

MEETING RECORD

NAME OF GROUP: PLANNING COMMISSION

DATE, TIME AND PLACE OF MEETING: Wednesday, June 11, 2014, 2:55 p.m., Hearing Room 113 on the first floor of the County-City Building, 555 S. 10th Street, Lincoln, Nebraska

MEMBERS IN ATTENDANCE: Cathy Beecham, Michael Cornelius, Tracy Corr, Maja V. Harris, Jeanelle Lust, Dennis Scheer, Lynn Sunderman and Ken Weber (Chris Hove absent). Marvin Krout, Steve Henrichsen, Sara Hartzell and Teresa McKinstry of the Planning Department; Scott Holmes of the Health Dept.; John McKee, Jeff Wagner and other interested citizens.

STATED PURPOSE OF MEETING: Briefing on “Wind Energy Conversion Systems”

Sara Hartzell stated that wind energy is not a new idea. People have been using wind to do many jobs for hundreds of years. There are a lot of different types of wind energy conversion systems. Wind turbines are usually monopole structures. There are about 45,000 turbines operating in the United States. There are around 300 in Nebraska. It has been estimated that Nebraska is using about 1.7 percent of its' wind potential. Visual considerations, the effect on wildlife, shadow flicker, structural failure, noise levels, avionics and lights are all things that need to be considered. Visual corridors of public value should be considered. We have protections in place for our Capitol View Corridors. Scenic values have not been identified yet. Mitigation techniques include increased distance, smaller clusters, light grey or white color.

Cornelius has never seen a wind turbine that isn't white or light grey in color.

Scheer made a lot of trips to Minnesota starting in 2005, while his son was in college up there. He saw a lot of wind turbines being constructed at the beginning of that process. That is all great. What we also saw happen along I-90 in southern Minnesota was, after the turbines were constructed, a huge growth of transmission lines popped up as well. It is something that comes with the turbine. It is a secondary piece we should be concerned with.

Hartzell stated she has reviewed some codes concerning the electrical lines that require them to be below ground. Transmission lines have to be above ground. You could take advantage of lines already in place.

Hartzell continued that there has already been some work done on migratory flyways, endangered species and indirect impacts. Game and Parks produced a map of Nebraska that identifies the sensitive areas. Various areas are identified.

Shadow flicker is caused by rotating turbine blades when the sun passes behind the turbine. Factors include distance, wind direction, solar angle, elevation and vegetation. If you look at a typical wind turbine with a height of 439 feet and a blade length of 177 feet, you can calculate the effects of shadows from the structure. She asked Joe Wood from Volkswind and the Nebraska Energy Office about the structural failure of wind turbines. There is not a lot of data at this time. It seems to be very rare. Only about a dozen structures have failed. Most happened when the wind was strong enough to bend the blades and they hit the tower. There are approximately 45,000 wind energy conversion systems in the U.S. WECS are allowed by right in Lincoln and Lancaster County. These are for use on individual property, not for commercial production of energy. Special permits are needed when the structure is over the district height. Commercial WECS may be allowed by special permit in city and county AG districts.

Lust questioned if staff is aware of any restrictive covenants in neighborhoods that restrict these. Hartzell does not know. The City does not deal with covenants.

Hartzell stated that county special permits for commercial wind energy systems must be no less than 1,000 feet from any property line of a dwelling. The distance to the boundary of the special permit area must be equal to the height of the tower, plus the rotor radius. There are noise standards of 35 dBA at the property line of any dwelling unit within one mile. These must meet FAA requirements, and must follow all codes and regulations. Unrelated towers must be separated by five rotor distances. There has to be a decommissioning plan and a bond in place for removal. These must meet all Federal, State and local requirements.

Beecham questioned if there are any zoning restrictions. Hartzell replied the special permit is a zoning requirement.

Jeff Wagner with Volkswind stated that the language in their standard lease requires them to stay 1,000 feet from any residence.

Hartzell stated that these are done by special permit. Special permits in the county are done by parcels of land. You could have several turbines on several parcels, but the County Attorney has interpreted that if the parcels are not contiguous, you must have individual special permits. These would be final action by Planning Commission, with an appeal process to the County Board. The County Board has the authority to waive conditions or impose additional conditions.

John McKee is the Planning and Zoning Administrator of Jefferson County, Nebraska. They have a Steele Flats Wind Project. There are turbines on the Jefferson County side

and Gage County side. They had considerable questions. There weren't any plans in place. It was a long process. They had to look at setbacks to take pivots into consideration. Their regulations set these 1,320 feet from occupied dwellings. There was considerable discussion on setback from non-participating property owners. It is currently 600 feet. He has a lot of confidence in the wind companies. They had their own requirements from the power companies. During the process, Jefferson County had one phone call from a lady who wondered how many crops the shadow of the tower would kill. A County Commissioner said it sounded like a jet flying over when the blades were spinning. McKee has been down there on a calm day and it didn't sound annoying to him. There was a long discussion on the noise levels, what time, what place, etc. As far as decommissioning, they leave the underground lines in place. They see no need to disturb more land. The FAA regulates the lights. There were a lot of complaints up front. Now, no one seems to even pay attention to them.

Cornelius looked it up and 35 dBA is quieter than a library.

Harris wondered if it is noisier when there is no wind. McKee was watching the other week and the blades were stopping and starting. Harris comes from Sweden where there are a lot of turbines and she only finds them noisy when it is not windy. The wind seems to mask the noise.

Marvin Krout stated that the special permit has the ability to deviate from the standard on a case by case basis.

Beecham is curious how much wind energy being created is being used locally or being shipped out. McKee replied that the power is sold somewhere else. There is nowhere to tell where your power is coming from when you flip the switch on.

Wagner stated that the Steele Flats Wind Farm connects with NPPD. He believes that wind energy is good for Nebraska, Lancaster County and Lincoln. The current power resource mix is 56 percent coal. The Nebraska Energy Office issued their annual report in 2013, and it shows coal is the most used. When you look at the plains region, wind power has the most capacity. There is tremendous growth to be had in wind power. Nebraska is in the top five for capacity.

Lust questioned why we are so far behind. Wagner believes it is mainly due to the policies of the main utilities. In Iowa for example, their utilities have had aggressive policies towards adding wind power.

Beecham believes incentives have come into play also. Wagner agreed. Other states have worked together to bring these to their states. Iowa is number three in wind power.

Weber wondered if other states are further ahead of Nebraska due to higher utility costs.

Wagner believes that is part of the equation. California for example, has a much higher population which comes into play. Nebraska makes more energy than it uses.

Wagner stated that wind power is variable and intermittent. It can't be the only source of power, but it should come into play and be a part.

Weber noted that fossil fuels are skyrocketing in price.

Wagner sees the key benefits to wind energy as being emission free, fuel free and water use free. Wind power can be part of the solution. A wind farm enters a 20 year contract with a fixed price for the energy produced. There is a local economic boost from wind energy. There is a nameplate capacity tax that is passed back to the county tax base. A 125 megawatt project would provide \$750,000.00 annual tax to the county. Landowners receive a substantial income from a small footprint. This income to the landowners feeds into the local economy. Volkswind has spent tens of thousand of dollars with local contractors. During construction, hundreds of jobs are involved. During operations, permanent full time technicians are needed. For an 80 megawatt facility in Broken Bow, there are 50 turbines on 11,000 acres. It cost 145 million dollars. There are \$540,000.00 in annual landowner royalties. He showed a map of the Hallam Wind Project area. At Hallam, there are existing transmission lines. This project does not need to build new transmission lines.

Beecham left.

Weber questioned the minimum speed the blades run at. Wagner replied 8 mph. The capacity is around 18-20 mph. They cut out at 55 mph. The blades will pitch to reduce the wind and slow down.

Wagner stated that Hallam is planning to connect to LES. Volkswind has been in the United States since 2008. They have sold two projects so far in Montana and Iowa. The group is mainly in Europe. He believes that those who work in energy and work on Planning boards and Commissions, have to consider the long term. Wind energy provides one of the lowest impacts to safe, clean, fuel free energy. Wind is abundant in Nebraska and contributes to the local economy.

Krout thanked Wagner and McKee for attending today.

Corr questioned the life span. Wagner replied it is around 25 years for the whole unit. The lease spells out decommissioning and the setbacks. It is in their interest not to disturb the neighbors. They like to be 1,000 feet from neighbors. He would urge anyone curious to visit the Steele City project. Get close and listen what it sounds like. Decommissioning requires removal within 12 months. A security has to be established to serve as collateral for the decommissioning process. We have an interest to be good neighbors.

Weber left.

Scheer wondered how long the lease is negotiated for. Wagner believes 30 years. He would guess the design and substantial material in the tower have a longer life than 25 years. He would imagine the blades, rotor, etc. might need overhauled at 25 years. Their lease mentions 55 dBA. If a resident feels noise is a problem, they can require Volkswind to undergo a noise test.

Scott Holmes with the Health Dept. stated that the current requirement is 50 dBA at the property line. He has heard a lot of placating statements today about noise. Commissioners need to read up about it. There are legitimate concerns about noise. The blades have a swoosh and a thump that is not easily measurable. The reason it was set at 35 dBA is for the lower level noises. That is just for the city. The county does not have a noise code.

Hartzell questioned Volkswind's timetable. Wagner hopes to have something ready later this year. They have done noise studies for two different turbines.

The briefing was adjourned at 4:00 p.m.