

MINUTES OF THE SENATE UTILITIES COMMITTEE

The meeting was called to order by Chairman Jay Emler at 9:30 A.M. on January 29, 2008 in Room 526-S of the Capitol.

Committee members absent:

Committee staff present: Raney Gilliland, Kansas Legislative Research Department
Cindy Lash, Kansas Legislative Research Department
Mike Corrigan, Revisor of Statutes
Ann McMorris, Committee Secretary

Conferees appearing before the committee:

Jim Ludwig, Westar Energy
Krista Gordon, Iberdrola Renewable Energies, USA

Others in attendance: See enclosed sheet

Continuation of discussion on Nuclear and Wind Energy

Jim Ludwig made his presentation on Nuclear Generation in the US on January 23, 2008. As there was not time for questions at that session, the question portion was scheduled on January 29, 2008. Chair opened for questions from the committee.

Q. In regard to research into reactors what has been achieved and what changes are perceived?

A. Currently the Nuclear Regulatory Commission has certified several reactor designs as meeting all safety requirements and the agency expects to certify several more standardized nuclear design in a fairly near term. NRC has emphasized finding standardized design so that inspection performance operation can be more uniform across the country and so they can have greater assurance the plants will operate efficiently and safely. Ludwig cited several brands of reactors and their output in megawatts. Larger design plants are expected to be approved first. Another generation of nuclear reactors being researched would be smaller and more saleable. Smaller companies would be able to invest. These may be ready in the next decade but most likely around 2030.

Q. Asked about the use of the fuel (we go down to 80% or so) and France takes it on down further. If the production of plutonium is being done in other countries, I am much less concerned as I feel our country could adequately control it here.

A. If we use fuel source (any kind) it is a matter of energy efficiency and we get as much out of it as we can. I do want to respect the national security issues involved with recycling uranium and the creation of plutonium. I am not an expert in keeping those kind of substances secure. If other countries are doing it, I'm sure we could also do it. It reduces the amount of high level radioactive waste in the long run, it reduces the intensity of that waste substantially. The thousands of years that that material remains radio active would be reduced.

Q. How much does it actually physically reduce the quantity?

A. I don't know the answer to that. I believe I read an article that the material they use in France they ended up with a quarter of the radio active waste that we would have in the US under the current system of not recycling.

Q. Is all the waste that has been produced at Wolf Creek still there?

A. All the high level waste is still stored at Wolf Creek and currently enough storage space for its existing 40 year life. The lower level waste are shipped to a facility in South Carolina. The lower level waste is handled and disposed of in certified facilities, the high level waste (Fuel rods) are kept at Wolf Creek in the water tanks. Some nuclear facilities across the country are using dry cask storage for high level waste. Spent rods are taken out of water bed and put into dry casks and they use air to keep them from getting too hot.

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Q. If we changed our position that they could be used more than 80%, could these be reused?

A. I believe that existing rods could be reprocessed even those that are considered spent.

Q. Are there transmission concerns if we go to a larger market? Also could there be water concerns?

A. I'll start with transmission. When Wolf Creek was constructed and brought into service there were two major 345 kilovolt lines proposed - one was built and runs from Wolf Creek to Wichita. The other proposal for northeast was not approved by the KCC so that high voltage line was never built. If another unit were built at Wolf Creek, I expect it would trigger the need for expansion of transmission. We are building a 600 megawatt natural gas peaking facility in Emporia and it also has an effect on the transmission system. The current system is believed adequate but if more generation comes into play, we may have to upgrade transmission in that area. With respect to water - that is an open question. Coffey County lake is more than adequate for the current generation of Wolf Creek - as originally it was established for two units and only one got built. The increased output of Wolf Creek means it uses more water than was originally anticipated. One of the key questions to be addressed in a feasibility study for another plant at that site would be the water supply. This same question arises when we talk about new base load coal plants.

Q. If we process spent fuel rods and may end up with plutonium, does that take a different kind of containment structure than we have for uranium. Are there concerns with containment structures that have not been addressed?

A. I don't know the answer to that.

Jim summarized briefly Westar's situation with respect to wind. Westar went through a process with the KCC for advance approval of 300 megawatts of wind on our system. We are moving forward and hope to have them installed and operating by the end of this year. At this point, the United States Congress has not extended production tax credit which expires at the end of this year so it is imperative that we get the turbines installed. There are 3 wind farms of approximately 100 megawatts each - One near Medicine Lodge, one near Scott City and Leoti and one near Concordia. Westar will own about half of the turbines and will purchase the outcome of the other half from wind developers who will own and operate those facilities. We selected to go half and half on ownership. When we did the analysis on what economically works best for customers, it was a coin toss. The analysis showed over 20 years of the net present value, that it was close, so we decided to go half and half. It's a big step for Westar to have 300 megawatts of wind power and puts us in the top utilities in the nation. It's a big step for Kansas and is about a \$500 million commitment. The KCC approved our request to take the amount we want to own and put it in our rate base. With respect to the purchase power agreement the Commission agreed that those should be recovered through our fuel costs. At the time we announced we were going ahead with 300 megawatts, we announced also based on the Commission's decision, that we were going to defer making a commitment to an additional 200 megawatts that we had hoped to have in place by 2010.

Why? There are a few particular parts in the Commission's order that caused us concern. First, the Commission indicated that Westar had provided some estimates about the capacity factors for wind, about the operations cost for wind, which are at this time are best estimates that had been crosschecked with third parties. The Commission indicates they may accept those as guarantees so that if we don't meet those factors, they indicated they may come back in a couple years and impose punitive measures. That's unprecedented. The Commission has never said that about any other form of generation. So as a business decision, we looked at other types of generation and don't have that looming over us in the future. We are reluctant to make further commitment to wind until we get that issue resolved. State law has provided since 1978 that for energy efficiency and renewable investments that the utilities make, the commission may allow an incentive return of ½% to 2%. We requested a 1% additional return on the wind turbines that we own. The commission denied that request and instead said in a couple years they may impose an incentive mechanism that included penalties.

From our perspective, that increases the business risk for us to own and commit to further development of wind turbines on our system. We are asked why did we agree to 300 if we aren't going to also do the

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additional 200? A couple of reasons - I mentioned the production tax credit expiring if we want to capture that for our customers we need to get it done this year; and there is substantial wind development going on in the state and we want to secure for ourselves and our customers some of the very best sites.

Q. Senator Lee asked for some data on costs.

A. Jim replied he would provide data - he summarized generally - in Kansas currently wind can be secured somewhere between 4 and 4 ½ cents a kilowatt hour and that makes it very attractive when it replaces natural gas. That is with the 1.9 cents. With the production tax credit included and passed on to the consumers that is 4 to 4 ½ cents. At the current price of natural gas we are talking 6 cents per kilowatt hour.

With regard to coal plants, we have deferred any decision to build a new coal plant now as we've been able to do that by pairing natural gas with wind and this will work for awhile.

Coal plants have been in service a long time and are depreciating, the fuel cost for coal is about 1 ½ cents. For our nuclear facility it's a little less than ½ a cent.

When you are looking at a new coal plant or a new nuclear plant the dynamics change substantially. Today to build a 1000 megawatt coal plant, it would cost \$2.7 to \$3 billion, the latest estimate on a new nuclear plant (Florida) the cost would be \$6 to \$9 billion.

Jim will put together a study on installed cost of plant and look out twenty years at maintenance cost and net value to get back to cost of a kilowatt hour.

Q. Request for reasonable return on your investment for wind?

A. Although wind has developed significantly over the last 10 to 15 years, there is still more risk associated with wind as an operational market risk than with other traditional forms of generation. The technology for wind has developed much faster than the older and more mature technology of other types of power plants, so when it comes to knowing about capacity factors, the best information we have are wind studies. We don't have a lot of information with the newest generation of turbines actually operating a period of years to see what those availability action factors. Also the operation and maintenance going forward, we have very little operating experience.

In Kansas we are going to higher towers, and the wind studies were done at lower levels, so in future studies on wind, we may find wind is more constant and more available. That is all speculative.

Q.

A. For that amount of output that we buy under a purchase power agreement, the utility would not make any money. Whatever the owners generate we buy and recover without any return. The only amount we would earn on are the wind turbines we own and operate ourselves, we only earn on our investment. Our concern is the commission will come back and look at that portion we own, say you had some estimates on capacity factors, which we are going to disallow.

Q. Are there any wind studies over the state to know the output

A. We chose three different sites in Kansas for greater diversity of wind, higher opportunity that we will get generation somewhere some of the time. There is a variation of wind across the Midwest. That is one way to diversify your risk and make sure your going to have something.

Q. How do you deal with the reliability issue of wind?

A. In looking at our system in aggregate, the greater the interconnectivity the greater the ability for utilities to pass transmissions back and forth between regions.

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Q. Are those interconnects in place?

A. Interconnects are being developed but they are not in place.

Q. How far can we realistically transport that load?

A. Transmission studies have been done and the distance varies with the utility involved. Other utilities have plans on the table for future long distance transmission.

Approval of Minutes

Moved by Senator Reitz, seconded by Senator Taddiken, approve the minutes of the meetings of the Senate Utilities Committee held on January 22, 2008, January 23, 2008 and January 24, 2008. Motion carried.

Senator Taddiken introduced his pages from Frankfort. Senator Francisco introduced her pages from Lecompton. Senator Pyle introduced his 2 youngest daughters who are paging for him today. Chairman welcomed them to the meeting.

Adjournment.

Respectfully submitted,

Ann McMorris, Secretary

