 59.4 megawatts. Grand Island has a one megawatt participation level in AWEF. AWEF is another joint project that is operated by Nebraska Public Power District, and includes participation by Omaha Public Power District, the Municipal Energy Agency of Nebraska, Grand Island Utilities, and JEA of Jacksonville, Florida. Since the start of AWEF, Grand Island has received an average of 274 megawatt hours of energy per month. This is enough energy to supply approximately 228 houses for one month. Currently, the total production cost of power received from AWEF is approximately \$47 per megawatt hour.

Elkhorn Ridge:

Elkhorn Ridge Wind, LLC (Elkhorn) is an 80 MW wind farm located near the town of Bloomfield in northeast Nebraska. It consists of twenty-seven 3 megawatt turbines. It began commercial operation January 1, 2009. Unlike AWEF, Elkhorn is a privately owned facility. NPPD entered into a Power Purchase Agreement with Elkhorn to purchase all power produced by the facility. Grand Island then signed a Power Sales Agreement with NPPD to purchase a 1 MW share of the power produced at Elkhorn. Including transmission, the total production cost of power received from Elkhorn is approximately \$60 per megawatt hour.

Laredo Ridge:

Laredo Ridge Wind, LLC (LRW) is an 80 MW wind farm located near the town of Petersburg in northeast Nebraska. It consists of fifty-four 1.5 megawatt turbines. It began commercial operation February 1, 2011. Similarly to Elkhorn, LRW is a privately owned facility. NPPD entered into a Power Purchase Agreement with LRW to purchase all power produced by the facility. Grand Island then signed a Power Sales Agreement with NPPD to purchase a 1 MW share of the power produced at LRW. Including transmission, the total production cost of power received from LRW is approximately \$56 per megawatt hour.

Discussion

The use of fossil fuels for electricity production is coming under increasing scrutiny at the national level and more restrictions and regulations are likely to be placed upon fossil fuels, particularly coal. With the City's primary energy supply being produced from coal, the overall rate impact from a carbon emission tax or other environmental regulations could be significant.

It is the recommendation of City Administration that the Utilities Department stay involved with the various renewable energy projects as they develop in the state. Broken Bow Wind, LLC (BBW) is an 80 MW wind farm currently under construction near the town of Broken Bow, Nebraska. It is anticipated to enter into commercial operation toward the end of 2012. Grand Island staff has held discussions with NPPD and other potential participants in the Broken Bow Wind Project at a 1 MW participation level. Similar to LRW, BBW is a privately owned facility. NPPD has entered into a Power Purchase Agreement with BBW to purchase all power produced by the facility. The proposed Power Sales Agreement is with NPPD to purchase a 1 MW share of the power

produced at BBW. Participants of the BBW facility automatically become participants of the new Springview II facility. Springview II is a replacement installation to the original Springview facility described above. It consists of two 1.5 MW V direct drive turbines. The vast majority of wind turbines in use in the United States today utilize a gearbox. The gearbox requires a significant amount of maintenance and can be costly to replace and direct drive turbines eliminate this component. Further testing and development is required before the technology is accepted on a large scale in the United States.

Upfront participation costs to Grand Island are approximately \$191,000. This cost includes Substation and Transmission expansion and project development. Since this is a privately owned facility, O&M costs are not applicable. The cost of power to Grand Island will be approximately \$40 per megawatt hour increasing 2.5% per year. This equates to an approximate cost of \$170,000 for the first year, increasing 2.5% per year thereafter. The agreement is for twenty years. These costs are reasonable and competitive with current power market prices.

In order to maintain confidentiality, the contracts are provide to the Mayor and Council under separate cover.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to a future date
4. Take no action on the issue

Recommendation

City Administration recommends that the Council approve the 1 MW level of participation in Broken Bow Wind facility and authorize execution of the Power Sales Agreement with Nebraska Public Power District.

Sample Motion

Move to approve the 1 MW level of participation in the Broken Bow Wind Facility and authorize execution of the Power Sales Agreement with Nebraska Public Power District.

RESOLUTION 2012-100

WHEREAS, the City of Grand Island, and the Nebraska Public Power District have participated in the development of a wind energy project by Broken Bow Wind, LLC, Plant; and

WHEREAS, Nebraska Public Power District has entered into a Power Purchase Agreement with Broken Bow Wind, LLC, for the output of the project, and is re-marketing portions of that power to other electric utilities; and

WHEREAS, the parties desire to enter into a Power Sales Agreement to receive electric energy produced by Broken Bow Wind, LLC, according to the terms and conditions outlined in the Power Sales Agreement; and

WHEREAS, the City Attorney's office has reviewed and approved the agreement.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that the Power Sales Agreement for Broken Bow Wind, LLC, by and between the City of Grand Island and Nebraska Public Power District be, and hereby is, approved in accordance with the terms of the agreement.

BE IT FURTHER RESOLVED, that the Mayor is hereby authorized and directed to execute such agreement on behalf of the City of Grand Island.

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Adopted by the City Council of the City of Grand Island, Nebraska, April 10, 2012.

Jay Vavricek, Mayor

Attest:

RaNae Edwards, City Clerk