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Natural Resources Committee
November 09, 2007

[LR79 LR108]

SENATOR LOUDEN: Okay. We'll start this hearing on LR108. My name is Senator LeRoy Louden and I'm Chairman of the Natural Resources Committee. To my right at the present time is Senator Wallman from Cortland and to my left is Senator Fischer from Valentine. And walking around here is Senator Carlson from Holdrege. And with that, we will begin this thing. First off...also we have our page here today is Marcus Papenhausen...is that close enough? [LR108]

MARCUS PAPENHAUSEN: Good. [LR108]

SENATOR LOUDEN: Okay. He's a senior at the University of Nebraska-Lincoln. Those wishing to testify on a resolution should come to the front of the room when that resolution is to be heard. As someone finishes testifying, the next person should move immediately into the chair at the table. The green sign-in sheets for testifiers are on the table by the doors and need to be completed by all people wishing to testifying, including senators and staff introducing resolutions. If you are testifying on one more than one resolution, you need to submit a form for each resolution. Please complete the form prior to coming up to testify. When you come up to testify, give it to the committee clerk. Do not turn the form in before you actually testify. And please print; it is important to complete the form in its entirety. If our transcribers have questions about your testimony, they use this information to contact you. If you do not wish to testify but would like your name entered into the official record as being present at the hearing, there are white sheets for you to sign by the door. The list will be part of the official record of the hearing. As you begin your testimony, state your name and spell it for the record, even if it is an easy name. Please keep your testimony concise and try not to repeat what someone else has covered. If there are large numbers of people to testify, it may be necessary to place time limits on testimony. I would also like to remind you that the purpose of the hearing is to gather information for the benefit of the committee. It is not appropriate to respond to what someone else has testified to unless a committee

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member asks for clarification. If you have handout material, give it to the page, and they will circulate it to the committee. If you do not choose to testify, you may submit comments in writing and have them read into the official record. No vocal display of support or opposition to a resolution will be tolerated, and also I'd ask that you silence your technical material that you carry on your side. And with that, we will start opening remarks for LR108. And I will turn the committee chair over to Senator Kopplin, as chairman, while I give the opening remarks. Senator Kopplin. [LR108]

SENATOR KOPPLIN: Thank you, Senator Louden. [LR108]

SENATOR LOUDEN: During the last legislative session I held a meeting of stakeholders to discuss the issue of renewable energy and our energy policy in Nebraska. As a result of that meeting I reached a determination that there were several areas that needed further examination. I introduced LR108 so that more information could be gathered on this important issue, including a review of the various forms of renewable energy and the potential for its development in Nebraska; a review of the existing renewable energy resources, including costs and operation; a review of current power generation and how additional renewable energy would impact operations; and a review of current transmission systems and the possibility of developing more transmission capacity. LR108 also addresses a need for a comparison and evaluation of existing state and federal incentives to encourage greater development of renewable energy resources. The last section of the resolution addresses the need to review current state statutes governing the Nebraska Power Review Board, to determine if any changes are needed in that arena. Mr. Clint Johannes will address the first four issues, Mr. Gary Stauffer will give a general overview, and Mr. Tim Texel of the Nebraska Power Review Board will address the issue of current state statutes. And for the record my name is Senator LeRoy Louden, I'm from Ellsworth, Nebraska and Chairman of the Natural Resources Committee. [LR108]

SENATOR KOPPLIN: Thank you, Senator Louden, are there any questions from the

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committee? If not, we will hand over the committed back to Senator Louden and proceed. [LR108]

CLINT JOHANNES: (Exhibit 1) Good morning, Chairman Louden, committee members. My name is Clint Johannes, C-l-i-n-t, J-o-h-a-n-n-e-s. I work with the Nebraska Electric Generation and Transmission Cooperative in Columbus, Nebraska. We're an organization that represents 21 rural power districts and one cooperative and purchase power for them from the Nebraska Public Power District and we represent them with...in rate and power-supply matters. I'm here today representing and testifying on behalf of the Nebraska Power Association. The Power Association is an organization that was established back in 1980, it's a voluntary organization and it's...represents all segments of consumer-owned electric business in Nebraska. NPA is a forum to discuss issues, to provide information back to the utilities and to speak for the utilities at occasions like this. NPA has several committees. One of those is the Joint Planning Subcommittee, and I chair that committee and that is the reason I am here today. That committee prepares reports for our board, for occasions like this, for the Power Review Board. We follow some statutory requirements for the Power Review Board. We're currently developing--and it's nearly final--it will be final before the end of the year--a report that is titled "Renewable Energy Background and Outlook for Nebraska Electric Consumers." The Board asked us to put that together. It's a reference document and most of what I'll be providing today in terms of information will be taken from that document. That document, when completed, will have a lot more information that will be available to the committee, as well as the general public and others. And so as soon as we get that, that will be provided. I've provided copies of the written testimony. I won't read that. I'll try not to read that. What I would prefer to do, if it is okay with you, Mr. Chairman, is go through each of the four issues, one by one, and talk about each of them a little bit, and allow if you wish to ask questions at that time or go through all of them, whatever you prefer. And then, as you said in your opening remarks, I will address those first four issues of the resolution. The first issue is a review of the various forms of renewable generation, including the costs for those generations and the potential for their development in

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Nebraska. There are generally what are considered six categories of renewables, renewable generation for electricity: hydro, wind, biomass, methane, geothermal, and solar. When regulations are made by various jurisdictions, sometimes they will add others to the list, and an example might be like municipal solid waste, burning of that to generate electricity. And some jurisdictions remove some of those. Hydro, at times, is removed, existing hydro. I'll go down through each of those six categories. Wind first: Nebraska currently gets about six percent of our energy from hydro, about one percent comes from plants that are owned by Nebraska utilities, about five percent comes from WAPA, the Western Area Power Administration. And they have the dams on the Missouri river. It's low cost. The likelihood, in terms of potential, of adding more hydro is probably very low, at least of any consequence. The next category, wind: wind is probably the best opportunity for adding significant amounts of renewable generation. It's further along in development, both technically and economically. And Nebraska is a windy state. It's, by some of the people that do those measures, about the sixth windiest state. So there...the potential for wind could be significant, probably several thousands of megawatts. Next, biomass: biomass is crop residue or it could be grown specifically, maybe switch grass, or you know, maybe trees, or something specifically for electric generation. And of course that is used as fuel to fire a boiler, which in turn creates electricity. There is...I don't know that the potential there would be real large in terms of utility-scale development. It would be competing with other uses for the biomass, for ethanol production, for example, or for livestock feed. So I guess the potential there would be certainly nothing like wind. Methane is the fourth renewable. Methane is taken generally in two forms: either from a digester, from say a landfill. And Omaha Public Power District has one landfill, they're putting extraction wells into the landfill, and capture the methane and burn it to run an engine which runs a generator. The other would be livestock, methane from livestock waste. There are some of those in the state, one, or two, I guess, that I'm aware of. There it takes some form to capture the methane, you have to hold it somehow to capture it, and then it's burned off. Methane has, in my opinion, you know, good potential, probably not in terms of large utility-scale. But certainly there would be some potential. It has other benefits in terms of odor

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reduction, as an example. And methane is a very strong greenhouse gas. So just firing the methane and reducing it to CO₂ reduces greenhouse gas by a factor of, they say, like 18 or so. So if you can take that, then instead of just firing and letting it burn and convert to CO₂, but run it to...use it to run an engine, that would have some potential obviously. Geothermal: there is supposedly some geothermal areas in Nebraska, but I don't know that they're of a type that...it might be used for some heating purposes, but for electric generation, probably not that type. They are used in California and places like that, where they have higher pressures and higher temperatures. Finally, the last is solar panels. And that is another form, and we're, by some measures, said to be about ninth nationally in terms of solar potential. Currently, and I'll get into this a little bit later, probably not a whole lot of potential there mainly because of the cost. I'm talking about utility-scale, that type of solar. The next part of that issue had to deal with cost, and there is a table in the material that I handed out that talks about the various technologies and then has just kind of a rough, in the last column, a rough bus bar cost of each technology. For example, biomass is 9.6, the solar, as you can see, is very expensive. Wind, and this number for wind, at 6.2 cents, doesn't include any, you know, any grants, or any credits, REPI credits or tax incentive credits, or not. That's just purely based on what EPRI, and EPRI is the Electric Power Research Institute, and they collect information. And they're saying that's about what the cost, about \$1,800 to \$2,400 per kilowatt to build utility-scale wind generation. That would conclude the first issue. [LR108]

SENATOR LOUDEN: Okay. Any questions for Clint? Senator Kopplin. [LR108]

SENATOR KOPPLIN: Yes, thank you. You mentioned that occasionally burning municipal solid waste could be included. Are you aware of places that do this? [LR108]

CLINT JOHANNES: I think Ames, Iowa used to have a facility like that. I don't know if they still do or not. They did. One of the...and this was studied years and years ago in Nebraska, believe it or not, one of the detriments to it was the large volume it takes. You

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know, it's expensive to build, and so you have to have large volume. Now maybe Omaha or possibly Lincoln, maybe the two combined might be able to support something like that. But I think the smaller communities' landfills just wouldn't have enough volume. But there are some. Uh-huh, yes sir. [LR108]

SENATOR KOPPLIN: Okay. Thank you. [LR108]

SENATOR LOUDEN: At this time I got to introduce Senator Annette Dubas, joined us for the committee hearing. Okay, go ahead. You want to ask the question then, Annette? [LR108]

SENATOR DUBAS: Thank you, Senator Louden. You referenced hydroelectricity and that you didn't feel that it had a lot of potential for expansion. Could you elaborate on that a little more? [LR108]

CLINT JOHANNES: Well, the reason I'd say that...I guess there is some potential. They're talking like on the Missouri river, not of adding more dams, but of taking those units that are there and making them more efficient, maybe getting more use out of those. That is possible. I was thinking in Nebraska particularly, the likelihood of building another, say, like a Lake McConaughy sort structure is probably not realistic. Now adding--I know Nebraska Public Power District looks...is looking at the possibility of adding a small unit with their outlet at Gentleman Station. And, you know, there are some other maybe small facilities. But in terms of adding large amounts of capacity, that's what I was referring to. [LR108]

SENATOR DUBAS: Okay. I know in my home community of Fullerton, years and years ago they had hydroelectrical generation and abandoned it before my time, I think. What would it take for a community to start up a hydroelectrical power? [LR108]

CLINT JOHANNES: Well, you'd have to get the permits to dam up the river, I guess.

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There were those small dams...I started my career in Beatrice, and the Blue River had then all up and down the river. I don't know that there's any of them there any more. But they have taken them all out. Part of the problem with even those small hydros: the cost of the facility is so large, even when Kingsley was built with the tubes and everything in it, that still was expensive to put that in. So to build it on a small--even though the energy is sort of free, well, it is free once it's built--it's still very, very expensive. And wind would certainly be more economical. Wind has a disadvantage that it can't be dispatched like those hydros. Particularly if they had a pond behind them that you could hold and then release the water when you needed the generation--they would be more valuable. [LR108]

SENATOR DUBAS: Thank you. [LR108]

SENATOR LOUDEN: Senator Carlson. [LR108]

SENATOR CARLSON: Senator Louden. For my own benefit, on page 2, in the cost column, do you have figures for hydro and coal-fired? [LR108]

CLINT JOHANNES: I have coal-fired later in another column. I don't have them for hydro here and I didn't put them in for the reasons I just mentioned. They would be very site-specific, and I would imagine, you know, they're going to be between \$5,000 and \$10,000 a kilowatt, I'm just guessing that, but they're going to be very expensive. You're asking about hydro, right? Yeah [LR108]

SENATOR CARLSON: Okay. Thank you. [LR108]

SENATOR LOUDEN: Senator Fischer. [LR108]

SENATOR FISCHER: Thank you, Senator Louden. Thank you for being here. On hydro you states that one percent is Nebraska-owned generation. Do you know where all of

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those plants are located? [LR108]

CLINT JOHANNES: One, of course, is at Kingsley at McConaughy. There's some that Central Public Power and Irrigation District has at the Johnson plants. I think there is two of those. NPPD has one at North Platte. Loup Power has one at Columbus and one at Monroe. I think that is all of them. [LR108]

SENATOR FISCHER: Is there a threshold that if the plant produces below so many kilowatts, the licensing of it is easier? [LR108]

CLINT JOHANNES: I'm not an expert in that area. I know that when the Kingsley project was relicensed, it was a very long and expensive process. I know that the hydros, the Loup hydros will be relicensed shortly. Their license is expiring. [LR108]

SENATOR FISCHER: Do you know what their output is right now? [LR108]

CLINT JOHANNES: At the Loup hydros? I think they're like...well, no, they're like...my memory is like 40 megawatts. They're significant in size. The problem with...not that there is necessarily a problem, but the storage behind them has sealed it in, so they're pretty much run of the river and they're not as dispatchable. You can't move as much as they would if you had a big storage behind them, like they used to have. [LR108]

SENATOR FISCHER: Do you know if any of those plants...is there any talk in the future about those plants being discontinued, maybe the dams removed? [LR108]

CLINT JOHANNES: Not that I'm aware of, no. I know those in Columbus, because I live close there. They've all been refurbished within the last couple years and rebuilt. So they should have a long extent. And I think NPPD has done work with theirs at North Platte. And I think Central has with theirs as well. And of course, Kingsley isn't that old. [LR108]

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SENATOR FISCHER: Were they refurbished at the same level of output, or was it increased? [LR108]

CLINT JOHANNES: I think they were basically the same level. They're used to be a little one at Kearney, I forgot that one. I don't know if that's still...right there by the college. [LR108]

SENATOR FISCHER: There's a small one at Spencer. [LR108]

CLINT JOHANNES: Spencer, yes, I'm sorry, I missed that one. Yes, you're right. [LR108]

SENATOR FISCHER: I think that one was recently refurbished but it wasn't increased. [LR108]

CLINT JOHANNES: Yes, you're right. Right. [LR108]

SENATOR FISCHER: Okay. Thank you. [LR108]

CLINT JOHANNES: Yeah, thank you. [LR108]

SENATOR LOUDEN: One question I'd have, Tim (sic), on these digesters, and...because those seem to be some place in there, where they were probably reasonably priced. Should there be some tax incentives or something like that for people to go...to put in these digesters? Because... [LR108]

CLINT JOHANNES: Probably, I can't really speak to that. That would certainly help their economics. Part of the problem with, say an ag digester, you have to have...you can't have sand in the manure. It has to be clean manure for the digester process. So you

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have to have lots that are specifically designed for them. And those lots are more expensive than just a normal feedlot. And I suppose, you know, if there could be some incentive to help in that regard...they do have, I guess there are some federal grants possibly available. They have the incentive of odor reduction. You know, that helps them, if they have concerns about the neighbors or whatever. Plus if there's credits in the future for greenhouse gas reduction, methane is very high...I don't know what the right words are...but it's a very toxic greenhouse gas. And so if you can burn that, you should get credit. If you're getting credit, for say, CO2 reduction for greenhouse gas, you can get much more credit, maybe 20 times more credit for methane reduction.

[LR108]

SENATOR LOUDEN: And then on the wind energy, I mean, what is holding back wind energy is transmission. [LR108]

CLINT JOHANNES: That's one of the items, yeah. [LR108]

SENATOR LOUDEN: And should the state or somebody...somebody has got to pony up the bucks to put that transmission lines in and also got to have the authority to put them across, because every time you start to build transmission line, I mean, people come out from everywhere that they don't want it on their land. It's all right on the neighbor's. But anyway, should there be some type of legislation? Or should the state take the lead in trying to build these transmission lines, or put up the money to build them? How are we going to get enough transmission lines in order to do any substantial wind energy?

[LR108]

CLINT JOHANNES: Well, even though...and of course the larger...and I'll get into that more in the transmission area, but I can maybe cover some of that now. Even though transmission is a significant expense, in terms of the overall project, I'm talking now of a large-scale wind project, transmission is still a small piece. So even though you mentioned that it's a detriment, it's...needs to be considered, and it's important, and you

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got to have it, and it's expensive, but it's not probably the...in a lot of cases, may not be the thing that totally breaks the project or makes it unfeasible. [LR108]

SENATOR LOUDEN: In other words, you're telling me if some of these outfits are going to put in these big wind farms, they're willing to go ahead and furnish the transmission lines to... [LR108]

CLINT JOHANNES: Well, I think that's possible that they...if you have a project, now, we're talking about, say a project of a hundred or several hundred megawatts, it's going to require, well, let me...maybe I can give a little background. And I won't have to cover it then later on the transmission piece, is that okay? [LR108]

SENATOR LOUDEN: Okay. Yeah, if you can get through it right quick then. [LR108]

CLINT JOHANNES: Right. The...when a project is built, whether it be...proposed to be built, whether it's wind or a generating facility of an sort...of course, they almost always take transmission, particularly if they're any size at all. And the way the process works, the transmission system is open for use by any user, any generator. That's the way FERC set it up, even though Nebraska isn't subject to FERC jurisdiction. So the way the process works, when you make an application to the transmission owner, and they then put those into what they call a queue, into the order that they receive them. And with wind there has been a lot of requests, because people are speculating, or trying to find out what transmission costs. They don't know if their project is feasible or not. So they get in the queue and they then do studies as they come down the pipe in the order. What most transmission providers have done--and I think NPPD has done the same thing--because they have so many requests, they group them. And say, well, we've got so many requests in this group, so many requests in this group, that we'll do one study that will cover the whole group. And that way they can do more studies, or excuse me, cover more projects with fewer studies. NPPD did those for hundred megawatt groups. I think they did six of them. And I don't know if they're finished yet or not, but they're...if

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they aren't, I think about finished. And that resulted in costs anywhere from three million to over 30 million. [LR108]

SENATOR LOUDEN: For the study? [LR108]

CLINT JOHANNES: No, for the transmission. [LR108]

SENATOR LOUDEN: Okay. (Laughter) [LR108]

CLINT JOHANNES: I'm not sure. And those studies have to be paid too, but those studies are...oh, they're probably...I don't know what they cost, \$100,000 studies or \$50,000, just a relative magnitude. But the transmission was three to thirty. Then if you go to, say...that was a hundred megawatts. If you go to 200 megawatts or say, to four or even beyond that, then you're almost always required to go beyond the 115-volt system and go to the 345-thousand-volt-system, that's the same voltage that that line is planned from Columbus to Lincoln, the new line, the lines...the high-voltage lines that come from Gentleman Station to Grand Island and on, those are eligible, at least, voltages. When you get to that level, you're going to be looking at that magnitude of transmission. We're talking now several hundreds of megawatts. Those lines, they're like, just roughly speaking, like a million dollars a mile. You know, they're very expensive. If you're going from, say, just as an example, somewhere in the center of Nebraska down to the Lincoln area, what is that, 200, 300 miles, I suppose, 300 miles, so you're talking about \$300 million. But...have to put some numbers to it, but if you look at the project, say a 500-megawatt project at, say, \$2,000 a kilowatt, how many billions are we talking about? It's a big number, it would have to be multiplied out. I'm saying that even the transmission is expensive, but it's not nearly as expensive as the project itself. [LR108]

SENATOR LOUDEN: Yeah, but you can't have the wind farm unless you have the transmission. [LR108]

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CLINT JOHANNES: You have to have...if any size, there's just no way around it. There's just... [LR108]

SENATOR LOUDEN: And then that's been the problem as we've looked through it, you know, as we've discussed this for about three years or so, is where are you going to find the transmission to do that with, because most of the transmission in Nebraska is probably at about the max, or else they wouldn't be building that line that they're trying to build now. And so I'm wondering how we go about getting that transmission line built? If you have... [LR108]

CLINT JOHANNES: To try and get some incentive or some...I think though that firstly, that if it's a good wind project, and it's going to require maybe more transmission, then if you could build it right where the load is, say, right next to Lincoln or next to Omaha, or, you know, in this part of the state, there's going to be more transmission involved. But I don't know that that's necessarily going to be so expensive that it's going to make the project not work. [LR108]

SENATOR LOUDEN: Okay. We'll continue with the rest of it here. [LR108]

CLINT JOHANNES: Okay. Going on to issue number two then... [LR108]

SENATOR LOUDEN: Yeah. [LR108]

CLINT JOHANNES: The review of the operation and costs of Nebraska's existing renewable and zero-emission generation resources and costs for new generation facilities: I have a table on the top of, I think it's the third page, that talks about the...some of the existing renewables and what their costs are, at the Ainsworth wind farm, the Kimball wind farm, the ag...I don't really have real solid numbers on the ag methane. But, again, there that number, say if it's up as high as \$5,000 a kilowatt, that would include the collection equipment and so forth. Where landfill methane, those

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numbers are much smaller, because they already captured...just put wells down to capture the methane. Those aren't included in those costs. But that gives you some rough idea what the existing costs are. When you say non-emitting, I guess...I assume that meant nuclear. It could mean hydro. And the nuclear numbers, there are two nuclear plants, of course, in Nebraska, and their total cost per kilowatt-hour...about 3.5 to 4 cents per kilowatt-hour. They have a very high capacity factor. The cost of new facilities is in the next table. And those are numbers that are used generally in planning. Coal, of course that would be new coal, somewhere in the \$2,000 to \$2,500, just as a reference. Like when Gentleman Station was built, that probably cost like \$500. The Nebraska City plant that is going in now and will be in in a couple years, that was like \$1,300 or \$1,400. So those costs are going up. Nuclear, much higher, this is just a rough estimate, \$3,000 to \$4,000 a kilowatt. And you can see what that results in in cents per kilowatt-hour in the second to the last column, just for reference back to some of the other costs. Those would be the numbers for the second question or issue. Were there questions on those? [LR108]

SENATOR LOUDEN: Anybody entertain any questions...Senator Dubas. [LR108]

SENATOR DUBAS: Thank you, Senator Louden. What is a combustion turbine?
[LR108]

CLINT JOHANNES: Combustion turbine, those are the quick-start...they're like an aircraft engine, and they drive a generator. Those are low capital cost to put in, you can see, they're down to the \$500 to \$600 cost, but their fuel costs are very high. They use natural gas. So those are used basically for peaking, they come on just when the loads are high and not going to stay there very long. You run the coal plants and the nuclear plants run, well, basically all the time, when they're available. And then as loads (microphone malfunction) of course you have to meet the load instantaneously, so you add the more expensive generation. And combustion turbines are...you know, they're quick response. There are several of them in the state. Lincoln has several, Omaha has

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several, Nebraska Public Power has several. [LR108]

SENATOR DUBAS: Thank you. [LR108]

SENATOR LOUDEN: I guess...okay, continue, Clint, with the next... [LR108]

CLINT JOHANNES: Okay. Issue number three, review of the how the current power generation portfolio mix is utilizes to meet electric loads, and how additional renewable energy would impact the operation. There are a couple of pie charts in the information. The first one is based on capacity, in other words, that's a nameplate rating of each type. Basically in Nebraska, 45 percent of our existing capacity is coal, about 27 percent is gas and oil, about 15 percent is nuclear, about 12 percent hydro, and one percent renewable. Now that's capacity, that's the size of the unit, how many megawatts they can generate. If you look at the...and I should point out that that capacity that we just...as a requirement, each year, file a report with the Nebraska Power Review Board as to how long that capacity is going to be sufficient, and when we have to add to it. WE just gave that report to the Power Review Board in June, and when you take the...and you have to project it out over 20 years, project what the loads will be over a 20-year period and then how long this existing capacity, plus those that are planned, there's Nebraska City number two units that's going to be coming on here in a couple years, there's a unit planned at Hastings. When you take what's existing and those additions, there's enough capacity, including reserves--have to keep 15 percent reserves--to go out to 2017. Most utilities add a little extra to those reserves because of weather, and our weather is so variable that really changes things in terms of electrical needs. They add some to that 15 percent. When you do that, then the these quantities are sufficient to go to 2013, just for general information. Then these plants, when you look at the top of the next page, that pie chart...those plants run different amounts. In other words, coal plants are lower cost fuel, nuclear plants are low-cost fuel, so they run more. So the energy they produce then is in that next graph. Coal produces about 64 percent of our energy in Nebraska. Nuclear about 26, and you can look back at the other one, they

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don't have nearly that much capacity, but they run more, so they produce more of the energy; hydro, seven; gas and oil, only two, even though it has about 27 percent of capacity; and then renewables, one. Then in terms of impact on operation for additional renewable, we'll address just wind, because that's, I think, as I said earlier, probably the most likely renewable addition of any magnitude. Because wind is...you can't predict it, it varies a lot, it takes...it's a little, well, in some cases, a lot more difficult to integrate into the operation of the electric system. You have to meet the load the instant it occurs, and if the wind changes, you have to have some unit, electric-generating unit ready to pick that up. So the way that would be handled, would be with say, these combustion turbines that I just talked about, because they can start quickly. You may have coal units that do it back down, that probably wouldn't be the preferable way, you would probably have combustion turbines. But that requires...it changes the operation some, because you have to be able to respond, not just to the load, but to the change in generation levels by the wind. Most other units you can dispatch, which means you can tell them how much to run and to follow the load. But wind, you take it as it comes. And you want to maximize that and to get all out of wind that you can. These operations of large amounts of wind are something that needs to be better understood. And we're...in fact, some of us are going to meet with the folks out at National Renewable Energy labs and see if we can't get some help for Nebraska to do some studies on how to integrate wind. You know, I'm talking now about fairly large amounts of wind, into the Nebraska system, and hopefully we can get some help from them to help with that. The region, the utilities around us, some of them have, most of them have more wind...if you can combine a larger area, then the impacts aren't so great. If one utility has to pick up when the wind doesn't blow, it's more significant. But if you have a larger area, maybe the wind is blowing in one area, and not in another. So you can get more diversity, and that helps. I guess I would make the point that to add large amounts of wind we're going to have to have some more information. We're intending to do that, to try to get more information as to how we would integrate it into the system. That would be my comments on that issue, Senator. [LR108]

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SENATOR LOUDEN: Okay. Continue, I think. [LR108]

CLINT JOHANNES: Okay. The last issue is the transmission issue, and I've already spoken some about that. Just as kind of a general observation or thing that...it's critical. Wind energy is based on the cube of the velocity. So a change in velocity is very, very critical to the amount of energy you get. So if you would double the wind, for example, you'd get eight times the energy. So it's very important that you find a location where there is good wind. The higher you go, the better the wind is and the more stable it is, that's why they put in the taller towers. But the reason I mention that in conjunction with transmission, as you mentioned earlier, Senator Louden, in many cases in Nebraska the best wind is where we have the fewest people and therefore the less load and less transmission. So that's why we have many times more transmission requirements than maybe others might have. In terms of adequacy of the transmission system, the system is basically built to get the generation to the load, and go into a network. There hasn't been a whole lot of transmission added, because we haven't added a lot of generation for quite a few years. Nebraska city two will be going in in 2009. There's some transmission associated with that, you'll probably see some of the lines from Nebraska City area up to Lincoln if you've been down highway 2, see those structures sitting there. NPPD is planning a line from Columbus to Lincoln. And any time...I guess in general, we talked earlier, Senator, about if you add generation of any type of much magnitude, it's going to take transmission. Not just wind, if you added any type, it's going to take more transmission. And I described how the process goes for studying those. You know, put it into the queue, and they study them. To better determine how much wind, well, first of all, how much potential is in Nebraska we intend to do some further looking--and that will be described in this report that I spoke of earlier--do some looking at...get a better understanding of where there is good wind, get a better understanding then of how that could be integrated into the system with the least-cost transmission. I mean, there are probably going to be some trade-offs. If there is maybe not quite as good wind, but not quite as good, but it takes less transmission, you know, you might do some trade-offs that way. And then how...then also look at how it would

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integrate into the system, like I spoke earlier. And we're going to try to get those answers so that we'll have a better handle on what the real wind potential is. And I guess going beyond that, Nebraska's potential for wind development is larger than we may need just for Nebraska, or could handle just for Nebraska, because of the integration. So we're going to try to cooperate with others, including the Department of Energy, who is starting some studies, to see if there is potential to go beyond. You know, this is just sort of a...I don't know if you would describe it as, say, pie in the sky, but, you know, to get kind of the upper limit of capturing the potential. Then of course it has to be with a larger area, because you can't deal with that just with the electric units we have in Nebraska, you'd have to deal with others in the whole region. But we intend to look at those as well. I guess that there...is there any questions on that, about the issue on transmission? [LR108]

SENATOR LOUDEN: I guess then...Nebraskaw. [LR108]

SENATOR WALLMAN: Thank you, Senator Louden. [LR108]

SENATOR LOUDEN: Well you just got here, how do you know what he was talking about? (Laughter) [LR108]

SENATOR WALLMAN: I don't know what he was talking about. But on this, you know, we have turbines like in Beatrice. And that's fired by natural gas, right? [LR108]

CLINT JOHANNES: Yes. [LR108]

SENATOR WALLMAN: And I talked to some people from Australia with that biodiesel plant, and Japan is going pretty well to alcohol. And I know some tractor-pullers that use alcohol on their turbines, and boy they got a lot more power. And I wonder if you've looked at that, the cost? [LR108]

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CLINT JOHANNES: I'm not personally aware that it's been looked at, that doesn't mean it hasn't been, but I'm not aware of it. [LR108]

SENATOR WALLMAN: I know Lincoln upgraded their turbines, and them were dry ice and stuff. [LR108]

CLINT JOHANNES: Yes. So that they were cooler and they could get more out of them, yes. [LR108]

SENATOR WALLMAN: So, you know... [LR108]

CLINT JOHANNES: That seems like it might have some, you know, some potential, but I'm not aware that it's been looked at. [LR108]

SENATOR WALLMAN: I know Japan did some of this, so...thank you. Thank you, Senator Louden. [LR108]

SENATOR LOUDEN: Senator Fischer. [LR108]

SENATOR FISCHER: Thank you, Senator Louden. I know that throughout the state there are areas that I guess testing sites have been set up to determine just how much wind is blowing there. Do you know how many sites there are currently? [LR108]

CLINT JOHANNES: No, not off right off the top of my head. I know that... [LR108]

SENATOR FISCHER: I'm from the windy district. [LR108]

CLINT JOHANNES: (Laughter) Okay, I know that... [LR108]

SENATOR FISCHER: Shush. (Laughter) [LR108]

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CLINT JOHANNES: I know NPPD had purchased some sort of a piece of equipment that they could...it's portable, and you probably read about it...that can determine the wind, because it's so critical as to the wind level and as to the amount of energy you can get. And there are wind maps available. Those are okay, but when you're going to spend that kind of money you want to make sure you're at the exact right spot. So there is equipment that they can do it...I can't tell you exactly how many sites there are now. There were a series put up years ago, across the state, that resulted in...well, the Springview unit was built as a result of that. And the Ainsworth units were built as a result of that. But [LR108]

SENATOR FISCHER: I believe the Ainsworth unit...some gentleman in Europe just looked at one of the wind maps and plotted where those 36 turbines were going to be placed. And there were just a couple that were moved, and moved not very much. So I would assume those maps are fairly accurate, and maybe that information is already available. [LR108]

CLINT JOHANNES: Yeah. Like I said earlier, we're going to be visiting with the renewable energy folks here next week, or the week after next, I guess, and hope to learn more from them as to, you know, what is available in terms of mapping, how accurate we can expect them to be, how much more checking there needs to be. And there is others in the industry that are much more expert in this area than I am. [LR108]

SENATOR FISCHER: If the state would open up, I guess, energy production, here in Nebraska, since we are a public power state, what is the cost to all of us as rate-payers if transmission lines have to be put up and maybe you have private individuals or private companies then that are going to be able to access those transmission lines? [LR108]

CLINT JOHANNES: Well, you would have to be certain that we protected the rate-payer. And I'm not exactly sure how that would be accomplished. But you'd have

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to, you know, somebody would have to put up the dollars. You would have to get the dollars and make sure that those could be recovered. If we look to public power to do that, and you're looking to sell it beyond the state, you wouldn't be able to use tax-exempt bonds, you'd have to use taxable bonds, because it would benefit private organizations. I guess you would have to have the financial protection, but you would also then have to have the transmission system reliability protection, you know, that something wasn't built that jeopardized the reliability. And so you generally have those two areas you'd have to make sure you protected. I don't know if that answers your question or not. [LR108]

SENATOR FISCHER: Thank you. [LR108]

SENATOR LOUDEN: Okay. Senator Carlson. [LR108]

SENATOR CARLSON: Clint, you mentioned, and I wrote a little statement down here, the challenge is how to integrate it into the system. And certainly some others states...and I'm not familiar enough with some of the...what are the highest percentages in some states that use wind energy? And they must have figured out how to integrate it. But maybe because we're a public power state and we like our rates, in those states that are heavier in wind, just are willing to pay more, is that how they're integrating it? [LR108]

CLINT JOHANNES: Well, it will cost some more. You know, you have to...I didn't mean to imply that it can't be done technically. You know, I think what I was trying to say is that we want to make sure in the most cost-effective way. You wouldn't want to...because it's a different kind of resource than most utilities are used to operating, you'd have to cover it in a different way. You want to make sure that you don't jeopardize the system, first of all. And then that you do it in the most cost-effective way. One thing I didn't mention and that is...and I don't know that anybody is using much of this or not, but if you can find a way to store the energy when the wind produces it, and

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then capture it again when you need it, like in a pump storage project or compressed-air storage project, or you know, something like that, that would be another way of integrating it into the system, at maybe a more efficient way. It...because wind is a different type of resource, you can't ignore the fact that you have got to replace it at times. Now that doesn't make it necessarily uneconomical, but it's just another challenge. And it can be met, it can be dealt with. And it is being dealt with by others. And I don't know that because we're public power has anything...that's a technical issue, I think, really, more than a public-power-type issue. [LR108]

SENATOR CARLSON: Thank you. [LR108]

SENATOR LOUDEN: Okay. Well, seeing no more questionnaires, Clint, we'll thank you for your information and we'll take the next testifier, I guess. [LR108]

CLINT JOHANNES: Thank you. [LR108]

GARY STAUFFER: Good morning, Senator Louden, Senators. [LR108]

SENATOR LOUDEN: Good morning. [LR108]

GARY STAUFFER: I'm Gary Stauffer, that's G-a-r-y, S-t-a-u-f-f-e-r. I'm the executive director, chief executive officer of NNPP energy, located here in Lincoln. And this morning I'm testifying on behalf of the Nebraska Power Association. And I appreciate the fact that Clint, who is our technical expert, was available to answer your technical questions, because as anyone knows, a CEO can only deal with policy issues. So that's exactly what I'm going to deal with. We support a comprehensive study regarding renewable energy use in the state of Nebraska. As a matter of fact, it was our recommendation some time ago that we roll up our sleeves, collectively, and figure out what is the best, most reliable, best-cost policy that can be established for the rate-payers in this state. And as you're well aware, that our objective across NPA's

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membership in all of its generation and transmission REAs, Co-ops, so on, so forth, our objective is to provide the lowest cost, most reliable energy available. And I think we've accomplished that. When you take a look at the energy costs in the state of Nebraska, we are by far the most competitive state in the region. And that's because the system has been built from the consumer perspective up, not the investor perspective down. It's a very important concept to continue to maintain. Obviously energy costs are the foundation for an aggressive economic development. So we have to, collectively, that's...we follow the rules that the Legislature sets, we follow the policies that are set by the various regulatory agencies, but we all have to work together to ensure that the final outcome is a competitive energy portfolio that maintains Nebraska's competitive environment in the region. Now we think a comprehensive renewable energy plan would include numerous elements. Four of which, we believe, are important: the first one is that there should be incentives for development of renewable energy. Now in fact, renewable energy, in particular let's talk about wind. Clint talked about some of the technical aspects, but the bottom line is: wind development is more expensive than other alternatives available to us. You know, wind is an intermittent resource that is more expensive on a kilowatt basis than other alternatives. And we are always faced with providing the lowest cost. So if we are to develop wind in a public environment there should be incentives that move us in that direction. Those incentives are available in financing, potentially funded by the federal government, clean renewable energy bonds, CREBs. Unfortunately, as you're well aware, the federal government has not fully funded the pot we can draw from. And we're in competition with every other state in that regard. And frankly, most of those crib funds have been used in very small projects, and it really has not accomplished the objective that we set out. But from a public power perspective, if we can have access to very low cost capital, that's an incentive for us to go forward. We obviously don't have the capability to write off income tax or take accelerated depreciation. So the only incentive that is available to us are items like CREBs, and of course you know the federal government has tightened their purse strings. The other thing is that if you're in wind development or other renewable projects, there are payments called renewable energy production incentive credits, REPI. Our

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particular organization, the Municipal Energy Agency of Nebraska, has a wind farm, a ten-megawatt wind farm in Kimball. And one of the very first that came online to actually get benefit from the REPI payments. I can tell you that the REPI payment fund has been declining year over year. This year we got one quarter of the payments that we did initially. And of course that doesn't offset the entire cost, but it is an incentive that is declining. So one of the first things that the Nebraska Power Association would recommend is that incentives, both at the federal level and at the state level, be introduced that move us in the right direction. The second thing, and I think the purest form of renewable energy, is energy efficiency and conservation. Now the problem energy efficiency and conservation is just like the promises I made to myself: to read more, exercise more, get more sleep, and just generally behave better. They're great promises, but I don't keep them very often. In energy efficiency and conservation, we find that many of our consumers actually subscribe to the philosophy. However, when it comes time to actually deploy the capabilities, they are somewhat lacking. So we think that if we want to move forward, we should reward energy efficiency and conservation. And clearly, any megawatt that we do not have to produce is the type of megawatt that is very desirable, because as we move into a carbon-constrained future, which is clearly where our electric industry is headed, any megawatt that we don't have to generate from a carbon or fossil-based fuel is the right kind of megawatt. So clearly money should be established, rewards should be established at the consumer and utility level. I think the most important thing that any program should have is that it relies on local decision-making. We believe that one size does not fit all. It is very clear that what fits for OPPD and the citizens of Omaha may not be right for someone in Holdrege. And conversely, those folks that have good wind availability, compared to others that don't in this state, although it ranks very high in terms of availability, it's very spotty. We think that people, such as yourselves, and the rate-payers that will foot the bill, should be the people who make the decision. Now unfortunately at the federal level, the energy legislation moving forward has a mandate that may in fact supersede anything that any state does. And it's in the range of 15 percent, what I've heard. I think, from an industry perspective, that's going to be very, very problematic. Our neighbors in Colorado have a

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very, very aggressive renewable energy mandate. Now there have been studies that have been done that indicate even if they meet the requirements that have just been placed on them, they still need to build, base-load fossil fuel generation to meet the growing demand. So it's a challenge. We don't think that mandates are the right way to do. We think that local decision-making will continue to be the right way forward. And we would hope that that guiding bedrock principle be maintained. And the last element that we think is important for the policy is to give credit for activity that has already been undertaken. There is wind in Nebraska. NPPD's wind farm at Ainsworth, our wind farm at Kimball, there are various elements even at LES, where they have wind and various private developers, very small projects. There are also conservation programs that have been undertaken. And we think that it's important that those programs continue and be given credit as we move forward. We shouldn't start from ground zero. There's been invested capital and a lot of activity on that regard. So those are, in essence, the four policy items that NPA would like to address. I'm sure the most important thing we do is just roll up our sleeves and get to work on this study as soon as possible, so that we can come up with a program that fits the consumers in Nebraska. Thank you and I'm available for any questions. [LR108]

SENATOR LOUDEN: Any questions for Mr. Stauffer? I would...when you talk about incentives for wind, what about...and you mentioned any power you don't have to generate, I mean, you're pleased with. What about woodchips and some of the biomass that they're using in some of the areas. Right now they're using mostly woodchips to generate their heat and that...now by doing that, they're probably not using quite as much electricity, but they still have to use electricity to power that. Where does your organization come in on people doing things like this? [LR108]

GARY STAUFFER: Well, I'll have to go back to some of my personal experience in my area. I was involved in developing, with partners, a 65-megawatt wood-fired power plant in British Columbia, in William's Lake, British Columbia. And the driver there, Senator, was the fact that the hog fuel, which was the bark and the residual that lumber mills use,

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that was being burnt in what is called teepee burners. So there was a lot of ash and a lot of environmental issues. So the fuel was essentially available for a power plant. And because of the environmental technology we could employ, it was a very beneficial project. Now from a carbon standpoint, a biomass project such as that is net neutral. Trees are CO₂ sinks, when you burn them, you'll release the CO₂ that they have captured. And so it is a net zero. The technical challenges with a biomass wood-fired power plant are rather significant. First, you have to have a very, very robust fuel stream. And last time I looked, there was a lot more trees in British Columbia than there are in Nebraska. You can look at the smaller units using municipal construction waste or construction waste, but you have to, in order to support the capital cost that is required, this particularly project at 65 megawatts was 160 million dollars U.S. about 15 years ago. And I'm sure that has escalated. So that's a long answer to say that it's viable, it's expensive, and you've got to have a very robust fuel source. And in this case the fuel source was free. [LR108]

SENATOR LOUDEN: Okay. other questions? Well thank you, Mr. Stauffer, for giving us this overview. [LR108]

GARY STAUFFER: Thank you. [LR108]

SENATOR LOUDEN: All right, next testifier. Mister...let's see...could I have Tim from the Power Review Board if that's all right? Yeah. [LR108]

TIM TEXEL: Senator Louden, members of the Natural Resources Committee, my name is Tim Texel. That's T-i-m, last name is T-e-x-e-l. And I am the executive director and the general counsel for the Nebraska Power Review Board. The Board authorized me to testify today concerning LR108. and I'd like to say that my Board very much appreciates the opportunity to address the committee on the topic of reviewing the statutes pertaining to renewables and to develop a more comprehensive renewable energy policy in Nebraska. My board has had me speak several times before you and ask for

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that, so we appreciate the opportunity. The primary purpose of my testimony is section 6 in LR108. I will touch on number five also, I think, with the REPI credits that Mr. Stauffer mentioned. And if I might, before I enter into talking about section 6, if I could address Senator Fischer. Your question earlier on the Loup hydro facilities: I spoke with them years ago when they were upgrading that, and they didn't intentionally upgrade the facility to get more megawatts out of it. My recollection is that they got about four megawatts more out of it simply because the technology was so much more advanced when they put in the new main components of their systems that it runs that much more efficiently. They put in the same equipment, and from what I was told, it had to be the same size and the same type of mechanism. It's just since it was decades and decades old, the new equipment with that technology was able to operate more efficiently. So they gained some output from that. But that wasn't there intent, it was just simply worn out. [LR108]

SENATOR FISCHER: Could I follow up with a question on that? [LR108]

SENATOR LOUDEN: Yeah, may she ask a question, are you ready for... [LR108]

SENATOR FISCHER: No, I'm just asking you if I can follow up, Senator Louden, would that be all right, with a question to Tim? [LR108]

SENATOR LOUDEN: Yes, go ahead. [LR108]

SENATOR FISCHER: Okay, thank you. Do you know on the Spencer hydro if there was any updating of equipment there? I understand there was and I have heard that it wasn't...the load wasn't increased because of federal regulations that would have had to been met then. [LR108]

TIM TEXEL: To be honest, I don't know. [LR108]

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SENATOR FISCHER: Okay, thank you. [LR108]

TIM TEXEL: Right now, I think one of the core problems or issues in Nebraska is that there are two conflicting policies or desires. There's one which is a statutorily-codified policy that it is paramount to keep electric rates as low as possible while maintaining adequate resources and high reliability. And that...my board is part of that mandate. I think on the other side there is an increasing desire by many members of the public and I think by many members of the Legislature to promote renewable resources due to the benefits they can offer. And I say those policies are in conflict because they sometimes can be at odds with each other, at least in the state of Nebraska. It doesn't mean that one is inherently more important than the other, but in my opinion they just don't sometimes mesh very well because of our system and our rates. Regarding the cost issue, the basic problem that I see with renewables as a whole is that they're oftentimes not highly reliable, when we're talking about wind and solar anyway. The two that you usually hear about. And most of my testimony is going to be geared towards wind, since that seems to be the most economically viable, not the biomass or anything like that, or the hydro in particular. But regarding that cost, they tend not to be reliable. As you heard previous testifiers say, they're not dispatchable, you can't count on them whenever you need them. And that makes it difficult for both my board and the utilities, I think. And they tend not to be the most cost-effective method to generate bulk quantities of electricity. So to promote large amounts of renewable would most likely, from all the information that I've ever seen, require raising rates if you had substantial amounts of renewables. That's not true in some other states. And I think this goes to what Senator Carlson has said, is I think those states like Texas start out at a much higher rate than Nebraska, so it's easier to argue that it's cost-effective to use renewables there, because like in Texas, operating mainly on natural gas, they start out so much higher than us that the renewables are likely competitive. I don't know if they would be the same, but they would certainly be closer than in Nebraska where we operate mostly on nuclear, pre-existing nuclear, and coal. So I think that's a large issue. Regarding the renewables, there is currently no clear mechanism allowing the Power Review Board to

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take into account the benefits that renewables can offer. And we hear about the reduction of pollution, water conservation, preservation of natural resources such as coal, that extend the useful life of the coal reserves America has, and frankly, increase distributed generation, to locate those around the state. Regarding the current statutes dealing with renewables in Nebraska, I wanted to mention a couple of them that most people don't hear about very often. One is section 66-901, that was enacted in 1979. It is part of an introduction to a set of statutes dealing with protecting access to solar "skyspace" and wind energy easements. It's a little bit of an obscure statute, but it states that a legislative finding is that solar and wind energy help reduce reliance on fossil fuels, help reduce air and water pollution, and are important to public health, safety, and welfare; and should be encouraged. Another one is section 66-1060, enacted in 1995, and this is an introductory statute also to another set of statutes dealing with integrated resource planning. And in that one the legislative finding is that it's in the public's interest to encourage energy efficiency and use of indigenous resources, which I would offer wind and solar would certainly be indigenous resources. The problem with both of these statutes is that they're not self-implementing. In other words, they give a policy, but they don't say, and no go carry it out. They don't give my board or utility a distinct mechanism to carry out their policy. And the Supreme Court in Nebraska has found that preambles or policy statements in statute or not generally self-implementing, their purpose is to assist in interpretation of that act's intent. So although the board has occasionally cited these two statutes in our orders, we cannot cite them as controlling authority. We use them to show the importance of renewables and what they can do for the state, that the Legislature has those findings. But we have to go by what is set out in section 70-1014, which I will address shortly. One more statute specifically on renewables, is section 70-1014.01. This was enacted in 2003 and it provides for a special generation application that can be filed with the Power Review Board. It allows the Board to approve renewable generation facilities without regard to whether they are the most economically feasible, or to find that they're outweighed the economically feasible option. This was promoted both by the Board and Nebraska's electric utilities to allow for approval of small renewable facilities and experimental facilities. These allow

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the utilities personnel to learn how to operate with these types of new technologies and to become more familiar with them, how to incorporate them into their system. We wanted to make sure they had the ability to do that. Right now the Board's statutes don't have any minimum threshold for approval. So there's not like a one megawatt or half megawatt...if it generates and you sell it at wholesale or retail, then we have to approve it. And so we were starting to come across where we were having to approve 10 kilowatt, 200 kilowatt, very small generators. And this gives an option to not make it so onerous for the utilities and my board. This particular statute is limited in applicability to 10 megawatts or less. And the board pushed for this size limit because my board believed that once it became larger than 10 megawatts it would likely impact the rate base, and you would start to see the rates climb to pay for these facilities. Ten megawatts, my board figured normally a utility could handle without raising rates. There's not a definite line in the same there, but that was what my board thought was kind of a dividing line there. And I know that Senator Dierks has a bill, LB705 on General File, that would increase this exemption to 25 megawatts. And that's dealing with this particular statute. I only wish to point out with this statute that since its enactment in 2003, the board has only had two applications filed under the special application procedure, not good or bad, but it's not a large number under that provision. The largest one was for 2.3 megawatts, and I have the impress that now most utilities are looking at, you know, 50- and 100-megawatt sized units, or small experimental ones that are the 200 kilowatt sites. I don't think that there's a lot that I know of in the five or ten or fifteen range, at least that I've been told about. I wanted to address what special difficulties renewables face when being approve by the Power Review Board, this is where I said I'd deal with section 70-1014 some more. Just to start out, the Nebraska Supreme Court, I think stated it well, that one of the board's primary purposes, if not our core function is providing Nebraskans with adequate electric service at as low an overall cost as possible. And that was in the 1980 Terpsma case, T-e-r-p-s-m-a that the Supreme Court mentioned that. This language, I think, underscores the difficulty the board and Nebraska's utilities face when addressing most renewable generation facilities. They do not normally lend themselves to keeping the rates as low as possible.

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And so with the statutes that were created in 1963, I don't frankly think that the renewables we're seeing on the radar screen...I think that they are newer technology, they weren't nearly as economically feasible as they are now. They are still more expensive, but they have come down a considerable amount since, you know, decades ago. Unless an application qualifies as a special generation application that I mentioned earlier, the board must apply the criteria set out in section 70-1014 when we're considering approval of an electric generation facility. And there are three criteria: that the application will serve the public convenience and necessity, that the applicant can most economically and feasibly supply the electric service resulting from the proposed construction, and without unnecessary duplication of facilities or operations. Most renewables have difficulty meeting the last two parts of the test, to economically and feasibly supply the electric service resulting, and the duplication. Let's say a utility needs, say 50 megawatts, the problem is that renewables are generally not the most economic or feasible methods to supply that amount of power. And if a utility needs 50 megawatts, renewables such as wind or solar normally either duplicate existing facilities or they have to have backup sources to provide that 50 megawatts if the sun is not shining or the wind is not blowing. As Mr. Johannes mentioned earlier, they're not dispatchable. So it's difficult to...a utility says, we need 50 megawatts, to try and rely on wind. It's not that type of resource. It's not base-load and it's not peaking, because it's not reliable to that extent anyway. As an administrative agency, the board can't go beyond it's statutory mandate when we're reviewing applications for renewable facilities. So even if the board found the benefits of renewables, such as conserving natural resources, reducing pollution, etcetera, were important and can meet the first criteria, the public convenience and necessity, my board still has to find those last two criteria are met. And that's the difficulty, I think, with renewables. The hurdle is certainly not insurmountable. We have approved, as you heard earlier, at least two facilities with renewables. We've...two large-scale, utility-scale, I would say, facilities and renewables. The Board has approved a lot of smaller scale renewable projects like the LES wind turbines here by the interstate, the Springview Turbines. But most of those, or perhaps all of those had special circumstances. For example with LES, they had a renewable

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energy program, where their customers could voluntarily contribute an amount. Once they were fully subscribed and they had enough people contributing that amount to pay for the turbine, then they brought their application to us. What that did is it took out at least that middle issue, because the economic and the feasibility weren't there as much because the other rate-payers were not subsidizing it. There was not the economic difficulties for the reason that those subsidies were being paying by the other customers. So I think there's a lot of times that my board approved a facility because of those types of programs that NPPD, OPPD had, LES had. I might point out that when it came to the Kimball wind farm, I think there were a lot of special circumstances with that, why my board had no problem approving that. For one thing, MEAN has..the Municipal Energy Agency of Nebraska has members on the eastern and western interconnect. And this particular facility is near Kimball on the western side of the interconnect. So they could use that to serve their customers in Colorado and Kimball itself, which normally the transmission issues come up, if you're building on the eastern interconnect that far in western Nebraska, because you have to move that load to the population centers all the way to the eastern side. So it creates some difficulty. They didn't have that for the Kimball wind farm. Also with the municipal members that MEAN has, they have a winter peak as well as a summer peak. The importance of that is normally the wind has a higher capacity and blows better when most utilities don't need the power as much. They need it during the summer. With the municipal members of MEAN, they need it during the winter also. So that made it more economically feasible for them. And they could incorporate it in their system better. And I wanted to mention briefly the Ainsworth 60-megawatt wind farm that NPPD has, and I'll mention they do have other partners in that that have capacity rights. NPPD did a very good job of presenting their wind farm proposal as an intermediate resource, not as a base-load or peaking or intermittent, whichever term you want to use. So essentially it would be available to displace the use of other resources like coal whenever it was available. It wasn't going to be used as a peaking because it can't, or as a base-load because it's not reliable to run all the time. So my board did approve it, but it was on a three to two vote. And the two dissenting board members expressed concerns about the economics

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and the duplication aspects, that it duplicates existing facilities, or you'd have to build other facilities to duplicate that facility to back it up. And a three to two vote, as you all know, being that close, I think that may have put a chill on some projects that could have come to us. I'm not thinking of anything in particular, but with that close of a vote, I have a feeling that it made the utilities more skeptical to bring something to us unless they were very certain. And renewables have that difficulty. I would like to point out briefly that the board's analysis is not purely economic. And I would like to mention that, if that were the case, we'd only be able to approve, you know, 1,000-megawatt coal facilities. And that's certainly not true. We do need to take into account the portfolio mix. We need to take into account allowance for smaller facilities that can be strategically located around a utility's service area, so that you don't have too much, as I've heard some engineers say, too much on one shaft. So if that facility goes down, you have others to back it up, things like that. But wind and solar have the problem that they're not normally the most effective generation method, since they aren't dispatchable, etcetera. And sometimes the best location for a wind farm may be on the western side of the interconnect, like with MEAN. As I said, that doesn't help most utilities when 98 percent of Nebraska's load is on the eastern interconnect side. I wanted to mention, I think, one point that probably goes to section 5 of LR108, and that's the incentives such as the federal tax incentive that investor-owned utilities can receive. Public power entities such as in Nebraska only receive the REPI credit. Mr. Stauffer, I think, testified to that--the renewable energy production incentive. But unlike the federal incentives, the REPI credit is not guaranteed. Every year, Congress has to fund it. They don't normally fully fund it, as...with as many subscribers at they have now, and so it's not guaranteed, and is becoming increasingly difficult, for my board to put that into the mix, because the utilities normally come to and say we're getting REPI credits, it will reduce the cost. It is difficulty for me to recommend to my board to give that a lot of credibility simply because we don't know what Congress is going to do. And there may be zero dollars for it the next year. And we've already approved a facility based on the current dollars in that program. That's very difficult for us to do, to take into account. And I bring that up because that type of incentive is very difficult, I think, for the utilities to work with too,

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when you don't know how much you're going to be getting from that. I would like to just to follow up what I said and what Mr. Stauffer said, I have a copy of the Essent Newsletter , if I could have those handed out. And this is MEAN's newsletter, and it discusses the issue of REPI credits and it has a graph on there that I thought was very helpful. It shows the REPI credit provided to MEAN for its Kimball wind farm has been reduced from a high of \$487,000 in 2003 to \$150,000 in 2005. And I think that graph illustrates it very well. The REPI credit was one mechanism used by Nebraska utilities and with the Kimball wind farm to make wind generation resources more cost-competitive. And as that dwindles, of course it makes our approval of those facilities, I think, that much more difficult. I wanted to briefly go over a couple of suggestions for changes that might assist renewable development in Nebraska. I will freely admit that it is much easier for me to provide information concerning our current statutory scheme than come up with solutions to protect the rates and promote renewables. As an administrative agency, the board has been much more comfortable having the Legislature tell us what they want for the policy and have us make recommendations based on that to accomplish it. My board is becoming more willing to step forward and to come up with some solutions, but they still want to take their marching orders, so to speak, from the Legislature. My board has previously discusses what changes might be made and the board has indicated that changes to promote renewables should be comprehensive, deliberate, and very carefully considered. The board wants to avoid rushing into something that appears to work well in other states, but may not be beneficial to Nebraska. My board members have noted the dilemma between the promotion of renewables and maintaining the low rates that I mentioned earlier. My board members have pointed out that Nebraska's low rates are a huge economic development tool. The board does not want to see that jeopardized if renewables would cause rates to rise. Any increase in rates could also pose a serious burden for people on fixed income. And I don't mean to seem negative on renewables here, but I wanted to point these things out that my board has mentioned. The board does not believe renewables should be given a wholesale exemption from the economic or feasibility criteria in the statute. My board members have mentioned that, that they

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think if there is simply a renewable exemption that says you don't have to meet those criteria at all, similar to what now is in the Special Generation Application, and just make that a carte blanche, my board is concerned what that would do with the rates. And partly because that's their mandate is to make sure the rates are as low as possible. And they're concerned if you remove that what would happen if there were a great deal of renewables, that rates would probably have to rise to support the cost of that. The following couple suggestions are my thoughts and my board has not taken action to approve them. So with that caveat, I think the Legislature could amend section 70-1014 to allow the board maybe to take into account the benefits of renewable facilities and not just focus on the economics in isolation. The benefits, you know, may include as I mentioned: a reduction of pollution, water conservation, displacement of other domestic fuel sources, it extends the life of those fuel sources, especially coal and to a lesser extent natural gas, and the economic advantage to rural economies is another one that we hear a lot that the board at this point really can't take into account. The board could be allowed to weigh the factors against each other and determine if the benefits would outweigh the potential impacts on the rates, at least that would give my board the option of doing that, that we really don't have now. Right now the benefits such as reducing pollution, as I said, might meet the public convenience and necessity, but they really don't meet the other two standards. In the past the board has not been very receptive to the idea of weighing the externalities requiring scientific evidence such as the health effects. I think my board is nervous that that would basically turn into a battle of experts before my board, and it could be very protracted, and it would be very difficult and very subjective for them to come to a conclusion. So they've been hesitant on that type of factor. I think the other thing that could be used would be an incentive or a subsidy for renewables at the state level that would go to utilities. That would serve the same purpose as the federal tax credits or the REPI credits, because I think that those federal tax incentives, the fact that our utilities aren't eligible for them is a significant disadvantage for them. And the REPI credits simply aren't enough to make up for that, and the REPI credits aren't large enough to assist our utilities, I think, in the economics. I was asked to briefly mention C-BED legislation and in particular maybe Minnesota. We

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hear a great deal about Minnesota and they were a leader in the, I believe, in the C-BED legislation area. They may have been first, I'm not sure. Perhaps the best way, from what I found, to characterize Minnesota's C-BED program is that it seems to be currently in a state of flux. Minnesota enacted C-BED legislation in 2005. Then earlier this year the legislature in Minnesota made some significant amendments to that program. And now the Minnesota Public Utility Commission staff informs me that the Minnesota legislative policy committee which is responsible for energy issues has formed a task force comprised of interested stakeholders to discuss further refinements needed to C-BED legislation. Specifically, the task force is going to address what they want the C-BED projects to accomplish. I was a little surprised to hear that, frankly. So it seems like things are still developing on the C-BED issue in Minnesota. And in Minnesota, their legislation, the PUC approves the tariff set by the utility. But from what I'm told, it's a very limited review that says that the PUC has 30 days to approve it and if there's no protest then they must approve it. So it's not the normal rate approval that some other states have. And the tariff must be higher in the first ten years than in the last ten years. And the utilities are allowed to pass the C-BED purchase costs onto the ratepayers. And from what I'm told, if the C-BED facility would cease to operate for whatever reason after the first ten years, the ratepayers essentially have absorbed the higher costs without the benefits of the second ten years. So there is some risk under the new legislation. I might mention the two changes made in 2007 that seemed to be the most significant. Removal of the tariff cap; in the 2005 version initially in Minnesota had a 2.7 cents kilowatt-hour over the life of the facility maximum. That was removed in the new legislation. And the other one was the expansion of the allowable renewables. Before there was only wind, and now all the typical renewables are included in there. I didn't go through the whole list, but most things that people typically seem interested in renewables is included. So it was expanded considerably. I might point one big difference between the Nebraska C-BED law and the Minnesota one is that Minnesota has a renewable energy standard that starts out at 12 percent in 2012 and increases to 25 percent in 2025. So I think that gives a real incentive to their utilities to have to purchase from C-BED renewable resources and engage in those activities. Without that

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type of incentive, you may not have the push to do that as much. With that, that's...I guess I...one other thing I was asked to briefly touch on was the PURPA law, the Public Utilities Regulatory Policies Act of 1978. And this act preempts the need for Power Review Board approval for qualifying renewable projects. So under federal law if you have a renewable project and it's under 80 megawatts, you don't need Power Review Board approval. You certify with FERC, the Federal Energy Regulatory Commission, and then we're out of the picture. So most utilities--I'm including the C-BED legislation in Nebraska--you can go through the FERC certification instead of our approval and get around our economic and feasibility approval. But you have to meet those restrictions as a qualifying facility. One of the difficulties for that is you can only sell...you can only require the local utility to purchase your output at the avoided cost. And as I said, with Nebraska's low rates, that normally is not cost-effective as a business operation to do in Nebraska with renewables. It simply is not enough to pay back the cost of your facility. And that would conclude my remarks. I appreciate the time. [LR108]

SENATOR LOUDEN: Questions for Tim? Senator Fischer. [LR108]

SENATOR FISCHER: Tim, you mentioned two of your own opinions on maybe on what the law should...or how the law should be changed. I guess, from what you said, do you feel that...my impression was that you feel that low rates, that economic feasibility should not be the only determinant on projects. [LR108]

TIM TEXEL: Well, I throw those out as two options. [LR108]

SENATOR FISCHER: And the first one you said, maybe pollution, consider that. And the second one was what? [LR108]

TIM TEXEL: Conservation of water. [LR108]

SENATOR FISCHER: I heard you mentioned...I was taking notes on your first one, but I

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heard you mention on the second one that you felt that was subjective. I thought your first one was rather subjective, too. [LR108]

TIM TEXEL: It could be. My board has said that they're hesitant to get into a battle of the experts if you have somebody come in and talk about health effects. Because my board has said, how do we quantify those? And that was... [LR108]

SENATOR FISCHER: I guess I would disagree with you that that should be expanded, because I think the job of your board is to make objective decisions and not have personal opinions or perceptions come into those decisions on what is their statutory duty, or in following their statutory duty. So I just wanted to comment on that. [LR108]

TIM TEXEL: Well, I think my board would agree. They don't want to get into, you know, such subjective criteria. And my options were, under LR108, I wanted to just give a couple of options because it's saying what possible changes. And my first option where I said you could...my board could be allowed to find criteria that renewables could outweigh the need for the low cost is one option. I don't know that my board or I would necessarily push for that. But that's an option that would give my board the opportunity to approve a renewable because they are...they do have a difficult time showing economic feasibility right now. And that might...it would be more subjective, certainly, than where we're at now. [LR108]

SENATOR FISCHER: I fault myself with this sometimes, too, but it's easy to let emotions and perceptions get involved. And that's always dangerous, I think. So thank you. [LR108]

SENATOR LOUDEN: Senator Wallman. [LR108]

SENATOR WALLMAN: Thank you, Senator Louden. A question about base load. Now do you have enough base load electricity generation capacity today without buying from

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outside sources? [LR108]

TIM TEXEL: I'm probably not the best person to ask, but yes, my understanding is our utilities have sufficient base load. I mean, they're... [LR108]

SENATOR WALLMAN: But I mean, if I have electric irrigation motors, they shut me off. [LR108]

TIM TEXEL: They do because of the fluctuation on the irrigation. I mean, the load, the demand at one time is too much for the system to handle but they have enough normally to handle the system. The problem is they'd have to make off-peak purchases...I'm sorry, they'd have to make purchases from outside sources when so much irrigation is going on at once, that that's why they shut it off to protect from that. But the base load is met, not for maybe irrigation where it fluctuates wildly, but for all the standard needs the utility has. They always have those needs. That's why the nuclear plant and the coal plants are always running probably at near capacity, because that amount they can always use. And the gas, the wind, other things like that can be used when the, hopefully, when the irrigation load comes on or if it's a particularly hot day for air conditioners, things like that. [LR108]

SENATOR WALLMAN: Yeah. I had a little trouble with...we actually gave incentives to put irrigation motors, you know, to go from fossil fuels to electric. So that affected us either way. So thanks. [LR108]

SENATOR LOUDEN: Okay. Seeing no other questions, Tim, thank you for your testimony. [LR108]

TIM TEXEL: Thank you. [LR108]

SENATOR LOUDEN: How many people do we...want to testify on LR108 yet? One,

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two, three, four. Four. Going once, four? Four. Okay, come ahead. We'll probably shut the time down here so we can get to Senator Preister's bill. Okay, about six minutes, can you do that? [LR108]

JESSICA KOLTERMAN: I can do that easily. [LR108]

SENATOR LOUDEN: Okay, thank you. [LR108]

JESSICA KOLTERMAN: I'll be very brief. Thank you, Senator Louden and members of the committee. For the record, my name is Jessica Kolterman, J-e-s-s-i-c-a K-o-l-t-e-r-m-a-n. I'm the state affairs assistant for the Nebraska Farm Bureau Federation. I would like to thank you, Senator Louden, for bringing this interim study, and also the members of the committee for taking time to look at these issues. I basically come before you today to share what the Farm Bureau's position is on alternative energy. Currently, our policy states that we urge the state of Nebraska to work towards the development and use of alternative sources of energy to supplement the present supply of petroleum. Additionally, we believe there are opportunities for Nebraska farmers in the area of alternative energies. Some have been touched on today, looking at methane digesters and things along those lines. On the other side, however, is the fact that Nebraska farmers as a whole are large consumers of energy and we must consider the overall costs associated with the development of new energies, alternative energies. Specifically we believe that since Nebraska is a public power state, we need to continue to support that structure in order to keep prices low for Nebraska consumers. Therefore, whatever development takes place, we believe it should fit within the current structure and continue to protect the integrity of public power. We also believe that in addressing this issue, the state of Nebraska must look at the big picture as we move forward. Some states have implemented programs encouraging the use of more alternative energies. And while we believe this is beneficial in some cases, we urge caution when doing that because a lot of these states have seen their increase in electric rates. So we would just urge caution as you move

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forward. With that, I'd like to thank you and answer any questions if you have any.
[LR108]

SENATOR LOUDEN: Questions for Jessica? Thank you for testifying today. [LR108]

JESSICA KOLTERMAN: Thank you for having me. [LR108]

MARC MATHEWS: (Exhibit 3) For the record, my name is Marc Mathews, M-a-r-c M-a-t-h-e-w-s. I work with a local alternative energy company here in Lincoln, Nebraska. There is a statue outside that reads, four score and seven years ago our fathers brought forth on this continent a new nation, conceived in liberty, and dedicated to the proposition that all are created equal. But wait a minute. Nebraska is one of only a handful of states without net metering and Nebraska is essentially 50 out of 50. I'd like to say that again. Nebraska is essentially number 50 out of 50 in providing state incentives for solar and wind alternative energies. I guess it's not so equal. I understand that we will be speaking about net metering in the next session and that is a part of the solution. But honestly, state incentives are vastly more important. I mean, what's the use of net metering if there are no alternative energy systems being installed? Perhaps a recent NOVA special aired on PBS entitled "Saved by the Sun" can say it better. I'll read a few excerpts. The Reavises are a two-income middle-class family with a budget that will not allow many extravagances. But when they learn that the state of Massachusetts would pay half the cost of their panels, they jumped at the opportunity. Said Trechia Reavis, I don't think we would have done it without the state support. So why is Germany, a country hardly known for sunshine, going over the moon for solar? The answer is simple--cash incentives. Hermann Scheer: fossil fuels create increasing economic problems for all; rising prices at the same time of depleting resources. They create political conflicts, they create military conflicts, they create environmental damages, and that means our children subsidize our energy. And for this subsidy, we destroy the environment. This is a contradiction which cannot be carried forward anymore. Did you know that Colorado, New Jersey, California...well, almost every state

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in this union and...well, actually almost every country in the world is putting in solar and wind alternative energy systems at a breakneck pace. But because Nebraska offers no state incentives, Nebraska installs little, if any. Did you know that Louisiana, a state that is still dealing with Katrina, will provide 50 percent--that's 50 percent--for 100 percent pollution-free solar and wind alternative energy systems. Those incentives in Louisiana start January of '08. And that is exactly what we need here in Nebraska. We need those type of incentives to start immediately. I'm sorry to be the bearer of bad news today, but with Nebraska being number 50 out of the 50 states in state incentives, from other persons' perspectives Nebraska is really looking stupid. Here's why. Low- to middle-class individuals, without state incentives they do not purchase alternative energy systems. For the wealthy, they inevitably compare to other states and they would say something like this: I'm going to pay \$100,000 to \$110,000 for my energy systems but if I lived in Louisiana I would pay \$55,000 or \$60,000--I'll wait. If Nebraska really is a public power state, then let each Nebraska homeowner and let each Nebraska business owner really be their own utility company with the solar and wind alternative energy systems. And we're not talking about hundreds. We're talking about thousands of jobs here in Nebraska. And even if 1,000 different companies started this very day and worked around the clock 24-7 for 10 straight years, we would only then begin to make a dent. And then all we would do is be protecting the very grid, very power grid that the utilities are talking about. And please remember, when we do anything for the right reasons, there should never be a reservation of can we find the money. Here in Nebraska, does that stand true? And lastly, in Nebraska terms, it's fourth and goal. We're not about to punt. I personally would like to know who's going to pick up the ball. I personally would like to know who is going to do something and who's going to do it now. [LR108]

SENATOR LOUDEN: Questions for Marc? I have one. What do you think...how much do you want to pay for a kilowatt? When you talk about this renewable energy and everything, I mean, it all comes at a cost. How much do you think a kilowatt should be worth on your electric bill? [LR108]

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MARC MATHEWS: As I said before, Senator, there are some things that should not be quantified in such a way. If a family member, your family member, is in need of healthcare, do you look into your checkbook and say, will I pay for this? [LR108]

SENATOR LOUDEN: I tell you what though, I surely look to see how much my deductible is. And we have a lot of people that pay a lot on deductible. What I'm getting at is, when you talk about some of this renewable, you're talking about 25 cents for a kilowatt. Now you can go to Denmark and that's what it is, is 25 cents a kilowatt. You can go to Colorado and right now Tri-State is raising their wholesale rate to over six cents a kilowatt. Here in Nebraska we're down under somewhere around four or less. So whatever we do, when you say that we look dumb in Nebraska and we're 50th and that sort of stuff, I don't like to hear that, because we're not. We're nearly the top as far as economical electricity. And that's part of the reason you have trouble trying to develop that. Out in Colorado, and I'm quite familiar with that, is you have a lot of wind farms and you have Xcel, which is a investor-owned company that's based out of Minnesota, that sends all of this money from Colorado to Minnesota. And they have a lot of wind farms and they also have a lot of natural gas generation turbines, as we talked before. Their cost of power is considerably higher an hour. And I think that I agree, we need to do something, and that's what this study is all about today. But I don't think we need to be criticized quite as far as you went on telling us that we're way behind and we're dumb and we're backwards. So that's my point. I'll give you a couple minutes to reply. [LR108]

MARC MATHEWS: Thank you. I understand your perspective. The price...if there are state incentives, every building in Nebraska can have at least one 100 percent pollution-free alternative energy system. Transmission is a nonissue. We can put wind turbines next to buildings anywhere, anywhere in the state, as well as solar panels. Doesn't matter if it's solar electric or solar thermal. We need to catch up. And people will do it with state incentives. It's been proven. [LR108]

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SENATOR LOUDEN: Okay. Thank you. [LR108]

MARC MATHEWS: Thank you. [LR108]

MARY CAMPBELL: (Exhibits 4 and 5) Senator Louden and members of the Natural Resources Committee, my name is Mary Campbell, C-a-m-p-b-e-l-l, and I'm today representing the Industrial Energy Users of Nebraska. The page is bringing around to you two pieces of paper, the first of which is just a list of the members of this group. They are among some of the largest manufacturing concerns in the state, a very diverse group of producers. And what has united them and caused them to come together and create this relatively new organization is the fact that in many cases the very biggest number on their bottom line is the cost of energy. And so they are about, in this organization, trying to ensure that there are the cleanest and the most cost-effective and competitive prices for that very large component of their manufacturing concerns. The second paper before you is just a very brief and concise one-page of their support for renewables with some qualifiers, of course. They support this environmentally and they support it politically for reducing our dependence on foreign oil. Their greatest concern, always, is how is it going to impact us in terms of price. And so in that case, they are opposed to mandated, governmentally mandated portfolios and energy efficiency programs. They take full responsibility and recognize, as one of the previous speakers said, that one of the best things that we can all be doing in this area is being more efficient. And efficiency in their operations is cost savings, and so they are always looking for ways to be more cost-efficient in their energy use. But they would hope that that would not come at the expense of achieving some of these very important long-term goals for the state by mandating things at an above-market price for their operations. And they certainly are supportive of incentives where they are possible, continuing those at the federal level for renewable technology. They are supportive of truly community-based C-BED operations. But again, they think these things should be voluntary and they should be partnerships. And I'll conclude with that. [LR108]

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SENATOR LOUDEN: Questions for Mary? I don't see any. Okay, and for incentives, tax cuts, any particular kind? [LR108]

MARY CAMPBELL: They have not sent out a list of that to me. But anything which can, again, go to reducing the costs and having a reliable source of energy to keep their plants operation. [LR108]

SENATOR LOUDEN: And that's an incentive to construct, do the construction... [LR108]

MARY CAMPBELL: It could well be. [LR108]

SENATOR LOUDEN: ...or continue the operation? [LR108]

MARY CAMPBELL: And when we get to the next...they are willing to pay the cost of linkage to transmission and so forth. They recognize that, in the long run, that may be cost savings to them and they would step up to those kinds of costs. If that could be coupled with some kind of incentives, naturally that would just make it all the more attractive. [LR108]

SENATOR LOUDEN: Okay, thank you. [LR108]

MARY CAMPBELL: Thank you. [LR108]

ROBERT BYRNES: Good morning. [LR108]

SENATOR LOUDEN: Good morning. [LR108]

ROBERT BYRNES: My name is Robert Byrnes, B-y-r-n-e-s. I'm president of the Nebraska Renewable Energy Association and owner of Nebraska Renewable Energy

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Systems and a wind turbine owner. I appreciate the opportunity to discuss policies, what's going on in Nebraska, what's not going on in Nebraska (inaudible) case. But we do have...we are obviously endowed with rich resources in Nebraska. We have, of the four renewable energy resources, we're top ten in all of them. So the lack of that development at this point indicates there are some barriers or some obstacles and some policy things that can be enhanced for their development. One of the major ones we had talked about at a recent energy round table sponsored by a senator was that the Nebraska energy policy is outdated. The Nebraska energy policy comes from 1992 and one of the executive summary remarks that I saw right on the first page jumped out at me, that we should promote the use of alternative fuels for vehicles like propane. So I'm thinking we need to go back and take a look at getting our...the overall policy developed, and that kind of leads to the vision, the goal. Compared to our counterparts in Iowa, we don't have that--and that comes from the Governor, from the Legislature--vision or a goal. We don't have that. We have very disjointed or decentralized activities on different topics, but we're not all working toward a goal. I know the utilities have expressed interest in doing this, and I think this is in the best interests of the state to develop a vision. Where do we want to be in five years? We know where we are now. Where do we want to be in 5 years, in 10 years, in 25 years, in 50 years? We need to be looking at this and elaborate that goal, set benchmarks and time lines and get some of these things done. And this kind of leads to the RPS, or a mandate. I think there are mandates needed to require utilities to do some things. Last session, Senator McGill introduced a mandate that talked about 10 percent by, I believe it was 2020 or 2018. Okay, that is the same RPS goal that Delaware has set. I think we are much more richly endowed than the state of Delaware, and this is a reasonable goal. So I think some...not an extreme mandate that would destabilize what we have already, but certainly we need to ensure that we're moving in the right direction, and I think mandates will take us there. You know, the people of Nebraska have been clearly polled over and over again that they want this or willing to pay a little bit more, and I think that opinion needs to be heeded. I know we have...it's been mentioned a number of times that Nebraska has extremely competitive electrical rates, and hats off to public

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power for doing that and maintaining that. They're actually the fifth best rates in the nation. But this is a two-edged sword. Number one, cheap energy or economical energy and conservation do not coexist. They have never coexisted and will never coexist. As long as rates stay low, conservation will be a moot point, and that's been proven time and time again. I agree that conservation and energy awareness is a key factor in going forward in the state of Nebraska. But it's a difficult...it's a tough sell. It's a tough sell when energy is cheap. It's just that simple. But the other thing, the other side of that sword is that cheap energy today does not guarantee cheap energy tomorrow. We know coal is going up, we know diesel is going up to bring it here, and there's a very real expectation of two electrical rate hikes totalling 21 percent in the near term. So cheap today, and I said this to an LR looking at these things time and time again, cheap today does not guarantee cheap tomorrow, and that's our concern. Carbon taxes, you know, at the very least we should be assuring the ratepayers in Nebraska that we are prepared for carbon taxes. Sixty-four percent coal-based electrical generation, a carbon tax is going to hit us like a brick wall. So we have to make sure if we're not moving away from old carbon sources of electricity, we sure need to have a plan for carbon taxes which are just a matter of time, not if. Coal trains are clogging up the rail. Todd Sneller recently reported that the rail is at full capacity. This is a problem getting ethanol out of the state. We have an excellent valuated product in ethanol to send somewhere else and the coal trains are putting, you know, a tremendous burden on the rail system. And finally, I would say on coal that I don't think the health effects of spewing mercury and sulfur and old carbon into the air is a subjective subject. I think it was brought up that, you know, some things are subjective and we don't...I agree. But I don't think tons of sulfur and mercury being put into our environment every year is a subjective discussion. I think those health effects have been well-proven. Again, I typically speak for the...and I'll wrap it up here, speak for the little guy. That's what I like to work with is small farm scale, decentralized types of systems. And I can tell, as a wind turbine owner, the regulatory restrictions including zoning, NDEQ, Fire Marshal, electrical inspectors, insurance, bond, local utilities, federal requirements, and others add to the burden of this decentralized development. I understand these things need to be done safely in

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accordance with good environmental policy. But regulatory restrictions are often excessive and can easily snuff, you know, some of these small-scale projects. And then finally I'd wrap up with, I heard this summarized the other day. I've been asked many times, you know, what do you think the thing is on Nebraska. And sometimes it's hard to get your hands around that in a brief period of time. And I heard it summarized very well here recently in that, simply, Nebraska does not consider energy a priority. We have some cheap rates today. We've done pretty well up to this point and it's just simply not a priority. I would offer that we're at the end of the pipeline, we've had some of the highest gas prices in the nation this year. You know, this coal-based reliance, I think that we need to get ahead of this, we need to be preventative, and we need to make it a priority. [LR108]

SENATOR LOUDEN: Questions for Mr. Byrnes? Senator Carlson. [LR108]

SENATOR CARLSON: Senator Louden. Robert, you're going to bear the brunt of a little emotion here, and it's not your fault. But a couple of speakers ago called us stupid. And I don't appreciate being...I may be stupid sometimes, I'm not stupid all the time, and the people around here aren't. You didn't say it. He testified and left. And so it's a little bit hard to get over that. I appreciate your attitude and I've heard you before and I know you're sincere about what you're doing. You did indicate that Nebraska doesn't have a goal. And I think the goal is to provide reliable, adequate energy at the lowest cost. And you won't agree with this, but I think there is an attitude there, without dangerously affecting the environment. And we can talk further about coal energy and cheap today but maybe not cheap tomorrow. You mentioned that conservation is a moot point. And I struggle with the idea of conservation. I think the people that provide our power would like to be able to continue to generate power at an optimum level without getting into the expensive portion that comes when they've reached the peak. But they really don't want conservation below that point because that affects income. We're all that way. And that's a difficult balance to reach. I appreciate that you speak for small business and so you're listening to my venting here a little bit, but I do appreciate your testimony. Thank

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you. [LR108]

ROBERT BYRNES: If I could just respond briefly, Senator Carlson, thanks, and I can take it. (Laughter) But the...I would say, and not in defense of...I don't believe Nebraska is stupid. I call this home, I'm proud to be here, I love the state. But I would say, to couch that, having spoken with hundreds of people at the State Fair and having lived there for ten days, there is a lot of emotion out there. This is a very emotional topic and there's a lot of folks that are upset. So there's not...I take kind of exception to that remark. I guess it depends on how you look at that and how you receive that, but there is a lot of emotion out there. And it's a hot button issue. I'll leave it at that. But that's fine, I understand how you'd want to vent on that. [LR108]

SENATOR CARLSON: Thank you. [LR108]

SENATOR LOUDEN: Other questions? Thank you for testifying. Okay, now we're getting past number four. Ken, can your testimony...are you going to testify this time and not on the next one? [LR108]

KENNETH WINSTON: No, I believe I have a right to testify on both of them. [LR108]

SENATOR LOUDEN: Well, yeah, but I have a right to shut you down pretty quick if you're going to because I want to get to Senator Preister's bill so we can get out of here by 12:30. I mean, this is what I'm working at. [LR108]

KENNETH WINSTON: Well, I believe I'm an efficient testifier, Senator Louden. [LR108]

SENATOR LOUDEN: Okay. Well, I appreciate it. [LR108]

KENNETH WINSTON: And I believe I've shown myself to be such in the past and I will attempt to do so. Good morning, Senator Louden, members of the Natural Resources

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Committee. My name is Kenneth Winston, last name spelled W-i-n-s-t-o-n, and I'm representing the Nebraska Chapter of the Sierra Club. We support the development of clean energy and development of an energy policy for the state of Nebraska. I attended an event put on by Senator Dubas the other day and that was...an energy policy was discussed and I do believe that there were a lot of good points made at that meeting. What are the reasons for clean energy for an energy policy? Well, energy security, reduction of pollution, reduction of greenhouse gases, economic development, and conserving natural resources. But one of the other pieces, as was mentioned--and actually a lot of what the gentleman from the NPA said I agree with completely--efficiency is a major piece of what needs to be done here. And as he indicated, the cheapest kilowatt is the one that you don't have to generate. So what are the responses? How do we need to respond to that? Well, first of all, as Mr. Texel indicated, revision of the Power Review Board statutes so that they are not barriers to the development of renewable energy. Secondly, the C-BED legislation that was passed by the Legislature last session, if that was utilized in greater detail, that would provide a mechanism for private developers to use tax credits in conjunction with public power to make renewable energy development more economically feasible. Then we're certainly willing to support tax credits or REPI credits or whatever the utilities are talking about. I'm not exactly sure what they're looking at, but be glad to have discussions with the utilities about the manner of credits that they're interested in to increase renewable energy generation. And in the past we have supported legislation in that area. We also believe in incentives for efficiency, loan programs. There's a loan program that's run by the Energy Office that's a great benefit for that. We're also supporting tax incentives for energy efficiency. Because oftentimes, as Mr. Byrnes said and as other people have said, people don't do efficiency measures because they don't have the incentive to do it. They need to have a little kick in the pants or a little...a reason to do it. They need to be able to say, well, you know, this is going to be...I can afford to do this. And they often don't understand that. We believe that also any plan...that there needs to be a statewide plan because of the fact that, as was previously indicated, the resources are often not close to the places where the electricity is needed and there needs to be a plan to deal

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with transmission. We also, as Mr. Byrnes said, any plan needs to be forward-looking. The cost of fossil fuels are rapidly escalating and carbon taxes are very likely. We don't want to be in a situation where we're making decisions on energy based solely upon the current situation. We need to be able to make decisions that people 20 years from now will look back and say, those decisions were the right decisions because these people today were forward-looking and they were willing to think about what the state of Nebraska was going to be like 20 years from now. So we need to be forward-looking in the decisions that are...in developing energy policy. I'd be glad to answer questions.
[LR108]

SENATOR LOUDEN: Any questions for Ken? I do, Ken. I want to get something from a Sheridan County graduate here. Do you think, to pay for transmission lines, that...you know how this telephone deal is, Universal Service Fund or something like that?
[LR108]

KENNETH WINSTON: Um-hum. [LR108]

SENATOR LOUDEN: Do you think something like that should be done on utilities all over the state of Nebraska to pay for huge transmission lines or have some kind of a, what would you say, a fund to construct transmission lines? Because your wind power and some of this isn't going to happen unless you have transmission lines. And how do we go about getting transmission lines? [LR108]

KENNETH WINSTON: Certainly things cost money. They don't just happen. And we'd certainly be willing to look at creating a fund through the rate structure if that is what is needed. I guess I don't...I'm not an expert on what it would cost to provide those kinds of things and I wouldn't want to say, well, yes, this is the way to do it. But we'd certainly be willing to examine that. [LR108]

SENATOR LOUDEN: Just so then, you know, wouldn't want an organization like yours

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coming up and saying, well, all of a sudden you guys have raised your electrical rates so high and they've been mandated by the state. You know, and so this is what you're up against. If something like that's done, it'll be considered a mandate. So this is what we have to be very careful about. We need the transmission lines, but how do we fund them? [LR108]

KENNETH WINSTON: Well, I don't know how other utilities are intending to approach this. I know that OPPD passed a resolution recently to increase their rates and they were going to add 1 percent for efficiency and renewable energy generation. And I don't know exactly how they intended to use that, but that's their intent at the present time. So that is part of their...the plan that they're going forward with. I don't know if it's been planned or if it's been passed or if it's just been moved from the energy committee to the whole board. But I know they're proposing it. [LR108]

SENATOR LOUDEN: Okay. Thank you. [LR108]

KENNETH WINSTON: Thank you. [LR108]

STEVE EVEANS: Senator Louden, may I testify based on LR108? [LR108]

SENATOR LOUDEN: Okay. Are you going to testify on LR79, too? [LR108]

STEVE EVEANS: Just LR108. I'm not going to testify on LR79, I'm just going to listen. [LR108]

SENATOR LOUDEN: Okay. Go ahead. [LR108]

STEVE EVEANS: My name is Steve Eveans, S-t-e-v-e E-v-e-a-n-s. I represent Western Nebraska Renewable Energies, LLC. We are a C-BED organization in Blaine and Brown County. I also represent, as a managing partner, Nebraska Highway 1

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Renewable Energies. That's also an LLC and it is also a C-BED organization that has been created based on LB629 and the precepts of that legislation. So it's something of a creation of your group, coming out of this organization and the Legislature. I just wanted to report to you some of our progress and some of our pitfalls. But the main thing I wanted to say was that we definitely support state incentives. We've been assisting the Department of Revenue in identifying the revenue portion of a sales tax abatement for C-BED organizations with getting them information about the kinds of equipment that we would like to see abated in a wind farm development. We also have been trying to get a power purchase agreement negotiated with the various utilities on both projects. And at this time we had been offered an RFP to respond to by Nebraska Public Power District and we were not able to respond to that RFP because our group was only created after the bill was signed into being. So what we were facing at that point was a time schedule that was looking at having a facility completed by the end of 2008. Their requirements in the RFP were to complete a facility by December 31, 2008. Since that time, they received somewhere between seven and ten RFPs and they are currently negotiating with a short list of three firms. They allowed us to come in and propose an alternative solution unsolicited. We presented that concept to them yesterday. We asked them to provide us a rate sheet on a proposed...how much they would pay for renewable energy or green power, our 100-megawatt wind farm would produce in Blaine and Brown County. We do have the people, we have the land, and we have the turbines in place to be able to do this wind farm. We also have the design and construction capabilities to complete the wind farm before the end of 2008. We conducted our own self-initiated transmission studies with the engineering groups that we work with in the state of Nebraska. Our team is composed of predominately Nebraska engineering firms and electrical engineering; KPE and associates from Bellevue, Nebraska. Also John Sinovich, professional engineer on the large transmission scale components. Our consulting firm is called SEArch, Selective Energy Alternatives, and they have Green Prairie Wind Development as a consultant and the wind developer who has the turbines and the capability to deliver those turbines. We were instructed yesterday that our proposal, we would have to go into the transmission

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queue at this point and our transmission analysis would be studied. They told us at that time that that would cost in the neighborhood of \$180,000 and we would have to deposit \$10,000 up front and it's nonrefundable if the project doesn't go through. Our partnership will be at risk for that \$10,000 in the queue. We suggested to them that...they said that this transmission study would take at least three months and that they're backed up on their transmission studies. Right now they have five projects in front of us, three of which are renewable energy projects. What we're asking is, the other two projects are not renewable energy projects and we're asking for some dispensation since that we do have some deadlines. If we do not complete our power purchase agreement negotiations by the end of the month, we will lose our turbine availability for next year. And it could go into 2009, possibly 2010. But these are the things that we're facing with that project. We've just begun talking with OPPD on the possibilities of partnering with OPPD in Cass County. That's where the Nebraska Highway 1 Renewable Energies, LLC is located. And these are groups comprised of local farmers, individual business owners, private nonprofit organizations are interested investing in the wind farm. Also school districts are looking at it. So that's kind of a report based on what we're facing. The primary thing is we're facing, at this point, is a delay relative to the transmission queue and them understanding that we understand what is involved with that. And also, they have their own backlog in terms of completing the transmission studies so that the system can be adequately designed for the introduction of this kind of power. So we're looking at 100 megawatts in Cass County and in Blaine and Brown Counties. [LR108]

SENATOR LOUDEN: Did...who are you negotiating with transmission; Nebraska Public Power or... [LR108]

STEVE EVEANS: We just received the information that we needed from them yesterday to begin the negotiations, and also the study of transmission with NPPD in Blaine and Brown County. They told us at that point yesterday that they would anticipate that that would take three to four months to complete. [LR108]

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SENATOR LOUDEN: Are there sufficient transmission lines in that area? Did you people check into that before you... [LR108]

STEVE EVEANS: Our private consultants did check into it and we can, in our opinion, drive 100 megawatts on the 115 KVA line located in western Brown and Blaine County. [LR108]

SENATOR LOUDEN: Okay. Questions for Steve? Thank you, Steve. [LR108]

STEVE EVEANS: Thank you. [LR108]

SENATOR LOUDEN: Any other... [LR108]

JOHN HANSEN: Mr. Chairman, for the record my name is John K. Hansen, H-a-n-s-e-n. I'm president of the Nebraska Farmers Union. To not go over a lot of the testimony that we already heard this morning, a couple things just I thought maybe I ought to hit on. And one is that as we look at what's going on in the rest of the region, the rest of the region is really ramping up. And so the rate at which they're building wind is increasing. So when you look at year to-date figures from September 30 last year to this year, Iowa went from 837 to 987 megawatts of wind. Minnesota went from 812 to 897. Kansas is up to 364. They've got two or three projects right now in Kansas that are over 100 megawatts. They're looking to be at 1,000 megawatts within the next several years. So you look at the rate of increase of wind energy being developed in the Midwest, it's obvious that Nebraska and South Dakota really stick out as the two states in the top ten wind capacity states in the country that are doing the least...are the least aggressive in developing their wind resources. So it's continuing to be, I think, appropriate for us as a public power state to figure out, based on the characteristics of our public power state, how do we make the necessary adjustments in order to protect public power and yet move forward. And one of the things that I think sticks out,

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especially going back to Tim Texel's comments, is that perhaps in the renewable energy area we need to try to create an appropriate space for renewables as a percent of our total generated capacity where we have more flexibility. And the other is when we look at amortization. So when we look at cost-effectiveness, are we looking at it in a 1-year, 2-year, 5-year, 10-year, or 20-year period? So in the case of wind, the vast majority of the costs in wind are up-front costs. And so there are not additional water or fuel costs over time. It's basically repair, maintenance. So when you look at the total 20-year cost, the longer those systems go, the more cost-effective they get. So if you can think about costs within...in a wider range of years, I think that helps create a different kind of cost-effectiveness evaluation that might be a possibility. The other is that, and I can't give you the detailed information today, but there is also in the case of schools issues that they face relative to doing energy efficiency and renewable energy-based projects based on some state standards that limit their amortization rate to 15 years. And in some of those cases, we need to maybe look at those statutes and give them the flexibility to be able to regain their investments over a 20- or 25-year period. With that, I'll stop. Thank you. [LR108]

SENATOR LOUDEN: Okay. Any questions for John? Senator Carlson. [LR108]

SENATOR CARLSON: Senator Louden. John, with the latest, as you know, you would know, the latest developments in wind energy and towers and so forth, what's the realistic life span? Because you talk about amortizing. [LR108]

JOHN HANSEN: Well, I think...a rule of thumb is 20, some use 25 years. And... [LR108]

SENATOR CARLSON: Has this increased over the last 10 or 15 years? [LR108]

JOHN HANSEN: Dramatically. Engineering gets better, internal...the internal mechanisms for, you know, from company to company vary a great deal, but there's a lot of new technology that allows more detailed evaluation of the operation of the turbine

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to give folks a better chance to do more preventative rather than reaction repairs. So instead of waiting until the sucker quits and the bearing burns out and then you have to wait six months to get a crane in to replace it, there's more and more technologies, internal monitoring mechanisms, to be able to predict when things are going to go out and when there's going to be problems, so that you can schedule maintenance and repairs ahead. So it improves the reliability of those systems. But you know, just as a combine, I think of them as large combines a long ways up in the air. But if you know what you're doing and you're willing to spend the time at it, you can continue to overhaul combines in ad finitum. And as long as you're just continuing to overhaul them and it costs more money, but combines can go on indefinitely. You wear out tin, you wear out parts, you replace them, you continue to go on. So if...to my mind, if we can get over this burst that we've had of wind projects where cost is such a huge...short-term cost is such a huge consideration, we can design turbines that last a lot longer and are even more reliable. But they're going to cost more money. But when you look at it from a time reference, underengineering a turbine is a bad idea. (Laugh) So we ought to be overengineering turbines, in my opinion. And I think as the cost of carbon-based fuels go up, I think that we'll be moving that direction in terms of wind turbines and technology. [LR108]

SENATOR CARLSON: Thank you. [LR108]

SENATOR LOUDEN: Other questions? Thank you, John. [LR108]

JOHN HANSEN: Thank you, Mr. Chairman. [LR108]

SENATOR LOUDEN: Now is that the last one on LR108? If so, we'll move to LR79 and Senator Preister has been so judiciously waiting over here to introduce it. Welcome, Senator Preister. [LR108]

SENATOR PREISTER: Thank you, Chairman Louden. And I do appreciate the patience

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and the attentiveness of the committee members that are still here. My name is Don Preister, P-r-e-i-s-t-e-r. I introduced LR79 regarding net metering, and I do appreciate the committee's attentiveness and commitment to dealing with net metering in the past and ongoing. Public interest in this issue has grown tremendously since I began working on net metering legislation over ten years ago. My office now receives at least one call a week from rural and urban interests, citizens interested in participating in a net metering program. They're entrepreneurs interested in selling small-scale renewable energy systems in Nebraska and citizens interested in supporting both large- and small-scale renewable energy development in Nebraska. People want a net metering program that encourages citizen investment in renewable generation. They don't want a program that imposes burdensome requirements and additional costs on them. As policymakers, we've recently enacted several policies which encourage and provide incentives for the development of renewable energy in Nebraska. Two years ago we passed legislation which established a renewable energy tax credit for new renewable energy-generating facilities over one megawatt, and we appropriated \$400,000 for those tax credits. In this past session, 2007, we broadened this tax credit program by removing the one megawatt limitation and making that tax credit available to all sized renewable energy-generating facilities. We also increased the amount up to \$750,000. The Legislature unanimously passed LB629 last session which established the Rural Community-Based Energy Development Act, known as C-BED. The purpose of C-BED is to encourage and foster local ownership of community-based renewable energy projects, which optimizes rural economic development opportunities by retaining financial benefits within our rural communities. In 2007, we also passed a sales tax exemption for C-BED projects. The establishment of a net metering program is yet another valuable policy incentive that we can enact to encourage the development of Nebraska's renewable energy resources. My goal has been, and continues to be, the development of a net metering policy which does in fact operate as an incentive rather than a disincentive to small-scale renewable energy development. In 2006, the Network for New Energy Choices published a report entitled "Freeing the Grid: How Effective State Net Metering Laws Can Revolutionize U.S. Energy Policy." And I did pass out in

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past hearings a copy of that, but I could certainly get that for you again. The report examines state net metering programs to determine each state program's effectiveness or ineffectiveness based on the use or growth of net metering within each of these states. They found that ineffective programs have similar components which include: restricting commercial, industrial, or agricultural customers from eligibility; limiting the size of eligible renewable energy systems; preventing customers from receiving credit for excess electricity; capping the total number of participants; charging discriminatory fees and standby charges; demanding redundant safety requirements; requiring unnecessary additional insurance; failing to promote the program to eligible customers. And I would submit to you that the legislation that we've gotten, other than mine, has incorporated most of those each time, which is why I have tended to oppose them. They just haven't worked or been effective as incentives in other states. In states which incorporated many of these disincentive components, they found three states had no participating customers at all; six states had five or less participating customers; and in several states, the actual number of participating customers decreased as many customers, deterred by paperwork requirements and utility fees, just dropped out of those net metering programs. This report offers us insight into lessons learned in other states. If we adopt a net billing rather than a net metering program which creates disincentives and barriers, then we will be left with an empty statute which serves no one. I remain committed to working with interested parties to find common ground so we can enact an effective net metering incentive policy which will encourage further development of clean energy generation. With that, Mr. Chairman, I would certainly entertain any questions. [LR79]

SENATOR LOUDEN: Questions for Senator Preister? Seeing none, I guess do you... [LR79]

SENATOR PREISTER: I will waive closing. [LR79]

SENATOR LOUDEN: Okay, that's what I was wondering. Do you wish to close or...

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[LR79]

SENATOR PREISTER: No. [LR79]

SENATOR LOUDEN: Okay, thank you. [LR79]

SENATOR PREISTER: But thank you for giving the folks who have appeared here the opportunity to speak. The interest is really growing in rural areas. I think the citizens of Nebraska are way ahead of the policymakers in Washington who should be doing federal energy policy dealing with these issues, and I think they're ahead of us in the Legislature and ahead of their own utilities. They want it. I'm hearing from them all the time, and I think they're here to share with you some of their stories again today. Thank you. [LR79]

SENATOR LOUDEN: (Exhibits 6-15) Okay, thank you. Let's see, at this time I have letters to be read into the record in support of net metering of LR79 and that would be Rita Corell from Omaha, Andrew Jameton from Omaha, Jetty Rabeler from Fremont, Luke Perry from Chadron, LaVern Raabe from Pilger, Sue Reyzlik from Fremont, Shelagh Keleyhers from Omaha, Joyce Coppinger from Lincoln, Ed and Jenn Toribio from Gibbon, and Thomas Mruz from Bellevue. How many do we...how many wish to testify on this bill today? Four, five? Do I see more than five? Okay. We'll get with it then. We'll give you about seven minutes apiece because I got to be out of here before 1:00. [LR79]

ROBERT BYRNES: Thank you, Senator Louden, members of the Natural Resources Committee. I testified several times before on net metering so I'll just kind of hit some bullet points and move quickly. First of all, I'd like to kind of reemphasize that net metering is not just about small wind turbines. We're talking about renewable electricity. And as was outlined earlier in LR108, that renewable electricity can come from a number of different sources; solar sources, methane gas technologies, all of these

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technologies hinge upon a fair net metering program. First of all, some comments about a net metering program. Capping system size, in my opinion, below 50 kilowatts should be avoided. It will only serve to limit the diversity of technologies that can be utilized to generate renewable electricity, and even reduce even a fair net metering program to tokenism. While a lower cap may fit well for a homeowner with a small wind turbine, it will do little for an ag producer with a greater resource and need. We need a program that all Nebraskans can access and utilize. Renewable energy sources generate green tags or carbon credits. A fair net metering program, whatever that is, must ensure that ownership of these carbon credits remain with the renewable energy producer and can be sold or traded at the discretion of the renewable energy generator. Recent released RFP for commercial wind farms requires generators to surrender rights to these green tags to public power without compensation. The hallmark of a true net metering program and the cornerstone, I would say, of a true net metering program is a single bidirectional meter that is free of excessive fees, surcharges, surveys, excessive and unneeded insurances, bonds, and inspections as the senator has outlined. Zoning requirements are often outdated, repressive, and there is a lack of uniformity across the state. Now I know this is left to the county, but I have, having run afoul of...not afoul, but having had to...not circumvent, but to (laughter) having to get through county zoning restrictions, which I did. You know, I live, our farm is in the middle of nowhere in a cornfield and to put up an 85-foot tower with a 10-foot diameter wind turbine was excruciating. And that's surprising to many, as it should be. Some counties have no zoning, some counties have very restrictive zoning. On doing some research into where this zoning comes from, it was 25-year-old stuff. So I think that may...zoning considerations should be included in the program. Having visited with hundreds of citizens at the State Fair and almost on a daily basis, I can tell you this is a hot button issue in the state of Nebraska. There are very strong opinions that public power has been unresponsive and the REAs have been unresponsive to the citizen owners, and that the Legislature is failing the citizens of Nebraska on this issue and seemingly more responsive to the power lobby. It has been clearly demonstrated that the costs associated with such a program are minimal and far more has been spent by public power, and wisely so,

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supporting renewable energy research like the excellent energy research program at the university. I think this is, to some extent, you know, renewable energy incentives or subsidies...when we look at some of these programs and how they developed in Iowa, we had a recent conference call from Iowa and they stated these are not subsidies or incentives, we look at these as investments. And I would encourage maybe that perspective applied to whatever the cost of this is, which, if you look at the mechanics of distributed generation, are not as drastic as they might first appear. There has been a lot of work done by Senator Preister and compromises, I know, between the two competing bills out there have been tendered. I prefer the format of LB51 in its current form and encourage its adoption. With that, I'll take any questions. [LR79]

SENATOR LOUDEN: Would you give your name and spell it for the record, Robert? This is the next one and I don't think we got it in there when you started. [LR79]

ROBERT BYRNES: I apologize, Senator. Robert Byrnes from Oakland, Nebraska. That's B-y-r-n-e-s. I'm owner of Nebraska Renewable Energy Systems and president of Nebraska Renewable Energy Association. [LR79]

SENATOR LOUDEN: Okay, thank you. Questions for Robert? Seeing none, I guess we talked to you a while ago so we'll go with that. [LR79]

ROBERT BYRNES: Thank you very much. [LR79]

KRISTEN GOTTSCHALK: (Exhibits 16 and 17) Senator Louden, members of the Natural Resources Committee, I'm going to curtail most of my testimony and just specifically address a couple items that I was going to submit for the record because I have an opportunity to visit with you, where those people travelling a distance do not. The first thing that I would like to introduce to you is a document. And I know that you've seen this document before. It comes out of the Database of State Incentives for Renewable Energy and Efficiency (sic). [LR79]

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SENATOR LOUDEN: Your name? [LR79]

KRISTEN GOTTSCHALK: Ah. (Laughter) I'm just trying to get through this quickly for you guys, that's the longest part. For the record, my name is Kristen Gottschalk, K-r-i-s-t-e-n G-o-t-t-s-c-h-a-l-k. I'm the government relations directors and registered lobbyist for the Nebraska Rural Electric Association. [LR79]

SENATOR LOUDEN: Thank you. [LR79]

KRISTEN GOTTSCHALK: You're welcome. I know better. Back to the document from the Database of State Incentives for Renewables and Energy Efficiency (sic), they do have a rather comprehensive grid that identifies all of the states that do have net metering policies in place, how those policies apply, and who those policies apply to. And I wanted to submit this to you for your consideration because I think it's important to note, we hear the phrase or we heard it said that 41 states have net metering technologies in place. However, they aren't apples to apples comparisons, and a significant number of those states that do have net metering policies in place do not apply those to public power districts or electric cooperatives. And I think that's a significant difference. And if I may, just if you look on page 4 of that document, Iowa is one of those that does not apply their net metering rules to electric cooperatives and public power districts. If you want to go a step further, you can go to that web site and you can look at the vast array of incentives that Iowa does offer those utilities that do have the requirement for net metering, and it is significant; anything from sales tax exemptions, property tax exemptions, and other incentives including grants and loan programs. The state has really taken to the task of providing those, as Mr. Byrnes put it, investments. The other thing that I would like to submit for the record is a letter from Danny Kluthe. Danny has appeared before this committee several times, talking about his methane digester. And oftentimes in his enthusiasm he doesn't always get his points across, and he wanted to submit this letter in lieu of providing in-person testimony. And I

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do want to read just briefly because it applies directly to this. Some of this letter applies to an outline of his system, how he feels about the rate he received from NPPD, and he does feel like he was treated fairly and it outlines that, and outlines how he buys and sells his electricity, because those are all questions that have continuously come up. And the only part that I'll read is his comments dealing with LB579, which is not a net metering bill; it's the customer generation, interconnection bill that was introduced on behalf of the rural electric systems which was designed to provide a fair means for interconnecting renewable generators, giving them a fair rate for their energy produced, and at the same time treating the other customers on the distribution system fairly so that they are not burdened for paying additional costs on behalf of net metering customers. For future--this is Danny's words--for future renewable generation projects, I think the process outlined in LB579 is ideal. It provides the generator with all means to interconnect to the distribution system, use their own energy first, pay a fair share of their distribution costs, and allows the generator to retain their green tags and be compensated at a rate that is fair to both the generator and the distribution customers. I know that there are issues for generators that are ten kilowatts and smaller, and I support an amendment that would allow those systems to be net metered and I'm currently working with the Nebraska Rural Electric Association on such an amendment. And there's other information in here. I encourage you to read Danny's letter. He's probably one of the... [LR79]

SENATOR LOUDEN: Do you want this read...do you want this added into the public record then? [LR79]

KRISTEN GOTTSCHALK: Yes. Danny asked me to do that. So with that, I'll close. And if you have any questions, I'd be happy to answer. [LR79]

SENATOR LOUDEN: Questions for Kristen? I guess, what does Danny get paid for his power? Does he get it at a wholesale rate or is there a different rate class for him or what? [LR79]

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KRISTEN GOTTSCHALK: He has a negotiated rate, a contract negotiated with NPPD. And if I get this rate incorrect, I will follow up and get it back to you, but I think through the ins and outs it's about 3.2 cents a kilowatt-hour is what he's paid, which is fairly close to the equivalent of what a distribution utility would pay for wholesale energy. [LR79]

SENATOR LOUDEN: Okay. [LR79]

KRISTEN GOTTSCHALK: And John Hoke, who's going to testify, will be able to justify that. [LR79]

SENATOR LOUDEN: Okay. Thank you. [LR79]

JOHN HOKE: (Exhibit 18) Good afternoon. My name is John Hoke, J-o-h-n H-o-k-e. I'm the general manager of Niobrara Valley Electric Membership Corporation. I'm here today testifying on behalf of the Nebraska Rural Electric Association and Nebraska Power Association. I am not going to read my testimony, I had initially intended to, in the interest of time today. So I'll just kind of paraphrase it as I go through. If it seems a little choppy, that's why. I want to thank you all for allowing me to testify today. Before I begin, I want to give you just a brief bit of background about myself. My family is...I'm third generation in this business. My grandfather was a line construction foreman. My father was manager of Southern Rural Public Power District. And I've been manager of Niobrara Valley Electric. I've been in the business the last 20 years and manager there for 16. We're in interesting times today. Demand for electricity is growing at a pace unseen since the early days of this industry. Over the next 25 years, nationally it's expected that the demand for electric energy is going to grow about 40 percent. The downside to that is most of the excess generation built in the 70s has been used up. This...the need for new generation and the concerns about greenhouse gas emissions have really pushed us into looking closely at conservation, renewables, and other

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non-emitting sources like nuclear. We face a similar scenario in Nebraska. The demand for electric energy is projected to go up substantially over the next 25 years. We are blessed with excess generation, so that will help some and relieve some of the pressures on new generation. That puts us in a little better position than the rest of the nation. But we're still face a dilemma. Years ago, the Legislature gave the industry two marching orders. The first was to declare the policy of state to provide for dependable electric service at the lowest practical cost to all citizens of the state. We've been very successful, as you've heard today, in meeting that goal. Wholesale power costs in Nebraska are 40 percent below the region, and I think was quoted earlier fifth, but what I saw recently, we're the ninth lowest in the nation on the retail rates. The second marching order was to be sure that the rates that were being passed on to the customers were fair, reasonable, and nondiscriminatory, and that the margins generated profits, if you will, although we don't use that word, would be redistributed amongst the citizens of the state in a fair and equitable manner. Today, as you've heard, coal-fire generation is the lowest cost resource, but new federal legislation in the form of a carbon tax or a cap and trade system could change that. The question we're facing today is, what should we invest in? The answer to that is not entirely clear and because of the long-term capital costs associated with building that new plant, if we don't get the answer right, we could literally embed billions of dollars in the cost of our rates just to have to back up and make the correct decision. Which brings me a little bit to political correctness. It's become a very dangerous thing because people in industry are afraid being accused of being against a popular political notion, they tend to acquiesce rather than state the problem clearly. This leads to some intellectual dishonesty, I believe, on both sides of the discussion. In the case of renewable energy, wind in particular, we want to believe that it's the same as hydroelectric generation. The fuel is free, the wind blows a great deal of the time, therefore they are the same. There's dishonesty here, and I'm sure you're all aware of it after the earlier testimony today, that wind as a power source is not predictable. Water you can predict; it flows in a fairly predictable manner. The wind simply does not. With the addition of many large wind farms in the Midwest, it's changed how the industry views dispatching resources. I was

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recently at a meeting where I heard the CEO of the Midwest Independent Transmission System Operator group, or MISO as its known, makes some interesting observations about what he does in his organization. MISO operates transmission for multiple utilities over a 15-state area. He said that the wind farms that are added have created a situation where they no longer follow the demand of the customers, but instead they just adjust their generation resources to follow the wind. At present they dispatch, I believe, 100 megawatts...I'm sorry, 100,000 megawatts of various generations. He said that 26,000 megawatts is being developed in their 15-state footprint. When he was asked how much can be practically integrated into the MISO system, he said 8 to 10 percent of the wind in their footprint could be handled reliably, or about 10,000 megawatts. The absolute limit would be 20 percent, or 20,000 megawatts. Simply put, what that means is there is an upper limit on the amount of nondispatchable renewable energy that can be put into the system. The United States electrical grid has been described as the largest operating machine in the world today. It's operational 99.999 percent of the time. Wind generation introduces an inherent instability into that system when it becomes more than 10 to 20 percent of the generation base. So political correctness aside, we've got to be honest with ourselves, is that there is an upper limit based on physics. You can read some of this on your own. I'm going to skip down here. But basically I'd like to point out that it costs about \$1.9 million per megawatt to build a wind generation system. That operates...so you're going to spend about \$190 million to build a 100-megawatt wind farm. On the average over the course of the year, it's going to operate...be credited at 17 percent on an annualized basis. The remaining 83 percent of the time, there's going to have to be a combined cycle or fossil fuel unit to back that wind generation up to reach that 100 megawatt output. The combined cycle generation unit is about \$600,000 per megawatt, so that adds another \$60 million to the cost of energy to product that 100 megawatt. Sorry about all the numbers, but basically that comes down to about \$250 million to produce 100 megawatts 100 percent of the time. The other point I think was talked about briefly earlier is the life cycle of a wind generation unit. The builders say they're going to last 20 years or more but industry experience in Nebraska, it may be close to half that. The debate goes on as to life cycle,

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but I do know that fossil fuel plants are operating in this state that have been online for 45 or more years. One interesting thing to note is when you're looking at the price of combined cycle to back up wind, that's about \$190 million, as I mentioned. But for about \$50 million more, you can build a 100-megawatt nuclear plant that will last 40 years or more, generate almost 100 percent of the time, while producing 0 greenhouse gas emissions. That's the intellectual honesty problem that you're going to have to sort out, because if you decide to change the public policy of the state from providing...for dependable electric service at the lowest practical cost, there's a lot of factors to be weighed and considered there. Setting political correctness aside once again, for the record, our industry is not against renewable energy. The Electric Power Research Institute was established in 1973 by our industry as an independent nonprofit center for public interest energy and environmental research. EPRI has developed a 25-year working plan to meet the 40 percent increased demand for energy across the country while keeping greenhouse gas emissions at 1990 levels. Doing so, according to that plan, will require as much renewable as a system can reliably handle, along with dedicated conservation efforts. However, all that's not going to be able to meet the projected demand for energy. Since fossil fuel appears not to be an option, then nuclear must be used to meet the demand. And according to EPRI, on their plan it's four new nuclear plants must be built each year through 2017. The reality, of course, is that nuclear has its own problems, but it's also true that renewable and conservation will not meet the need. All this comes with a cost. Estimates are given. EPRI's assumption that we will easily see the cost of electric energy double in the next decade, and that's if we make all the right decisions and don't have to back up. Given that background, I think we can be intellectually honest with ourselves when we talk about net burdening or net metering, depending upon your perspective. Those who make their living selling small wind generation units or solar panels have implied that we as public power are against net metering. In fact, we are not. The industry has introduced bills year after year that meet the criteria that was set before us of low cost, fair, reasonable, and nondiscriminatory, and we are going to introduce a bill again, I believe, this next year. In the Sunday Journal, Randy Schantell, owner of--and I hope I pronounced that

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right-owner of SWT Energy, stated that a 2,500-watt wind turbine is best for a small home, sells about \$5,000 without the pole, electronics, and battery storage array. Throw all those things in and the price jumps to about \$12,000. The 10,000-watt turbine fully installed runs about \$36,000, a kW. Based on that...\$36,000 installed. Based on these numbers, the small system costs about \$4,800 per kW and a 10-kW system costs about \$3,600. The nuclear plant I mentioned earlier costs about \$3,000 a kW. Still got to have wires and poles to get to the home. I agree with that. But to (inaudible) generation to that same facility will crowd those same wires and poles, unless we're talking about moving off grid, in which point there isn't much point in talking about incentives like net metering. Our bill that we plan to introduce next year will be true net metering for systems 10 kW or less. Free backup is a pretty good...a nice incentive for those systems, and when you consider that the price of utilities for its power could double in the next decade, the complaint that payback on these systems will be too long will also be mitigated. Nothing is free and those that who are net metered, when they avoid that cost, it'll be borne by those who can't afford to pay \$12,000 to \$36,000 to buy a wind generation unit or live somewhere where it can't be installed. That subsidy will come not from those who can afford it, but from those who can least afford it, since they won't be able to put on their own wind generation unit. One other inequity and then I'm going to close here. I've testified before. Many of these wind generation units will be located on rural electric lines simply because the best locations are there, that's where the best wind is. Net metering subsidies for small systems will be paid for by an electric system with ratepayers with the lowest density of customers per mile. In 2006, the average number of meters per mile on the rural electric lines in the state was 2.8. The average revenue was about \$5,000 per mile. The three largest non-rural systems in the state where I think 42 percent of the population live--Lincoln Electric, OPPD, Grand Island Utilities--average around 25 meters per mile of line and I think they have an average revenue of around \$42,000 per mile. The question that bothers me, why are so few paying the price of clean renewable energy for so many? It seems to me that a general tax subsidy supporting generation systems would burden all systems equally rather than just those in rural Nebraska. Such a subsidy exists today and the industry worked hard

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last year to get it increased. But it's still too small to be significant to a renewable generator. Those who would want something more than 10 kW net metering being offered by our bill would be better served to increase that subsidy and share the load with all citizens of the state, rather than just the rural ones. Closing, I have one last piece of, I guess, intellectual honesty on my part and a piece of advice. And I've heard it over and over today. But you know, those who are selling generation units for a living are looking to gain, or are looking to gain through a subsidy, like to paint public power with the same brush as investor-owned utilities. IOUs exist to make a profit and there's nothing wrong with that. That's what made this country great. Public service commissions allow an investor-owned utility to make a rate of return, or profit, based on the size of the facilities they own. The bigger the investment they have, the greater the rate of return in that investment and the more their stockholders make. A substantial portion of that stock is owned by the CEO and the board of directors of that utility. So the more the stock makes, the more money they personally make. I own no stock in the electric utility I work for and neither do the directors that represent the people that elected them. That's true for every electric utility employee and director in our state. We have no reason to increase our electrical systems rate of return beyond that needed to satisfy our bondholders and lenders. So the job of public power in this state and nationally, because of that, has been to provide a measure against which the cost of private power can be compared. So if you want an honest answer about renewables and future energy costs, you might look to us to provide it to you. At the end of our careers in public service to this state, we have to gain other than a pension, hopefully, and pride in what we built for the people. Our job is...we want to be sure we help you get it right as we move into the future. And with that very rapid testimony, I'll answer any questions you may have. [LR79]

SENATOR LOUDEN: Questions for John? I...on some of this net metering, some of the discussion has been for the excess generation they have you would pay the wholesale price, I think, up to what, ten kilowatt? [LR79]

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JOHN HOKE: Yeah, or the retail price. What we're talking about would be true net metering up to ten kw, which would be the size of a farmstead, I guess. That's what we're looking at. So if you get in 6.5 cents, you know, it would just be an exchange of energy, is really what we're looking at. [LR79]

SENATOR LOUDEN: And right now what is your wholesale cost for your... [LR79]

JOHN HOKE: Retail rate, and for residents on Niobrara Valley, and I can speak to that one with more comfort, it's about seven cents. [LR79]

SENATOR LOUDEN: That's your retail, what is your wholesale cost? [LR79]

JOHN HOKE: The wholesale cost is about 3.5, and as you know that's going to go up some. [LR79]

SENATOR LOUDEN: Okay, then their excess generation, they would get paid 3.5, is that what you was just talking about on it? [LR79]

JOHN HOKE: Yes, I believe that's how that rate is. [LR79]

SENATOR LOUDEN: And of course, whatever they generate that they don't use then they would zero it out on your net metering? I mean, they would generate it... [LR79]

JOHN HOKE: If I...any excess would be at wholesale cost. [LR79]

SENATOR LOUDEN: Right, and what they were generating for their own use... [LR79]

JOHN HOKE: Internally there would be no charge to them, yeah. [LR79]

SENATOR LOUDEN: And have your technical people, your engineers and stuff got it

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figured out for the safety measure, so that when these things are...because when you're generating you're out on the main line, and somebody runs into a power pole, knocks it down, is the technology there to automatically shut these generators off? [LR79]

JOHN HOKE: On...there's always caveats in anything you do, on commercial-belt generation as I understand it, it has to be excited by central station power current to produce energy. Now if you have somebody out there that builds something on their own that isn't designed that way, then you could put current back on the line. I've seen--you know, you get on the internet, you see all kinds of things--but I've seen that kind of generation built that wouldn't have that kind of safeguard built into it. Commercial units, yes. [LR79]

SENATOR LOUDEN: Okay. But I mean, that has to be put in statute or rules some place there so that whatever their type of generator they have...so if there's an accident on the line that automatically shuts the thing off. And I'm wondering, is the technology there to get...to have them things automatically shut them off? [LR79]

JOHN HOKE: It's built in inherent to commercial units that are built, yes. [LR79]

SENATOR LOUDEN: Okay. The safety factor is built into them? [LR79]

JOHN HOKE: Yes. The ones that I'm aware of today, the ones I've seen, yes. They're built and designed to not work unless excited by, you know, you've got to have central station power there. [LR79]

SENATOR LOUDEN: Well, I mean, yeah, you wouldn't allow them on the line unless they had it, right? [LR79]

JOHN HOKE: Yeah. I don't think I'm...I'm not explaining this well. I think we're saying the same thing but I'm not sure that... [LR79]

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SENATOR LOUDEN: Yeah, I mean, you wouldn't allow this private generator to hook onto your line unless that safety feature was... [LR79]

JOHN HOKE: Absolutely. [LR79]

SENATOR LOUDEN: ...all part of the system, just the same as our dead throw switches we have out in the country with our generation. I can run in and put my generator in the plug-in in the welder in the shop and I can put the power back out there. But it isn't going through that dead throw, but I could literally kill somebody if something went haywire out on the line, because the dead throw...but if I put it in my dead throw, then I'm either on my own or else I'm off the line. There's no way that I can generate a cross, but that's just on our own private generation when the power is out. [LR79]

JOHN HOKE: That is correct. [LR79]

SENATOR LOUDEN: Yeah, okay. Other questions for John? Seeing none, thank you for being here, John. [LR79]

JOHN HOKE: Thank you. [LR79]

JAREL VINDUSKA: Senator Louden, members of the Natural Resources Committee, my name is Jarel Vinduska, that's spelled J-a-r-e-l, V-i-n-d-u-s-k-a. I'm from the Gretna, Nebraska area. First off I'd like to thank Senator Preister for his persistence in trying to get this net metering online, because I think he's been at it, if I recall, about seven or eight years. And we haven't succeeded in getting much in place yet, and I hope...and I like the way he's been persistent in trying to get a true net metering. And it will really be a true incentive, because if we had a bad one put in, it'd just be on the books and wouldn't be utilized. But I've been disappointed it's taken this long, because I think we can all agree, at least I hope we can, that in our entire adult lives we've worked

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ourselves into an energy quagmire that it's going to be hard to crawl out of. I mean, all we have to do is every day look at world events and it's getting worse and worse and worse. And we have to start getting on the road to getting out of this, because it's going to get unbelievable here pretty soon. And this net metering, I think, it's going to take a multifaceted approach. Where no one thing is going to, I don't think, is going to come out of the woodwork that is going to solve our energy problem. It's going to be a bunch of little things and maybe something dramatic will come along. But in the meantime it's going to be a bunch of small things. And this, like I say, net metering is one facet that I think we should utilize. And I think the reason I've heard a bunch of testimony today and it always comes back to economics, which of course we all have to deal with economics. That's a reality of life. But the problem with energy is we've never paid the true cost. I mean we've always had this illusion of having cheap energy, and once again, you look at world events and you can see billions and billions of dollars that aren't factored into the cost. And we all resist mandates from outside, from the federal government, but the only way we can avoid those is if we're...do the honorable thing or the prudent thing at the local level. Because if we go totally by economics, and the world at large is harmed by it, we're going to get these mandates and it's going to be more unpleasant to try to deal with them. I could give you a few examples in my life where I've seen us, you know, where I see that something needs to be done real quick. I've worked...I make my money, I work the summers up in Alaska. I've done that for 33 years, and up there, and in the southern hemisphere, you see the effects of climate change very dramatically. I mean, I realize 33 years is a short time in the geology of the earth, and the history of the earth, but it's dramatic and a lot of it's negative. So...and it isn't only...you know, you could say, well, is it...the climate change is obvious. But then people will say, well is it man-made or is it natural? Well, even if you...once again, it's probably multifaceted, but I personally believe a lot of it's man-made and a lot of it has to do with power generation. You can see that every year even when I fly back from Alaska, you stop in the various cities around the United States on your way back to the Omaha area, and each one of them, I'm sure all of you fly, you're at 30,000 feet, the air is nice and pretty clear and blue skies. But you look down and you see that big

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yellow-brown haze over every city. Well, a good share of that is power generation. And you say to yourself, you say to yourself, well, how can we human beings live in such a mess? I mean it seems almost impossible, the air is so bad. And when you get closer you see the big plumes coming out of the power plants, the great share of it is that. And you just see one example after another. Even in Alaska this year, the commercial fisherman were disappointed in the native salmon fisheries. Mercury was detected for the first time this year. But we know for a fact that that comes mainly from coal-fired power plants too. And so I just wanted to urge you to realize that I think the time for talking is over. We need to start acting. And sure, we need to act prudently, but we better start on these little steps, working to fix these messes, otherwise, you know, future generations are just going to have an unsurmountable disaster. And that is what I just wish you would consider and support wherever you can. Thank you. Any questions? [LR79]

SENATOR LOUDEN: Okay. Questions? Seeing none, thank you for testifying. [LR79]

MARY CAMPBELL: (Exhibit 19) Chairman Louden, members of the Natural Resources Committee, my name is Mary Campbell, C-a-m-p-b-e-l-l, again, today representing the Industrial Energy Users of Nebraska. In the interest of time I'll just submit this written testimony and encourage you to find a moment to look it over. And feel free to contact me if you have questions. And with that, I'll let the next testifier come and if you have no questions now... [LR79]

SENATOR LOUDEN: You're...on this net metering, you're comfortable with the wholesale rate for excess generation? [LR79]

MARY CAMPBELL: Yes. I think if you look at number three, the enumerated points below, it says they support valuing the consumer production of energy at the avoided wholesale energy price. [LR79]

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SENATOR LOUDEN: Okay. [LR79]

MARY CAMPBELL: One of their biggest concerns is that in number two, that other rate-payers not be subsidizing the customer generator. I think that's one of their strongest concerns in this area. By and large their position, I think, pretty closely mirrors that of LB579. [LR79]

SENATOR LOUDEN: Okay. Thank you for testifying. All right. [LR79]

MARY CAMPBELL: Thank you. [LR79]

JOHN K. HANSEN: Mr. Chairman, members of the committee, again, for the record my name is John K. Hansen, I'm president of Nebraska Farmers Union and appear before you today as their president and also their lobbyist. We have been working on this issue Gzzz 354 and for many, many years, as has Senator Preister, and I...from our perspective, where we are out providing information to the public at state fairs, at Husker Harvest Days, at the local events or commercial vendors, those kinds of activities, we're a source of a lot of information on renewable energy. And so we're looking out for ethanol, cellulosic ethanol, wind, carbon sequestration, a whole host of things, which mirrors what's going on at the national level. And all of the incentives that go on with there, there's going to be, if we can ever get a farm bill approved, there's going to be substantially more incentives for farmer/community-owned renewable energy and also for renewable energy. And so all of you...you look at the push of what is going on, so as a way to kind of measure what folks think about this, as we've been doing these displays for a fairly long period of time, I think the time has come where the members of the rural electrics and public power and everyone really needs to get together. And they need to come to some agreement. And we need to move forward, because there is a growing amount of frustration on the part of the public for the lack of an acceptable solution on this issue generally. And net metering is...when we have folks who stop by the booth all the time at the State Fair, at Husker Harvest Days, they're

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kind of evenly divided between folks who want larger wind and to move forward with that, and then also the smaller wind. And so I just don't think from a public power standpoint it's a good use of public power chits to not deal with this issue. So the ten-kw limit is good for an awful lot of the more conventional smaller wind users. And from our perspective we continue to think a good compromise is that when you get over that threshold, going up to larger thresholds, when folks are customers, you treat them like customers. And when they're producing excess generation which is not cost-effective for them to do, based on their cost, but when that happens, treat them like suppliers and wholesalers. So if the wholesale for a particular month is x, I think that's what a lot of folks would consider fair, have good safety standards, have...can't compromise on safety, deal with liability issues as cost-effectively as possible, and as much fun as this has been for God knows how many years, I think it would be a good idea if we moved on and tried to get this wrapped up if we could and move on to other issues. Because we're using up an awful lot of what I consider goodwill for a very small amount of energy here. [LR79]

SENATOR LOUDEN: Okay. Questions for John? I have none, John, other than the fact that as long as we waited, just think of all the wind turbines we haven't wore out. [LR79]

JOHN K. HANSEN: There you go. (Laughter) See, there's an upside to everything. [LR79]

SENATOR LOUDEN: Yeah there is. Thank you for testifying. [LR79]

JOHN K. HANSEN: And the longer we go of course, the better the technology gets. Thank you very much. [LR79]

SENATOR LOUDEN: Now Ken. [LR79]

KEN WINSTON: Senator Louden, members of the committee, I appreciate your

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indulgence in taking a couple more minutes to listen to me. My name is Ken Winston, last name spelled W-i-n-s-t-o-n. I'm appearing on behalf of the Nebraska Chapter of the Sierra Club in support of a true net metering bill. Heartened by recent developments, the fact that the Lincoln Electric System has adopted a net metering program that is going into effect, and I've heard many good things that architects are getting inquiries from people about putting in net and renewable energy generation facilities in their homes. So it is a development that helps provide opportunities for renewable energy development on a small scale. And I think that's one of the things we need to focus on, is that net metering is for small-scale developments. There was some discussion by one person about larger-scale developments. Really net metering is for small-scale developments and is to provide an incentive for people to make that investment. And the fact that the NPA today indicated they were supporting a true net metering bill, we also believe that's a heartening development. And of course the devil is in the details, but hopefully we can find a meeting of the minds and pass a true net metering bill in the next legislative session. [LR79]

SENATOR LOUDEN: Questions for Ken? Seeing none, thank you for testifying, Ken. [LR79]

KEN WINSTON: Thank you. [LR79]

SENATOR LOUDEN: And are you the last one? Well, with that, we will close LR79 and thank you all for being here today. And thank you for your indulgences. [LR79]