BOSTELMAN: OK. Welcome to the Natural Resources Committee. Good afternoon. My name is Senator Bruce Bostelman. I'm from Brainard, representing the 23rd Legislative District. And I serve as Chair of the committee. The committee will take up the bills in the order posted. This public hearing today is your opportunity to be a part of the legislative process and to express your position on the proposed legislation before us. If you are planning to testify today, please fill out one of the green testifier sheets that are on the table at the back of the room. Be sure to print clearly and fill out completely. When it is your turn to come forward to testify, give the testifier sheet to the page or to the committee clerk. If you do not wish to testify but would like to indicate your position on a bill, there are also yellow sign-in sheets back on the table for each bill. These sheets will be included as an exhibit in the official hearing record. When you come up to testify, please speak clearly and loudly into the microphone. Tell us your name and spell your first and last name to ensure we get an accurate record. We will begin each bill hearing today with the introducer's opening statement, followed by proponents of the bill, then opponents, and finally by anyone speaking in the neutral capacity. We will finish with a closing statement by the introducer if they wish to give one. We'll be using a three to five minute light system for all testifiers. When you begin your testimony, the light on the table will be green. When the yellow light comes on, you have one minute remaining. We'll be using three minutes-- did I say three? Did I say three?

CYNDI LAMM: Three-- you said three to five.

BOSTELMAN: Pardon?

CYNDI LAMM: You said three to five.

BOSTELMAN: OK. We will-- sorry. We'll be using a three-minute light system. When the yellow light comes on, you have one minute remaining, and the light indicates you need to write-- wrap up your final thought and stop. Questions from the committee may follow. Also, committee members may come and go during the hearing. This has nothing to do with the importance of the bills being heard. It is just part of the process. The senators may have bills to introduce in other committees. A few final items to facilitate today's hearing. If you have handouts or copies of your testimony, please bring up at least ten copies and give them to the page. Please silence or turn off your cell phones. Verbal outbursts or applause are not permitted in the hearing room.

Such behavior may be cause for you to be asked to leave the hearing. Finally, committee procedures for all committees states that written position comments on a bill to be included in the record must be submitted by 8-- by 8 a.m. the day of the hearing. The only acceptable method of submission is via the Legislature's website at nebraskalegislature.gov. Written positional letters will be in-- included in the off-- in the official hearing record, but only those testifying in person before the committee will be included on the committee statement. I will now have the committee members with us today introduce themselves, starting on my far left.

FREDRICKSON: Good afternoon. I am John Fredrickson. I represent District 20, which is in central west Omaha.

SLAMA: Julie Slama, District 1: Otoe, Nemaha, Johnson, Pawnee, and Richardson Counties.

HUGHES: Jana Hughes, District 24: Seward, York, Polk, and a little bit of Butler County.

BOSTELMAN: And to my far right.

BRANDT: Senator Tom Brandt, District 32: Fillmore, Thayer, Jefferson, Saline, and southwestern Lancaster Counties.

JACOBSON: I'm Senator Mike Jacobson, District 42: Lincoln, Logan, Thomas, McPherson, Perkins, and Hooker County.

J. CAVANAUGH: Senator John Cavanaugh, midtown Omaha: District 9.

MOSER: Mike Moser, District 22. It's Platte County and most of Stanton County.

BOSTELMAN: Senator Moser also serves as Vice Chair of the committee. Also assisting the committee today: to my left is our legal counsel, Cyndi Lamm; to my far right is our committee clerk, Laurie Vollertsen. And our pages for the committee today are currently Ruby Kinzie, and I believe Shriya Raghuvanshi will be joining us later. So thank you, Ruby, for being here. With that, we will open our hearing for the first hearing. That's LB1199. Welcome, Senator Moser.

MOSER: Thank you, Mr. Chairman. Appreciate the opportunity to appear in front of the Natural Resources Committee today. My name is Mike Moser. It's spelled M-i-k-e M-o-s-e-r. I represent District 22, which consists of Platte County and most of Stanton County. I'm introducing

LB1199 at the Depart-- request of the Department of Natural Resources. The purpose of the bill is to eliminate certain fees collected by the Department of Natural Resources. Such fees include fees for performing administrative duties as generally set out in Nebraska Revised Statute 33-105 and constitute the entire fee authority for the department except for some explicit fees in Chapter 46 that are unaffected by this bill. Section 33-105 includes a list of fees for particular surface and groundwater use permit applications. A default $10 fee for the filing of any application for which there is no fee fixed and a dollar fee for certifying documents. This bill will universally eliminate fees for filing all administrative petitions, including the right to hearing for dispositions made without a hearing under Section 61-206 and the APA. The rationale of the bill is to speed up and streamline administrative processing, reducing administrative accounting costs, and eliminating most mandates for fees to lower citizens' costs to conduct business with the department while simultaneously improving services. Fees currently collected from Section 33-105 fees are relatively insignificant. The repealed fees do not impact agency budget or operating costs but will result in a loss to the General Fund of about $6,555 to $7,000 annually based on data from the last two years. The fee averages for the last two years is $6,768 in fees and 46 staff hours of processing time. The $10 fees for filing administrative judicial petitions are very limited, averaging only three and a half filings annually over the last two years with a similar processing time. There are some relatively large fees listed in Section 33-105, but they are rarely used. The fee for industrial groundwater transfer applications is $1,500 for the first 4,000 acre feet and $750 for each additional acre foot or fraction thereof. The total amount received in the last decade of these larger fees was $10,500, two for $1,500, and another for $7,500. For an application to amend an industrial groundwater transfer, the fee is $500. The only entity ever filing these was the Crow Butte uranium mining operation, and that operation sut down-- shut down several years ago. Intentional or incidental underground storage applications are $500. The last ones were filed in the 1990s. The bill intends to repeal Section 33-105 entirely, leaving the department with only a few explicitly required fees. For example, for dam safety permits and hydropower permits found in Chapter 46. This bill will eliminate certain rarely used, insignificant fees collected by the Department of Natural Resources in an effort to streamline administrative processing and reduce administrative accounting costs. Director Tom Riley from the Department of Natural Resources will follow me to testify with specific information regarding the bill. I ask for your support in

advancing this bill to General File. And am happy to answer any questions. Thank you.

BOSTELMAN: Thank you, Senator Moser. Are there questions from the committee members? Senator Jacobson.

JACOBSON: I'm trying-- I thought I heard what you said, and then I read what you said. And you're telling me that an agency came to you and asked you to bring a bill to eliminate some of the fees that they collect?

MOSER: Yeah. That sounds right.

JACOBSON: If we can reconfirm, Tom, one more time. I'm prepared to go it again [INAUDIBLE].

MOSER: Yep. Your, your hearing is good.

BOSTELMAN: Are there any other questions? Seeing none. Assume you'll stay for closing.

MOSER: I'll be here. I can't leave.

BOSTELMAN: Proponents for LB1199, please step forward. Good afternoon, Director Riley.

TOM RILEY: Good afternoon. And good to see a few of you which I've not seen in the hallway yet, so. Hope the session's going well for you. Good afternoon, Chairman and members of the Natural Resources Committee. My name's Tom Riley, T-o-m R-i-l-e-y. I'm the director of the Department of Natural Resources. And thank you, Senator Moser, for bringing this LB1199 forward for the department. As you heard, the bill itself is rather simple. As Senator Moser said in his opening, the purpose is to eliminate a certain amount of fees that the department now collects and it would repeal in its entirety Section 33-105 of the statute. This leaves the department with only a few explicitly required fees in other sections, as you heard-- for example, dam safety permits and hydropower permits pursuant to the Chapter 46 statutes. Those will remain unchanged. The majority of the fees listed in Section 33-05 [SIC] are for $1, $5, $10, and $25. They're rarely ever collected by the department. The largest portion of the fees are for surface water permit applications and modifications of some groundwater-related fees. Fees for the total surface water and groundwater permits for 2021 were a little over $6,500 for 157 fees. For 2022, that number was around $7,000 for 184

fees. So we actually do quite a number of these fees as we go along. I should maybe note that the fees don't-- aren't part of our normal process of-- we still do the work. The fees don't really do anything other than it gets you in the door. As an example, the administrative cost to process an application currently costs the department at least three times for the application itself-- so just to process the check. Looking at the repealed section, you may notice a few larger fees, as you heard from the senator. However, these are rarely collected by the department. For example, the fee for industrial groundwater transfer applications in Section 6 is listed as $1,500 for the first 4,000 acre feet, $750 for the additional thousand acre feet, or fraction thereafter. As mentioned by Senator Moser, these fees have been collected only three times in the past decade, for a total of $10,500. There are two other $500 fees in Section 2 and Section 7 that have only been collected a handful of times, one being for the fee of an intent-- intentional or incidental underground storage application. And that was in the 1990s. Currently, in order to pay fees of the list-- that are listed, individuals must provide the department with a physical check-in-- for that specified amount. Repealing Section 33-105 will allow for facilitating electronic application processing, which is a win-win for all of our customers and the department's efficiency. So the fees that we're collecting are relatively small. They won't impact our agency budget. And the operating costs will result in a little loss to the General Fund, as you heard the senator say. So ultimately, this bill will help the department streamline our administrative processing, reduce our administrative accounting costs. And this is in line with the overall priorities of reducing costs and off-- and increase in our operational efficiencies across state government. So with that, I'd urge you all to move this bill to the General File. But if you have any questions, I'd be happy to answer them. Thank you.

BOSTELMAN: Thank you, Director. Are there any questions? Senator Jacobson.

JACOBSON: Thank you, Chair Bostelman. Well, Director Riley, I, I applaud the efforts to-- obviously, there is a cost out of the General Fund, which is very modest. But as you stated, it's the, the offset of inefficiencies that are caused by trying to collect that fee, the nuisance that goes with it, all of those things. Hopefully we'll have others in state government that will look at that same thing and try to figure out how can we create greater efficiencies, better utilize the time of our people, and make sure that that cost benefit is there.

We do that in business all the time. And I just applaud your efforts for doing it. Thank you.

TOM RILEY: Thank you.

BOSTELMAN: Other questions? Seeing none. Thank you for testimony.

TOM RILEY: Thank you for having me. Have a good afternoon and a good weekend.

BOSTELMAN: Thank you. Other proponents for LB1199? Anyone else like to testify in-- as a proponent for LB1199? Seeing none. Anyone would like to testify in opposition to LB1199? Seeing none. Anyone would like to testify in neutral capacity? Seeing none. Senator Moser, you're welcome to close.

MOSER: I waive my close.

BOSTELMAN: Senator Moser waives his closing. There was one proponent comment followed with the bill. That'll close our hearing on LB1199.

Unidentified: Right to me. To the.

MOSER: Madam clerk, were their opponents neutral.

LAURIE VOLLERTSEN: [INAUDIBLE].

MOSER: Hey, there weren't. Any. For LB1199.

He just.

MOSER: Because he did. OK. Greetings, Senator.

BOSTELMAN: Good afternoon, Senator Moser. Sit back and enjoy. This is going to take a little time today, but that's what we're all about. [INAUDIBLE] for that. Good afternoon, Vice Chairman Moser and members of the Natural Resources Committee. My name is Bruce Bostelman, spelled B-r-u-c-e B-o-s-t-e-l-m-a-n. And I represent Legislative District 23. I'm here today to inter-- introduce LB1370. This bill is in response to what the North American Electric Reliability Corporation, or NOR-- or NERC; the Federal Energy Regulatory Commission, or FERC; the Midwest Reliability Organization, or MRO; and the Southwest Power Pool, or SPP, have identified as a serious issue of retiring dispatchable or on-demand electrical generation at a rate that is unsustainable and need to maintain dispa-- and the need to

maintain dispatchable generation. The bill would require that before an electric supplier in Nebraska retires a dispatchable electric generation facility, they must first construct and interconnect a new dispatchable electric generation facility of their choosing with an equal or greater nameplate capacity. In other words, if you decommission a coal plant, you could replace it with a natural gas, a nuclear, other di-- dispatchable facility. Transition the jobs from one plant to the other and, and maintain the needed dispatchable generation. This is a policy decision that I feel we need to institute. By passing this bill, we establish a floor for dispatchable generation that says we will not go below our current dispatchable generation capacity. Over the past several years, I have introduced bills to help strengthen our electric grids' reliability, citing multiple reports from NERC. This bill addresses their warning that early retirements of our nation's dispatchable generation facilities are purting-- the-- are putting our grid in serious risk. In NERC's 2-- 2023 winter and summer reliability assessment, in which I have handed out an infographic number one and two, which is one and two that you have right now. SPP was placed in elevated risk category, with NERC finding that-- and I want to quote, quote: The anticipated reserve margin of 38.8% is over, is over 30% lower than the last winter, driven by higher forecasted peak demand and less resource capacity, end quote. If you look on the number one handout, SPP is 8,500 megawatts short. Furthermore, NERC indicated that, and I quote: The vast wind resources in the area can allivy-- alleviate from capacity shortages under the right circumstance. However, energy risk emerged during periods of low wind or forecast uncertainty and high electricity demand, end quote. This sentiment was also echoed by the Midwestern Reliability Organization's regional winter assessment," which I have handed out, and is labeled number three, which is this one. And specifically, if you look on it, SPP is at a medium risk. NERC has indicated the main reason for these emerging and growing risk is attributed to the planned retirements of baseload power plants, transmission congestion, fuel supply issues, and inadequate maintenance. This increased reliance solely on intermittent wind and solar is not sustainable. And that was reinforced last summer. On June 6, 2023, only 300 megawatts of the 60,000 megawatts of wind supplying power to the Midwest was available. 300 of the projected 60,000. In addition, Winter Storms Uri and Elliot are only two examples of near grid failures that have occurred in the recent past. Even more concerning was NERC's long-term reliability assessment released last December. That is infographic labeled number four, which you have, which indicates projections for 2024 through 20-- 2033. NERC indicated

that our neighboring Reliabilit-- or, Regional Transmission Organization, or RTO, which is MISO or MY-SO [PHONETIC], was projected to have a 4.7 gigawatt shortfall. Remember that number: 4.7 gigawatt shortfall. If the expected generator retirements occur, NERC's report also indicated that SPP's surplus capacity will fall short over the next five years, driven mainly through generation retirements. On the infographic, if you look at the SPP, the winter generator and fuel risk, insufficient dispatchable resources. There has been 1,500 megawatts of dispatchable generation retired since 2022 in SPP. Just last month, during the extreme cold weather event and Winter Storm Gary, SPP's grid condition had entered into the Conser-- Conservative Operations Advisory category. This is just one step away from SPP's Energy Emergency Alert level one, which is declared when all available resources have been committed and SPP is at risk of not meeting required operating reserves. On January-- in fact, on January 18, the Chairman of FERC, Woolie-- Willie Phillips stated on the record during their January open meeting that SPP had to import a record 6.8 gigawatts of electricity from neighboring states. Remember, I just said MISO, or MY-SO, is projected to have a 4.7 gigawatt shortfall. FERC Commissioner Mark Christie echoed these concerns during FERC's January meeting by stating, and I quote: What NERC is warning us about is the pace of retirements of dispatchable resources is unsustainable and we're heading towards a very bad place and the pace of retirement-- and-- if the pace of retirements continues at the pace it is. The numbers just aren't going to add up. And I think the last three days just showed that in the PJM and MISO [INAUDIBLE]. So it's not a commentary against some form of resource. It's simply stating what NERC has been telling us over and over: MISO and PJM, that if you don't maintain these dispatchable resources, until you have an absolutely adequate replacement, we're not going to have the success we had in the last three or four days. Instead of, of having those lights stay on and those heat pumps keep running, they're not. And so the pace of retirements is a significant issue that we all have to deal with because of the threat is coming, end quote. In December 2023, John Mura, director of Reliability Assessment and Performance Analysis at NERC, stated, and I quote: We are facing an absolute step change in the risk environment surrounding reliability and energy assurance. In recent years, we've wist-- we witnessed a decline in reliability, and the future projection does not offer a clear path to securing the reliable electric supply that is essential for the health, safety, and prosperity of our communities, end quote. Jim Matheson, CEO of the National Rural Electric Cooperative Association, a national trade association representing almost 900 local electric

cooperatives, said in a, in a statement that NERC's assessment, and I quote: Paints another grim picture of our nation's energy future as demand for electricity soars and the supply of always available generation declines. Nine states saw rolling blackouts last summer as a demand for elect-- electricity exceeded available supply. Absent of major shift in state and federal energy policy, a major shift in state and en-- federal energy policy. This is real-- the reality we face for years to come, end quote. On January 16, Governor Pillen issued Executive Order 24-2 to produce and preserve electricity in the face of energy demand resulting from the recent snowstorm and subzero temperature. Power providers are permitted to take steps to meet ongoing demands. At the same time, entities with an ability to generate electricity are asked to take actions that will ensure preservation of the electric grid. Many of you in OPPD's territory got the text: turn down your thermostat. Save j-- save electrical use. Let's talk about Germany. Germany has already faced this exact issue. In 2011, Germany passed plans to retire all of their nuclear plants in 2022. Germany has also committed to retiring all of their coal plants by the end of the decade. Their plan was to rely on natural gas, wind, and solar. However, these closures and planned retirements backfired. In 2022, Germany had to reopen or extend the operating permits of about 20 coal plants and kept their last remaining nuclear plants online just to meet the 2022-23 winter load. Then in April 23-- 2023, Germany went ahead and retired the remaining three nuclear plants. However, in October 2023, Germany once again approved a plan to bring close-- coal plants back on line to avoid energy shortfalls this winter. The summer when we were in South Africa, South Africa daily has rolling blackouts. Every day. LB1370 is a step in the right direction to a, to a address concerns NERC, FERC, MRO, and SPP have been warning us about for years. The bill would ensure that Nebraska maintains a flate-- a fleet of dispatchable electric generation facilities that we can ramp up when the electricity demand peaks. This bill does not prevent an electric supplier from retiring a dispatchable facility. It just ensures that, before a facility is retired, a new facility with an equal or greater capacity is constructed and connected on the grid. Why the concern? In 1979, through a generation partnership between NPPD and OPPD, they were slated to build unit 2 at Fort Calhoun Nuclear Power Station, expanding the dispatchable generation for Nebraska by 1,136 megawatts. They both wedrew-- re-- withdrew from this joint project. Then in 2016, OPPD shut down Fort Calhoun Nuclear Power Station, eliminating 500 megawatts of di-- clean, dispatchable generation. More recently, OPPD has targeted the north Omaha coal plants for the partial

decommissioning of and retrofitting to natural gas. The three units they plan to retire amount to about 227 megawatts of dispatchable gener-- energy. This project has been delayed specifically due to the lack of dispatchable generation available to meet the load and interconnection. You will hear from public power that this is too costly. We meet SPP's reserve margins. What if we have a power purchase agreement that they planned for these possibilities and others? Well, that's the same arguments we hear in other states. That's [INAUDIBLE] in the eastern MISO here in those states, and they're, and they're reducing those. So in handout number five, you'll see NPA's load and capability report, which indicates the report as of July-- or, August 2023, that the la-- that the state is in a deficit in 2027, meaning we can't meet reserve margin in 2027. This includes all current generation and generation that's being con-- constructed or approved by the Power Review Board. And that same handout, you will see a slide labeled 5b, which shows what the situation would be if all fossil fuel units six years old and older were to be retired. And that's an immediate deficit today. This is a concerning-- consider-- this is concerning considering there's mostly dis-- there are mostly dispatchable resources and will eventually-- will need to be retired or replaced. Also, the age of existing generate-- generating fleet is provided to you as well. So you can see the age of our current generating fleet and where that will be as far as how old they are. What this bill does is carry out the stated requests of NERC, FERC, and SPP by ensuring that Nebraska does not decommission dispatchable generation without replacing it with dispatchable generation to meet the load requirements today and into the future. The alarm bells are ringing. Our neighboring RTO's have already gone too far and continue to decommission dispatchable generation at an alarming rate. Meredith Angwin, a retired scientist from world-renowned Electric Power Research Institute, or EPRI, author of Shorting the Grid, stated in a video released January 31, 2024: We have allowed ourselves to get into a fatal trifecta. First, we're overrelying-- relying on renewables. Second, we're overrelying on just-in-time natural gas to backup renewables or produce dispatchable power. And third, we are overrelying on our neighbors to help them when they may be experiencing the same problem for generation. This bill simply maintains dispatchable generation to meet the needs of the people of the state. I have talked with public power on this. [INAUDIBLE] are ready. Changes can be made to this, but I also have told them that they need to bring those changes to me quickly because we really don't have time. Planning and that needs to happen, and they need to

continue to do that. I ask for your support to LB1370 and its advancement to General File. I'll take any questions you may have.

MOSER: Questions? Senator Jacobson.

JACOBSON: Thank you, Vice Chair Moser. Senator Bostelman, I, I, I appreciate you bringing in the bill. And, and I too have had these same concerns about how do we make sure that we become-- we do not become overreliant upon power sources that are unpredictable. I, I'm curious in these projections. What is the rate of growth in, in needs? How much-- what rate is that in these projections? Do you, do you know?

BOSTELMAN: I tell you. I--

JACOBSON: I raise that if you're looking for it, I-- so in the Banking, Commerce and Insurance Committee here-- meeting the other day, we, we had a presenter there that's looking at expanding blockchain technology. Of course, they're wanting to go out to rural areas where evidently nobody cares about noise and so on. And we're going to-- and there's a facility in Kearney today, and that Bitcoin mining operation generates-- or, uses more electricity than the entire city of Kearney. And now there's one being planned and being un-- it's under construction in Aurora. I don't know how much the, the total capacity will be, but it will be significant. So the-- when asked about where do we come up with the power for those, particularly during peak load times, heat of the summer in particular, well, they'll just shut down when they don't need that extra load and we are building in this buffer. But I don't know. I'm just telling you as a lender. And I-- if I were loaning into a project like that and they're going to be shut down half the time, I'm not sure that return on investment works. And so I am concerned that as we start looking at industry, whether that be agriculture, whether that be other power, other, other en-- manufacturers and so on in this state who are relying upon natural gas and electricity and all of a sudden we've got to take that away from them to be able to make up the gap that we've left with, with green energy sources. I'm, I'm not adamantly opposed to green energy, nor do I think you are. But, but we've got to do this in moderation. We've got to be making certain, it seems, that we, we have the capacity in place not only for the needs today, but for growth. So I'm just curious as to what that looks like.

BOSTELMAN: So a couple of que-- or, answers to that. One is there, there will be a couple of people behind me. And I don't know if, Jason Fortik will-- he's the one who created this.

JACOBSON: One reason why I'm asking you the question [INAUDIBLE] think about it.

BOSTELMAN: He may come up and speak. If not, Tim Texel will come up and he can speak to it as well. But this is the projection that they have at that time. They have-- things are in planning and construction waiting to int-- interconnect if all those things come together. You know, that-- 2027 moves out. But this is an initial shortage deficit right now. So there are plans that they do have to build out more. But this is a significant graph in the sense of-- for planning purposes and where, you know-- SPP changed from 12% to 15% on reserves. But this kind of shows us where we're at today and that we do need to build out more resources to overcome that deficit. And again, I don't know if Jason Fortik will be here to, to tes-- to come up and talk about that. I mean, this is his slide, their slide. And/or Tim Texel could. So they would be the, they would be the experts on that.

JACOBSON: Thank you.

BOSTELMAN: Yep.

MOSER: Senator Frederickson.

FREDRICKSON: Thank you, Vice Chair. Thank you, Senator Bostelman, for bringing this bill and for providing us with this information. I think I-- just kind of been hearing your opening and reading the bill myself. I, I, I absolutely appreciate your commitment to the reliability of our electric generation. I think that's essential, especially, as you noted, we're seeing more and more kind of extreme weather events. We need to make sure that we're able to continue to have sustainable electricity provided to Nebraskans. I, I, I guess one of the concerns I might have with the bill is I, I'm wondering if this might unintentionally be sort of limiting our options for electric generation. So I'm thinking, for example, you know, why is oil or battery storage, for example, not included in, in the definition of dispatchable?

BOSTELMAN: So as I said-- and there are other facilities. If that's considered dispatchable generation, then that would be considered. So while I have a-- I think I have the number in here or somewhere in

here. I think we have-- got to look. Might find it real quick here. We've got 8,500-plus megawatts of, of dispatchable generation in the state of Nebraska. The concern is-- my concern is-- and whether the bill's written the right way now to get that done or not, my concern is we drop below that, that when we have another peak outage or peak winter or summer-- and I do have some additional information on that. But we do have that dispatchable generation that are available to be able to come online and fill in when we need it because, you know, things-- when-- fortunately, a couple weeks ago during that cold snap that we had, the wind was blowing. So wind, wind performed. Thank goodness it performed, right? Because we didn't have all of our other assets. But if it didn't perform, we need that dispatchable there to make sure that we have that generation. Because during Uri, we lost livestock. [INAUDIBLE] and barns. We didn't lose life, but in Texas they did. That's my concern, is that we have di-- dispatchable generation there. You can-- you know, re-- renewables are there. Fine. But we got to make sure we have that dispatchable generation to make it. And we cannot always-- and we've learned-- and I've written to SPP, Lanny Nickell, and I've got a couple responses from him about what we're doing to make sure it doesn't happen again. They've made some changes, but there's still a lot of questions out there [INAUDIBLE]. So it's prudent from what NERC saying is that we need to be proactive and we need to be policy engaged. And that's what this bill is intended to do, is be policy engaged. What is the right answer so we make sure that we have that dispatchable generation when we need it?

FREDRICKSON: So based on that answer-- I'm, I'm curious if I understood you correctly. So would you say that-- so I'm looking at page 2 of the bill, lines 2 through 4-- you would be open to potentially different language on how that's identified.

BOSTELMAN: Yeah. On the bill?

FREDRICKSON: Yeah.

BOSTELMAN: Sure. I-- we-- I've talked with, I've talked with LES, OPPD, NPPD, and I said, you know, this isn't right. I, I understand. I said, but what gets us there? What is it? But we-- you know, but my thing is, is we need to take care of this now. This isn't something we need to kick down the road again. You know, a few years ago, probably three years ago maybe it was, I had a bill in front of this, this committee that y'all may not have been sitting on-- I think Senator Cavanaugh was-- when we talked about reliability. At the time, public

power said NERC has it covered. SPP has it covered. We just need to do-- they've got it. We don't need anything in statute. Well now NERC, BERC, SPP is saying, hey, you all in the state need to have a policy. You all in the state need to engage. You all in the state need to work with your pro-- with your generators [INAUDIBLE] to make sure we're not retiring dispatchable generation too soon and we have generation-- dispatchable generation there. So when we need it, it's there.

FREDRICKSON: Thank you.

BOSTELMAN: Mm-hmm.

MOSER: Other questions? Any other questions? Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair Moser. Thank you, Senator Bostelman. I always appreciate it. You know, I'll probably ask you some questions in the end. I just wanted to get a couple of things that you said during it that I wanted to clarify. You mentioned both dispatchable and firm capacity. I'm just curious what the distinction is.

BOSTELMAN: So firm capa-- dispatchable generation is on time-- not on time. Dispatchable energy is, is an-- excuse me-- is, is generation that is there all the time. So in other words, take a coal, take a nuclear, take a natural gas, take a, a hydro plant. If it's, if it's rated at 100 megawatts, they can generate up to whatever that capacity is. It's probably not 100. It could generate-- you can, you can ramp it up to, say, 95 megawatts at the time. Firm is that, that inter-- that generation and-- they can correct me if I'm wrong, those behind me. Firm is that which is on-- that's accredited capacity online for that specific generation source.

J. CAVANAUGH: Gotcha. And then reserve margin. I mean, I don't-- if you want to say what it is, I guess. The reserve margin--

BOSTELMAN: So reserve margin is what can be counted on. And again, those behind me can correct me if I'm wrong, and that's fine. Reserve margin is what SPP says that if you need-- they need the power, that reserve margin is what you have to be able to provide. That 15%, that's what they have to be able to provide.

J. CAVANAUGH: 15% above their highest need, right?

BOSTELMAN: I believe so.

J. CAVANAUGH: OK. I just want to make sure. When we're having the conversation, it's good for us all to be on the same page what we're talking about. I think that was all. I, I'll probably have a million questions for you later, though.

BOSTELMAN: No, not you.

J. CAVANAUGH: [INAUDIBLE].

MOSER: Senator Hughes.

HUGHES: Thank you, Vice Chair Moser. Thanks for bringing this, Senator Bostelman. So I know-- one concern I've heard is that-- like, for example, Gerald Gentleman Station is-- and I'm just going round-- like, 10% of ownership and usage-- not ownership. Energy that they get is like LES has. OK. So I believe NPPD owns it, but they have contractual obligations with other entities for the power that's generated there, and then they help pay for it, whatever. So let's just say Gerald Gentleman, they're going to close that down. This bill says we have to replace it with-- and I'm going to round-- 1,400. It generates 14 megawatts. We're going to replace it 1,400 megawatts. But now LES is out of the c-- they're done because the life of that plant's done. They're out. So does NPPD have to do the full 1,400 or would they have to do their 90%?

BOSTELMAN: Well, as the bill's written right, right now, they would have to do the full, full 1,400. But the thing is, is I would think LES would want to contract with them.

HUGHES: Well, I would think so too, but. They could-- those, those people could get on the hook for it.

BOSTELMAN: But as the-- yeah. As the bill's written right now, that is exactly what it is. And we've had conversations about that earlier with--

HUGHES: OK.

BOSTELMAN: --with the different utilities. Yep.

HUGHES: Thank you.

MOSER: Other questions? Thank you, Senator. We received 21 comments in support and 43 comments in opposition to LB1370. Anybody else to speak in support of LB1370? Welcome.

JAN BOSTELMAN: Members of the Legislature's Natural Resources Committee and Vice Chair Senator Moser. My name is Jan Bostelman, J-a-n B-o-s-t-e-l-m-a-n. I have 44 years of experience working in the utility industry, both at an actual power plant and as a consultant. I also teach part time at Southeast Community College in the Energy Generation Program, training students for power plant operations. I am in support of LB1370. Not only do I support this bill for the vast reasons of maintaining reliability of power generation when it's needed, but also for planning for-- of the future. Dispatchable power has a proven track re-- record of many decades of reliability and tends to be large scale for power output. This aspect of dispatchable power generation is often taken for granted. Being able to count on a 300 to 500 megawatt power plant in the middle of a scorching summer to deliver the needed power may not be social media content, but it's reliable for Nebraskans. Likewise, there is a human aspect to what happens when dispatchable power is not replaced with dispatchable power. As I said, dispatchable power tends to be large scale, and as such requires personnel to support 24/7 electrical output. The people that work at dispatchable generation units may spend their entire career lives at one power plant just to be able to meet energy demand, and they do it proudly. I know many instances where, at large-scale dispatchable plants, not only do so-- does someone spend their entire career there, but now their sons and daughters are supporting its operation. So if shutdown of one dispatchable unit were to occur and be replaced with another one, those people could transition over to the new unit. I know what it's like to witness the shutdown of a dispatchable power station. I was there in the cafeteria when the former CEO of OPPD announced to the standing room only crowd of employees and consultants that Fort Calhoun Station was about to be permanently shut down within four months. I could see the tears and anguish on all of the employees' faces. They knew that without an announcement of any other new large dispatchable power generation site that they were looking at potential career-ending decisions in this industry. Likewise, just yesterday, I had a former NPPD employee come up to me and give me a hug for LB1370. He was a former plant operator, and he understood what the ramifications of not passing a bill like this could mean for the folks that work at large-scale dispatchable units. So it's not only the reliability in question. It's people's lives and livelihoods. And with that, I thank you for your time.

MOSER: Questions? Senator Slama.

SLAMA: Thank you, Mr. Vice Chairman. And thank you so much for being here today. I, I appreciated your comments about the strong ties our

communities have with those large-scale dispatchable units. My dad is one of those who spent his entire working life working at Cooper. And we're actually on some of our third generation workers at Cooper Nuclear, and we're just really grateful to have them in District 1. Would you mind telling us a little bit about your work with SMRs and how those, coming into the future as we're talking about dispatchable units, could play a role? Like, what's this next chapter and how do we have dispatchable units that bring us into the next generation of electricity?

JAN BOSTELMAN: OK. Good question. I, I am working on advanced nuclear technologies right now. Almost full time. And the small modular technologies are unique in that they are what they say: small, modular. Modular being that you can build modules offsite versus what we do nowadays with large-scale units. Build the modules offsite and then assemble them at a site and then ready to go. Small being it can be anywhere from, oh, 40 megawatts up to-- you can install larger units where we take-- we call them almost, like, 6 packs, 12 packs or something like that. So you could take a-- one module-- maybe it's 40 megawatts-- and just start stacking many multiple ones at one individual site. And so you can eventually end up with 480 to even 960, something like that, type of output from one site. So that's a small modular, one example. There's other technologies as well that-- advanced nuclear, where they're a 300 or a 500 megawatt unit size. So it's kind of all, all over the map. Does that answer your question?

SLAMA: Yes, it does. I think we could go back and forth for hours talking about nuclear and-- I have with your husband too. But for the committee's sake, I won't ask any more questions although I'd love to.

MOSER: Other questions? Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair. Thanks for being here, Ms. Bostelman. And I also like to talk about nuclear. And I actually learned about small modular from your husband. And I just want to take issue with your testimony. I do think that large dis-- generation is social media content. I've toured Cooper Nuclear twice myself and really enjoyed it, and I think I, I would watch-- I'd probably would watch a live stream of the reactor at times. But my serious question is, what's SMR going to cost for one of those 40 megawatts?

JAN BOSTELMAN: The-- I can't give you exact numbers. The investors-- we, we held a conference this past May. We did have investors come in and, and give presentations. And I would just be guessing, you know.

We're-- be talking, you know-- if it's half $1 million, up to $1 billion. I don't know exactly. But the, the investors do have those, those types of numbers and figures.

J. CAVANAUGH: And do we have--

JAN BOSTELMAN: And, and that's talking, you know, fairly large on, on the size of a megawatt output, yes.

J. CAVANAUGH: And, and do we have a timeline for when we think we're going to be able to start building these?

JAN BOSTELMAN: Well, the-- yes, we do. We have timelines. And it depends on the project. We have-- there's small-scale units the Department of Defense are, are building right now. And they should be up and running within about two years. They are small going up in Alaska areas. The larger units, there's going to be one put out in Wyoming and then also Washington state. Those are DoE projects. They should be up and going-- well, 2028, somewhere around there. 2028, 2029. So, yeah. Not that far off.

J. CAVANAUGH: Great. Thank you.

JAN BOSTELMAN: Yeah.

MOSER: Senator Jacobson.

JACOBSON: Well, thank you for being here. And since we've got you here, I have to ask you this question. So I'm always-- I've always been a little fascinated about the small nuclear technology and what that could do. And, and being in District 42, close to the Sutherland Power Plant, that, that is pretty near and dear to me. And, and, and shame on Senator Hughes for even suggesting it would ever be closed down.

HUGHES: It was hypothetical.

JACOBSON: Oh, OK. All right. Thank you. But what, what about the waste from the small nuclear? What is that waste? And, and how do you dispose of any waste on a small nuclear plant?

JAN BOSTELMAN: Well, any, any nuclear plant, the waste size-- the way I like to give it as a, a concept: if you took, like, the football field over here in Lincoln and you stack that up maybe, oh, I think even 15-foot high-- just take that whole entire volume-- that's the

amount of nuclear waste that has been generated from our existing fleet since, since we've been operating in the '60s. So it's a very, very small amount of, of, of volume. We were over in France here in November. And in France, they take all-- everybody's except the U.S.-- their, their waste. And we were standing in one small facility and, and we were standing over the top of where this waste was at. It was a very small footprint. So we've been moving forward, you know, with these advanced reactors as well. The, the one benefit with the advanced reactors is we can reprocess the fuel. So you could take the existing fuel that we have stored-- say at Fort Calhoun Station or even at Cooper Nuclear Station-- potentially re-- reprocess some of this. And then-- you know, we're reusing that. So that also minimizes. So it gets it down to about, oh, about a 5%, you know, versus-- I ha-- having a whole canister like we have now. So we're-- significantly reduces it.

JACOBSON: All right. Thank you.

JAN BOSTELMAN: Did that answer--

JACOBSON: It does. Thank you very much.

MOSER: Thank you very much for your testimony.

JAN BOSTELMAN: All right.

MOSER: Anybody else to speak in support of LB1370? Come on up if you're going to testify. If you're going to testify, please come and get up in the front row so, so others are ready when the time comes. Save us a few seconds on every testifier.

RANDY EMINGER: Yes, sir. Thank you, Mr.--

MOSER: Welcome.

RANDY EMINGER: --Vice Chairman. Thank you, committee. I'm Randy Eminger, executive director of the Energy Policy Network. R-a-n-d-y E-m-i-n-g-e-r. I'd like to spend just a couple of minutes in support of this bill. A similar bill to protect electric reliability has been passed in five other states: of course Texas, Utah, Kentucky, several others. Two other bills very, very similar to Se-- to Senator Bostelman's bill are now going through neighboring states of Missouri and Kansas. So we would like to see Nebraska add to this total. In the past six years, 15 baseload power plants have been closed in the Southwest Power Pool. That's 15 power plants: seven coal, seven

natural gas, and one nuclear plant. Would have powered 1.8 million homes. It was replaced 90% with wind and solar. In the next six years, between now and 2030, the Southwest Power Pool tells us that there will be nine more baseload power plants closed, and 93% of the replacement generation now scheduled to replace those nine power plants is wind and solar. Again, that'll be enough power to generate electricity for 2.4 million homes. By 2030, if we go the way we're going now in the Southwest Power Pool-- which is 12 states-- Nebraska is a big part of it-- 56% of the generation capacity in those 12 states will be intermittent power, will be wind and solar. Only 44% will be baseload. This is the concern that Southwest Power Pool is running into. And this is the concern we're all going to be running into. In Nebraska, of course, as you know, 31% of your electricity comes from wind. Depending on what happens in the future, if you replace coal plants as you're looking at now with wind and solar, you'd be up to 36% intermittent. But the real concern is, is that the Southwest Power Pool does not have authority over saying you can't close a baseload plant or it doesn't have control over what the new generation is that you build. They're an RTO, a regional transmission organization. Therefore, they, they can only regulate the transmission of electricity. And so it's up to the State Legislature and up to, to NPPD and OPPD as looking forward as to where to go with this electric generation. One question was asked on natural gas. Texas now mandates if you build a new natural gas plant, you have to have fuel and oil backup at least 48 hours, two days of backup generation stored on site in case the natural gas-- something happens and the wellheads freeze up or the transmission happens on the natural gas. At that, I will leave it. I would say I have some interesting research that we've done in this packet. And if you have any questions, I'd be more than happy to answer it.

MOSER: What's your background? And I see you have a company that-- I saw a card in here, but. What do you do?

RANDY EMINGER: Well--

MOSER: What's your interest in this?

RANDY EMINGER: Yes. Primarily in coal generation related. I worked 17 years for an electric utility in Texas and went to work for a national coal association. Now I, I represent an overall energy electric reliability group called the Energy Policy Network. We have a, a website. Be happy to, to give you the website address. I work with organizations like the state of Wyoming that is looking to continue

to, to sell coal as Nebraska looks at continuing to sell corn and beef. And I do research on reliability on a state basis in Nebra--

MOSER: So who, who would be your clients? Utilities or--

RANDY EMINGER: National Mining Association is a client, out of Washington, D.C. I, I-- like I said, I do work for-- the state of Wyoming is a client of mine.

MOSER: OK. Thank you. Let's take Senator Brandt.

BRANDT: Thank you, Vice Chair Moser. Thank you, Mr. Eminger. It's good to see you again.

RANDY EMINGER: It's good to see you, sir.

BRANDT: Two questions. In the Southwest Power Pool, do you know what percent of power growth we can expect in the next five years? Is it an annual growth of 1%, 5%? What are we looking at?

RANDY EMINGER: I will have to get back to you on that. They-- it depends on whether, whether you have the power or not. I'd like to just expand on that one second because there are a number of states that have lost industry because they, they have come back and said, we don't have electric generation to, to, to, to supply it. Indiana and South Carolina both recently lost automanufacturing plants to the state of Georgia because their utilities said, we do not have the power to generate that. I guess it depends on-- the, the, the growth could be 3%, but it might be a lot more if you had the power.

BRANDT: But is this really a state issue when the Southwest Power Pool covers 13 states or 11 states? Do we not look at electricity in total now so if Nebraska is short and Kansas has a surplus that it averages?

RANDY EMINGER: You do. Look-- I mean, electricity moves at the speed of light. So you're either energized or you're not. That can be good and can be bad. Right now, those states that need-- that have high levels of wind and solar are looking to Nebraska and looking to Missouri that's 95% baseload, or Arkansas and some of those, as, as the-- their really-- their battery, their backup. You have states that are in the Southwest Power Pool, like Minnesota, Colorado, New Mexico that have a law in place that said they have to be zero carbon by 2045. So they're ramping down their fossil fuel generation.

BRANDT: Last question. So it seems to me, if, if the power use is growing, why are we closing so much of our existing power? What is the-- what's the reason we're, we're shutting these plants down? Because Wyoming coal is good, clean coal.

RANDY EMINGER: Yes, sir. I think there's two reasons. One is, of course, there are a lot of EPA regulations under the current administration. Since Biden has taken office, there's been three major regulations that have been aimed at closing coal plants. There's two more that we expect to come out this April. So we see a lot of pressure from the federal end to close, which-- utilities don't have to close their plants. They can put scrubbers. They can put [INAUDIBLE]. They can put equipment on the plants, but it's expensive. The second reason is I think we see a lot out of Wall Street and other groups that are promoting the managing down-- as BlackRock calls it-- managing down of fossil fuel generation. So if you're part of Climate 100, which BlackRock and State Street are, and you want to be a part of their financial situation, you have to manage down your, your, your fossil fuel generation. So I think those are the two primary reasons.

BRANDT: All right. Thank you.

MOSER: Senator Jacobson.

JACOBSON: Thank you. And thank you, Mr. Eminger, for being here. I, I've got a couple questions. Maybe just a follow-up to Senator Brandt's question. If I understand, part of what you're saying is we look at the Southwest Power Pool and the trading of power back and forth, obviously we can game that to some extent. Some companies can where they can go out and those that want green energy reliance, they can come in and say, well, we're-- we've got this much green energy and-- come to our state. And they come to their state and then they buy, buy power that's, that's dispatchable power from Nebraska to fill the gap. And all of a sudden, we're the bad guys and they're the good guys. But, but I guess the question I'd have for you is you mentioned-- if I understand it-- that the base, baseload dispatchable power plants to be closed down within the Southwest Power Pool was-- that-- it's been, been reduced-- or, be replaced 93% by wind and solar. Do you know what's going to be scheduled for con-- for-- into the future now as we move in with, with closures of, of those facilities in the Southwest Power Pool?

RANDY EMINGER: Well, the, the utilities--

JACOBSON: How much baseload do you see going away in, in, in-- as we move forward here now?

RANDY EMINGER: In the next six years, there's going to be 4,000-- let me look at that real quick-- 5,754 megawatts in the Southwest Power Pool that will be closed between now and 2030, 93% as scheduled. Now, the utilities tell Southwest Power Peel-- Pool, here's what we're going to close. Here's what we're going to build.

JACOBSON: What about specifically Nebraska then?

RANDY EMINGER: In Nebraska, you have one-- two units: north Omaha, four and five, that are looking at closing in 2026, those two units. I'm not exactly sure what OPPD plans on replacing that gener-- it's 6% of your electricity for the state of Omaha Omaha, those two units. So I don't know if they're coming back with gas or, or wind and solar. I don't know.

JACOBSON: I, I get the sense we're going to have an opportunity to ask them that.

RANDY EMINGER: Yes, sirs.

JACOBSON: Thank you.

MOSER: Senator Hughes.

HUGHES: Thank you, Vice Chair. Thanks for coming in. Good to see you again too.

RANDY EMINGER: Thank you, Senator.

HUGHES: So the, the SPP, they manage between these states, but they have absolutely no control of telling-- they can tell the states what they need, but they-- they're-- clearly, there's no control. Like, what do you think the best-- I mean, is-- so now we're piecemealing state by state to keep-- some states are passing this, some aren't. Minnesota's going the opposite. Like, oh, we're going to be all renewable. Great. Good for us. But then uses all of our electricity to bring in-- or, energy sources. Like, what's the answer to this? If we're-- if SPP sees a problem and we're on the elevated status with the NERC report-- like, what would be the better answer?

RANDY EMINGER: Well, SPP has to-- has tried to address it. It's increased the reserve margin from 12% to 15% that the utilities have

to have. Unfortunately, they can't say it has to be baseload dispatchable power. They can only say we're increasing the reserve margin. So you can increase it to 15%, but it can still be wind and solar. The Federal Energy Regulatory Commission, if they were to write regulations and direct the regional folks and direct the electric utilities that operate-- all operate under the Federal Energy Regulatory Commission, there could be regulations put in place on a federal level. Unfortunately, there's supposed to be five members of FERC. There's only four now. Two are, are Republican pointe-- appointed; two are Democrat repoint-- appointed. And they're basically not-- nothing's happening at the federal level.

HUGHES: What? Everything happens at the federal level, doesn't it? They're so efficient. All right. Thank you for that.

RANDY EMINGER: You bet.

MOSER: I think you'll get a chance to ask the SPP people some questions when they come up. Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chairman. Thanks for being here, Mr. Eminger. So I'm just-- you were talking to Senator Brandt. So you work on behalf of mining and the state of Wyoming?

RANDY EMINGER: Not-- yes. Yes, that's right.

J. CAVANAUGH: OK. So would it be fair to say that you advocate in favor of adopting more coal production?

RANDY EMINGER: Well, yeah. I don't think there's going to be many new coal plants, but yes. We, we hope that you keep reliable coal plants in place as long as we need them.

J. CAVANAUGH: But I guess my question is, is that, do-- you're advocating for the folks who sell coal, right?

RANDY EMINGER: Yes.

J. CAVANAUGH: OK. And you talked about north-- the north Omaha 2 generations is 6% of the state's generation. Is that what you said?

RANDY EMINGER: I think it's 5%.

J. CAVANAUGH: Oh, 5%. I wrote down 6%, so.

RANDY EMINGER: Oh, I'm sorry.

J. CAVANAUGH: No, it's not your fault that I wrote that down. So I guess my question is-- you know, do-- having this conversation about closing down plants or converting them to other generation. And there's always, I guess to put a point on it, folks talking about, you know, zero carbon goals and things like that. But when it comes to specifically generation like north Omaha, the-- you're-- you-- are you aware of the fact that the reason they shut that plant might be more related to the point-source pollution that goes into the community there? Are you familiar with that issue?

RANDY EMINGER: I'm not, but I'm sure there are local issues.

J. CAVANAUGH: I mean-- and you're, you're familiar with the coal plants have smokestacks that put out that--

RANDY EMINGER: Yes, sir.

J. CAVANAUGH: You know what I'm talking about, that--

RANDY EMINGER: Yes, sir. CO2 emissions and, and other emissions--

J. CAVANAUGH: Heavy metals and toxins that come out, right?

RANDY EMINGER: They're-- yes. EPA has mass-- we have the cleanest regulation of coal fuel power plants of any country in the nation. And so, yeah. There are parts per million-- mercury, one part per million. It's hard to regulate much further than that. On CO2, there are no regulations currently. EPA's trying to put them in place. I guess my answer is that closing a couple of units in Nebraska versus China just built 136,000 megawatts of coal generation in 2023 alone. I mean-- and they have 250,000 more on the books.

J. CAVANAUGH: And, and I get what you're saying about that. But I guess my question is specifically to talking about us regulating whether somebody can choose to shut down a specific generation facility, that there may be other reasons other than the ones we're all kind of talking about. Because you, you honed in on the CO2 emissions that might be coming out of China. But you understand or you-- would you agree that OPPD may want to shut that plant down for the local effect on the community that, that, that's being disproportionately affected by that generation?

RANDY EMINGER: I would, yes. I would also say that I would ask that the utilities and the Legislature look at the latest technologies, whether it's water emissions, whether it's waste emissions, fly ash. There's some cutting edge technologies to lower all of those emissions dramatically.

J. CAVANAUGH: And that's probably good advice. Thank you.

MOSER: Keep in mind: this is one perspective. We've got 20 more people to testify. So we don't have to solve the whole problem with one guy. Thank you for your testimony. Anybody else to speak in support? Anybody else to speak in support? OK. Opposition. Somebody to speak in opposition to LB1370?

RON KAMINSKI: Thank you, sir--

MOSER: Welcome.

RON KAMINSKI: --and committee. Excuse me. My name's Ron Kaminski. Address is 5626 Sorensen Parkway, Omaha, Nebraska, 68152. I am here today as president of Nebraska Building and Trades Council.

MOSER: Did, did you spell your name?

RON KAMINSKI: Yeah. Kaminski, K-a-m-i-n-s-k-i.

MOSER: OK. Thank you.

RON KAMINSKI: I apologize.

MOSER: Yeah. Thank you.

RON KAMINSKI: Yep. I am here today representing as president on Nebraska Building and Trades Council. We represent 18 labor organizations. We represent over 30,000 construction workers in the state and hundreds of contractors. I am here today to speak in opposition to this legislation for a couple different reasons, but number one is the definition of, of deta-- dispatchable electrical generation. It is 2024. We have constructed power plants, coal fire. We have put scrubbers on power plants. We've built pipelines. We've built wind turbines. We've built solar farms. We've built all the above. And the bottom line is technology changes so quickly. This legislation essentially keeps us tied down to old power generation that is being eliminated. I understand that people may like coal. We enjoy working at north Omaha and their power plant but not at the risk

of injuring or hurting Nebraskans in the process. We also believe that wind and solar do create electricity. And limiting them and not letting utilities use those pa-- use those as part of their process of moving forward with generation for their customers is-- we see as very shortsighted. Another thing we don't see in this legislation at all is anything about displaced workers, which is another issue for us. If, if we're, we're worried about those workers that are being removed from a nuclear power plant, which we're decommissioning for Calhoun Nuclear Power Plant at this point, there needs to be something in here about the individuals that are-- those workers, like the lady before said. Another thing she also brought up is new technologies. Those new technologies aren't even included in this legislation. And for those reasons and, and the issues with displaced workers, we're opposed to this legislation as written. That's all I've got, sir.

MOSER: Questions? Yes, Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair. Thanks for being here, Mr. Kaminski. Do you guys-- is there a model of displaced workers, like legislation or language you guys-- you would suggest?

RON KAMINSKI: Yeah, there is. And I can get you copies of that, sir. That would be great.

J. CAVANAUGH: Yeah. Well, and-- yeah. You, you commented the-- Ms. Bostelman put-- pointed out the concerns about that, of folks when we close down these places. I'm, I'm assuming we would need some kind of provision about cross training or something because a nuclear power plant and a coal power plant produce electricity but in a very different manner.

RON KAMINSKI: Absolutely. 100%, sir.

J. CAVANAUGH: And I guess just to clari-- ju-- to put a point on what I heard from you-- and you guys don't care about what the energy is. You'll, you'll build anything.

RON KAMINSKI: Correct.

J. CAVANAUGH: Yeah.

RON KAMINSKI: Correct.

J. CAVANAUGH: And you just want to make sure that we're building, building energy and it's reliable and we're using--

RON KAMINSKI: And, and safe for the community also.

J. CAVANAUGH: Thank you.

RON KAMINSKI: Yup. Thank you, sir.

MOSER: Senator Jacobson.

JACOBSON: I guess I'm a little confused. Your-- you said in your testimony that you're concerned about this being outdated. The bill is talking about outdated definitions or-- I, I think if I understand reading the bill, we want to know that we've got sustainable power and that we don't get rid of sustainable, dispatchable power without replacing it with the same thing, something we can rely on. What are we missing here in terms of what you're saying this doesn't add up? And--

RON KAMINSKI: Well, Senator, if, if I may. Let's take-- a example: Google server farms. OK? Goo-- Google server farms have-- we have started to construct those. And the technology moves so quickly that they've actually had to go in there before it was even operational to replace the cooling efforts of those plants, right? For example. Same thing with electricity, right, and generation. You can pass a law here that says nuclear, coal, or hydro or whatever. But what happens in ten years if there's a new technology that's-- we're turning water into electricity or we're, we're trying--

JACOBSON: I, I get that, but I'm-- I think what the bill is saying is we welcome all of those sources as long as they're reliable. But we want to know that we can rely upon a baseload out there and not have to rely on something that would be intermittent. So--

RON KAMINSKI: And that--

JACOBSON: --so what am I missing?

RON KAMINSKI: You're, you're missing, under Section 1(a), the definition of dispatchable electrical-- electric generation. OK? It defines what that is. In Section 2, if-- and correct me if I'm wrong. I'm not an attorney. I wish I got paid like one. But under Section 2, it states that you're going to replace it with dispatchable electric generation. So essentially, you're referring to that definition, which limits-- how the bill's written, in my mind, you're limiting two-- those first things under Section 1(a).

JACOBSON: So if I can follow up with that then, what would be your recommendation to change 1(a) to better describe what you believe is additional dispatchable power out there?

RON KAMINSKI: Well, we don't know what those could be in the future. But what I would say is, megawatt for megawatt, right? Or megawatt plus 10%, right, of any type of generation.

JACOBSON: So-- I, I get that. So then is it-- am I-- is it fair to say that as long as we're replacing the megawatts one way or another with reliable megawatts--

HUGHES: Yes.

JACOBSON: --you would be supportive? Is that what I'm hearing you say?

RON KAMINSKI: It depends on what the definition of reliable megawatts are, right?

JACOBSON: What would-- how would you define it?

RON KAMINSKI: I would say any, any type of energy. If you need to add a percentage in there--

JACOBSON: That's reliable.

RON KAMINSKI: --because you're concerned with-- in my mind, if it's working, yes, it's reliable.

JACOBSON: Well, would you consider wind energy as being reliable?

RON KAMINSKI: Yes.

JACOBSON: Even when the wind's not blowing?

RON KAMINSKI: Well, you got to build up for that. That's what you have batteries for, sir.

JACOBSON: So the minimum would be-- or battery storage would be--

RON KAMINSKI: Well, yeah. I mean, you add a, you add a percentage above that if that's your real concern. That would be my suggestion. I don't run a power company, though, sir. We just build these facilities--

JACOBSON: No, I, I understand. I'm just trying to understand your opposition to the bill.

RON KAMINSKI: My opposition-- our opposition is it's defining certain types of electrict-- electric production. And I think that is very shortsighted. We think that's shortsighted. No offense to you, sir.

JACOBSON: No. I'm, I'm fine. Thank you for the-- thank you for the response.

RON KAMINSKI: Yeah.

MOSER: I think if you can build all that stuff you've got a long future ahead of you.

RON KAMINSKI: Yeah, I agre-- I agree too. I agree too.

MOSER: I, I would just let the powers that be battle it out and deal with the survivors and let them hire you to build it. Senator Fredrickson.

FREDRICKSON: Thank you, Vice Chair Moser. Thank you, Mr. Kaminski, for being here and for your testimony. I-- you know, Senator Jacobson's got me thinking about some things as well around this. And, you know-- I, I had to step out for a little bit, so I might have missed some things. But, I, I mean, I think I, I in general-- I, I think I support the premise that Senator Bostelman's-- the spirit of the bill, which is that we want to ensure that there's obviously reliable electric generation in our state. So my concern about the bill-- how it's written, at least-- is that it-- and I think this is-- if I'm understanding your testimony correctly, is that this limits what that could be. So-- and so there is a world where-- for example, so maybe wind isn't it. Maybe wind is it. Maybe solar, maybe whatever is or is not it. But is-- would-- so your, your opposition would change if we didn't enumerate specific types of electricity in the bill as long as it's megawatt per megawatt equitable reliability. Is that-- am I my understanding that correctly?

RON KAMINSKI: Yup. And maybe even, like, because of the concerns about wind or solar, maybe a little percentage higher than what you're replacing, possibly. Do you know what I mean? Have that extra wattage.

FREDRICKSON: Got it. So, so the-- there's a shared interest and goal of the reliable delivery. The q-- the, the, the, the opposition is really about the enumeration of, of the res-- of the sources.

RON KAMINSKI: Absolutely.

FREDRICKSON: Got it.

RON KAMINSKI: Yup.

FREDRICKSON: Thank you.

RON KAMINSKI: Thank you, sir.

MOSER: OK. Thank you for your testimony.

RON KAMINSKI: Appreciate it, guys.

MOSER: More opposition. Welcome.

JON NEBEL: Welcome. Thanks for having me. My name is Jon Nebel, J-o-n N-e-b-e-l. I am president of the Nebraska State Council of Electrical Workers, representing over 5,000 electrical workers in Nebraska and their families. We are opposed to this as written. One on the, on the definition of reliability I think is where we landed on Mr. Kaminski's testimony. We too think we shouldn't limit the amount of transition to just certain types of facilities. If we could find a way to define reliable, I think that would be acceptable for us as well. But mainly we're opposed because there's no considerations for the, for the work-- displaced workers. You asked for options. We have two options available. I just passed out there. But I'll let you digest those. But I just wanted to explain how it affects-- I know Jan spoke to how it affected the communities, affects the families. Specifically, I can give you an instance where we transitioned off of coal and we started shutting down coal mines. It affected pensions. It affected retirement accounts so much that, that we had to step in and do something at the federal level to save all pensions that were multi-employer pensions. They were under, under a lot of stress and some solutions because of, because of situations outside of the control of the workers. They were looking to use other workers, like my electrical pension, to pay for the, the displaced mine workers' pensions. So I would think we dearly need to consider worker-- displaced worker concerns when we talk about any transition. And I would love to have that conversation moving forward with this bill. In fact, I had a fantastic conversation with Senator Bostelman this morning about such a transition. And I think, I think we can find a compromise to find in there. The two that are available that I had proposed: one relies on the federal government to, to stand up the American Energy Worker Opportunity Act. If we don't want to wait for them-- which, a lot of us don't-- we can do it

within the state and adopt a form of the employee retention tax credit that we implemented during the CARES Act just strictly for displaced workers and kind of take care of them along the way. I'll-- any questions? I'm happy to answer.

MOSER: Questions? Let's take Jana-- Senator Hughes. I'm sorry.

HUGHES: Thank you, Vice Chair. My name is Jana, so that works.

MOSER: Yeah. Vice Chair Mike. Get me back.

HUGHES: OK, Mike. Actually, I [INAUDIBLE] call you Moser, so. Thank you for coming in. I'm kind of confused that labor is coming in on this because this bill says if public power-- in Nebraska, it's public power-- shuts down a plant, you have to replace it with something. If we don't have this, they could just shut it down like they did for Calhoun. And there's nothing. So, so the-- I don't know why you're here. Like, the concern is that, that you're shutting down a plant and you have displaced worker-- I was surprised by Mrs. Bostelman's thing too about that. Like, why is this part of-- am I wrong? I, I don't-- I'm confused.

JON NEBEL: If we want to guide them in a way on how they shut down the plant with the worker--

HUGHES: So you want this bill to get in with them when they shut down a plan-- I mean, you're trying to get in on this then so that when they've shut down a plant they are required to do certain things with their labor force.

JON NEBEL: You know, economic th-- standards being what they are, if they're shutting it down and they're closing up shop and they're no longer producing electricity--

HUGHES: Which is-- right.

JON NEBEL: --that's one thing. But if--

HUGHES: That's, that's what would happen. That's-- and, and that is what would happen. That's what happened at Cooper Nuclear, right?

JON NEBEL: Mm-hmm.

HUGHES: Shut down. Done. Close the doors. Done.

JON NEBEL: Good luck.

HUGHES: Right. This is saying if you shut that down, you've got to have something comparable, if you will, up.

JON NEBEL: And so-- I guess-- what are we considering for the comparable? Who's, who's going to go do those jobs? Because if we're, if we're shutting down in the same parking lot, same facility, maybe those workers are taken care of and they're just moved over.

HUGHES: Right.

JON NEBEL: But they're definitely probably going to need some retraining and reskilling.

HUGHES: But that, that's on, that's on the place that shuts it down. I just don't, I don't see that this is a carrier on this-- I'm-- I-- I don't know. Maybe I need to talk about it with our committee and offline, but I am so confused. I--

MOSER: Senator Jacobson.

JACOBSON: Well, my point is exactly what Senator Hughes brought up. I, I'm confused here too. This bill, as I read it, says stop shutting these down unless you're going to replace them.

JON NEBEL: And when--

JACOBSON: It's not saying we want you to shut them down. It's saying, stop shutting these down--

JON NEBEL: And--

JACOBSON: --until you have equal capacity to rebuild, which means the people that are constructing it have construction jobs. And the people that are working there have potential opportunities to go elsewhere. We're not talking about saving-- we, we're not here to save jobs as part of this bill, although we are through the process of this bill so that we aren't indiscriminately going in, shutting down baseload power plants and not replacing that baseload. That's what this bill's doing. And I, I'm with Senator Hughes. I don't see that this is a labor issue at all. I think the issue you've got is with the power companies that are shutting the plants down. That's your beef, not with the-- with this bill.

JON NEBEL: Well, it's a, it's an industry of workers that aren't being considered when we transition from a nuclear facility to a wind facility in another region of the state. And if we want to keep and retain those workers while this transition happens, we need to show them a path to do so. This would allow for that. It's, it's really just considering what you're doing to the workers if you're considering what you're doing and forcing the power plants to do. You could--

JACOBSON: Well, let me give an example. At the Sutherland Power Plant, it's a coal-fired plant. It's got all its scrubbers. It's got everything. It's as clean as it-- anything can get on coal. Massive producing plant. If they start transitioning to, to small nuclear and build up on nuclear, most of the workers that are in that plant today are still going to be employed running the plant. You're going to bring in additional people that have the technology on the nuclear side, but most of the people are going to stay there. The infrastructure's already there to-- for the transmission lines. Be incredibly expensive to replace those transmissions lines and relocate that particular facility. So I'm failing to see where this is a labor concern here. I think the bill is very friendly to labor.

JON NEBEL: I, I, I'm not a person who hopes that those jobs are offered to the people that are there. I'd like it in writing. So that's why I'd like to have this conversation and see if that path is developed. But--

JACOBSON: Thank you.

JON NEBEL: --otherwise [INAUDIBLE].

MOSER: Well, nothing's guaranteed in life.

JON NEBEL: You bet.

MOSER: But I would say you guys are in the, you guys are in the driver's seat. I-- you're nervous about all this. Like I told the previous testifier, you're in control. Just sit back and let it happen and you're going to be just fine. I think the object from listening to Senator Bostelman is that electricity is instantaneous. And when you have load and if you don't increase your capacity as your load increases, then you have brownouts and you have, you have to shut things down. And so you need to have energy that you can just flip the switch and turn on. If the, the solar panels are dirty or aged or you

got clouds between the sun and, and the panels, then they're not generating electricity. Or if your wind isn't blowing at a sufficient velocity, that you have power that you can just go flip a switch or turn a dial and, and get more power. That's what he's worried about. He's not after union workers or tech workers. We love you. You guys are necessary. I wouldn't sweat a thing.

JON NEBEL: I, I think the coal miners heard the same thing. And, and they got left out to dry, so. We're just looking for a transition.

MOSER: Yeah, well. I, I would burn a little coal myself. Senator Cavanaugh.

J. CAVANAUGH: Thank you, Chairman-- Vice Chair Moser. Thanks for being here, Mr. Nebel. I just-- maybe you can correct me if I'm wrong and try to synthesize what Senator Jacobson and Senator Hughes were saying. What I'm hearing is that you want to make sure whatever we do that we're taking care of the people who were working at those plants. But other-- in addition to that, that's a concern when we're talking about decommissioning plants anyway, right?

JON NEBEL: Mm-hmm.

J. CAVANAUGH: The other part is that when we're putting these kind of po-- potentially-- I, I, I would go as far as saying maybe arbitrary in some respects, but restrictions on what comes next, the scenario that Senator Jacobson just laid out maybe doesn't happen, right? If, if the state comes in and says you have to build X type of power, then when we do someday-- I'm sorry to say-- decommission Gerald Gentleman, when that maybe does happen, that if the state has come in and put its hand on the scale too much, the NPPD maybe doesn't build there despite the fact the infrastructure's there. And they might buy power through a contract from Kansas or Missouri or New Mexico. And your guys are going to have to either choose to move or they're going to have to find a different industry.

JON NEBEL: Correct.

J. CAVANAUGH: Does that sound about right?

JON NEBEL: Yes. Yes, it does.

J. CAVANAUGH: OK. Thank you.

JON NEBEL: Yes.

MOSER: Other questions? Thank you for your testimony.

JON NEBEL: You bet. Thank you.

MOSER: Appreciate you being here. Opponents of LB1370.

SHELLEY SAHLING-ZART: Good afternoon.

MOSER: Welcome.

SHELLEY SAHLING-ZART: Vice Chair Moser and members of the Natural Resources Committee. For the record, my name is Shelley Sahling-Zart. S-h-e-l-l-e-y; Sahling-Zart, S-a-h-l-i-n-g-Z-a-r-t. I'm vice president and general counsel for Lincoln Electric System, but I am here today testifying on behalf of the Nebraska Power Association, which represents all of Nebraska's publicly owned electric utilities, and also on behalf of the Nebraska Chamber of Commerce and Industry. We are opposed to LB1370. I want to make clear we are not po-- opposed to having this discussion. This is an important discussion to have. And Senator Bostelman and I have been having robust discussions about generation for the eight years that he's been here. They're important discussions to have. Talking about what happens when these plants retire is a really important discussion to have. But you can't take the utilities out of that discussion. We are living this every day. The NERC assessments, the other reliability assessments that Senator Bostelman mentioned, we're well aware of those assessments. We're studying those assessments. We're involved in working on NERC committees, on SPP committees every day. He mentioned another one. He mentioned Jason Fortik, who is here. You can, you can invite him up today if you'd want to. I handed out the NPA load and capability report. Jason Fortik chairs the NPA joint planning subcommittee that prepares that report. And we present that to the Nebraska Power Review Board annually. And Jason as chair is the one that's been presenting that for the last couple of years. We would be happy to schedule something and have him come in. It's going to take him longer than three minutes to go through that report, but it would be a really good foundational review for this discussion we're having. And this is stuff we look at every year. You talked about the 2027 deficit. You need a lot of context to come around that. It's looking at what our loads are going to be in the future. It's looking at the resources we currently have available. It's looking at the resources that are planned and being studied to meet that demand as it grows. It's a really important study and a really important discussion. I really hope we can schedule. And Jason would be a great person to come in and

talk to you all about that. You know, Senator Hughes, you mentioned you're confused. There have been a lot of-- there's been a lot of discussion here which points out very clearly why this bill is not ready to go anywhere. There's a lot we have to talk about. This is a seriously important policy decision that is more serious than the brevity of the one page and 24 lines of text. It's a lot bigger than that. It implicates our planning processes. We have integrated resource planning processes that take months. It involves robust and complex modeling that considers a lot of things like construction costs and operating costs, reliability constraints, transmission constraints. You know, the big thing we haven't talked about anywhere today, it's not mentioned in the bill: cost. We're here representing our customers and our ratepayers. And at the end of the day, we got to do two things: we got to keep the lights on and we got to keep the rates affordable. And you know what? Public power's done a really good job of doing that for our history. And that's our mission every day that we come in. That's our charge. We're going to keep doing it. There isn't anybody at any utility in Nebraska that isn't concerned about reliability, about resource adequacy. We understand the challenges. We hear your concerns. And we really welcome that dialogue. And I'm out of time, so I will take any questions you have.

MOSER: Senator Hughes.

HUGHES: Thank you, Moser. Thanks for coming in, Shelley. OK. So you-- I-- clearly, you understand the concerns of Bostelman. We've got a lot of people that have cosponsored this bill. Agreed it's on a shorter conversation than-- but we do know that NPPD and OPPD have stated the goal of being carbon neutral by 2050, right? We see-- there's solar going up, towers going-- we all know that that is intermittent. And it's a complementary source. Absolutely. We see federal mandates about climate goals. We see other states that are pass-- you know, putting more strain on the grid by closing their reliable sources. I feel like what we're missing-- and, and then you hear that SPPP-- SPP had 7-- was it 15?-- already closed baseload generation. Nine more coming. That's-- like, that's a little-- big, pressing concern. And then we are on the NERC report. Clearly, we're elevated, which is a concern. So I guess how-- and SPP doesn't have control state by state by state. And all these states are closing things and they're relying on us because we generate and send out. Everybody's a little nervous, I guess. And so what-- I don't-- what is the right answer for this? Because a megawatt for megawatt is not equal. A baseload does not equal a wind megawatt. It just doesn't. Even with a plus percent, it doesn't because there's certain times of day it doesn't work. So

what-- I don't know. Is it this, that we need to sit down and hear that you guys do or can this bill be written somehow that puts some of us at ease that there is baseload for baseload and we're not worried about-- I don't know.

SHELLEY SAHLING-ZART: Oh, well. There's a lot there. I mean--

HUGHES: I know. I'm sorry.

SHELLEY SAHLING-ZART: First of all, I think a discussion and understanding would help. What's missing--

HUGHES: I even went to energy school.

SHELLEY SAHLING-ZART: What's missing is--

HUGHES: I'm trying to get it all, but it's a lot.

SHELLEY SAHLING-ZART: What's missing is a lack of understanding about how this all works.

HUGHES: Right.

SHELLEY SAHLING-ZART: And that's not your fault. It's not what you do. It's what we do. And maybe a little trust because I think there's a little bit of trust that's come in because our board-- and our board has a 2040 goal because the boards have adopted those aspirational goals. They're not--

HUGHES: That-- I think--

SHELLEY SAHLING-ZART: They're not mandates. They're aspirational goals and--

HUGHES: They're not mandates, but that, I think, is the big fear.

SHELLEY SAHLING-ZART: Well, it might be, but, you know, you and I have had this discussion and I would challenge you that if we could get to 2040 or 2050, and if we could do that affordably and reliab-- reliably, that wouldn't be a bad thing. We can all have a discussion about whether we can do it affordably and reliably, reliably. And we're going to have that discussion. And we have these discussions with our boards and among our staffs every day. That's what we are dedicated to. I've been doing this for 35 and a half years. And the charge hasn't changed: low cost, reliable. And that's not--

HUGHES: Nebraska does a really, really good job at it right now.

SHELLEY SAHLING-ZART: You mentioned one thing on the, the reliability assessment. The areas of concern, that's going to change. They do that reliability assessment every year. So different areas are going to change. I'll tell you one thing that's noted in the-- I don't know which one he handed you, but the 2023 assessment that NERC put out in December says: On one of the areas for SPP, there are concerns of drought conditions impacting the Missouri River and other water sources for generation resources that can rely on once-through cooling processes. Low water can impact the generation's capacity output and reduce its ability to support congestion management. Do you know what plants are on the Missouri River? Coal and nuclear.

HUGHES: Mm-hmm.

SHELLEY SAHLING-ZART: They're relying on the cooling water. So my point to you is there are-- we can have different situations where every type of resource we run is going to face operating challenges from time to time. Every single one. There is no silver bullet. We're going to need it all moving forward.

MOSER: Senator Fredrickson.

FREDRICKSON: Thank you, Vice Chair Moser. Thank you for being here today and for your testimony. Senator Hughes-- again-- and I'm bouncing off of both Senator Jacobson and Senator Hughes, which--

HUGHES: That's scary.

FREDRICKSON: --just getting my brain going. But I'm-- so, you know, I, I think, I think you put it really well when you said, like, this, this whole idea of trust, right? And I, and I can appreciate the anxiety that comes up. I mean, if you look at just the context of the world we're living in-- I mean, that-- go back a few years to, like, the whole Texas situation, which is-- was a comedy of errors for a number of reasons. But, you know, I, I, I think there is genuine-- an understandable reason that people are fearful around this. I guess what I'm maybe kind of hearing you say-- and I, I don't want to put you on the spot here, but I, I guess what I'm hearing you say is we should trust that you all, as public power, are not going to do something that's going to compromise the reliability of power to Nebraskans. Is that fair?

SHELLEY SAHLING-ZART: Correct. For one thing, we're also face a number of federal reliability standards for which we would pay significant penalties if we miss those.

FREDRICKSON: And if renewable sources-- wind, solar, these things, et cetera-- are not delivering at a level that is reliable and consistent, that will not be fully--

SHELLEY SAHLING-ZART: We will have a mix of resources. I can tell you my own utility's integrated resource plan. We looked at it. With our decarbonization goal considered, we have a fair amount of natural gas in that mix. Why? Because net zero is not 100% renewable. Means you have to offset whatever carbon you have in your portfolio, right? So we're going to be able to do that. We got about 200 megawatts in our integrated resource plan. We're not quite sure yet what that's going to be, but we have some time. That's the other thing. We have time to talk about this. There's nobody talking about closing a coal plant in the next few years. No one. You're going to hear from some of the other industry representatives, the generators that have generation. So give them your questions because they're going to talk about that. There's one that's probably going to be sooner than oth-- but it's not tomorrow. But, you know, Senator Jacobson's right to be concerned about what happens when, when and if-- if and when Gerald Gentleman is closed. That's a really important consideration. We all, I would imagine, would hope that we could repower that plant somehow and take advantage of the infrastructure and the workforce that is there. But that's a big discussion to have. But I think it really does come down to that trust. It's kind of ironic because, as I said, I've been doing this a long time. Been around for a long time. I've been sitting in this chair numerous times over 35 years. And I can tell you it wasn't that long ago I sat in this chair vigorously on behalf of the industry opposing wind. Why? Because we didn't think it was reliable. What happened? Technology. The wind technology improved. We came up with other ways to firm up and back up the wind. It has evolved. And we're going to see lots of technological advances and changes over-- I won't-- over the next 10 to 20 years. I will be retired for much of that, I hope. Senator--

FREDRICKSON: Thank you.

MOSER: So you have publicly elected boards that run public power. So you're not just responsible to us, correct?

SHELLEY SAHLING-ZART: Correct. That is correct. We are responsible to our customers. And I'm going to anticipate a question over here in a minute, but.

MOSER: Well--

SHELLEY SAHLING-ZART: But the key is, you know.

MOSER: I'm sure whatever it is, it'll be good.

SHELLEY SAHLING-ZART: So, like, our decarbonization goal, my utility's decarbonization goal, we spent a year developing that goal. And every month, every board meeting, every month for a year, we had a different topic of sort of education around the decarbonization goal. Public meetings, invited people in. Our integrated resource plan, we spent months and months doing that. We had public workshops for our customers and our community to come in and understand what we're doing. I got to tell you not a lot of people come to that, but it isn't because we aren't putting it out there and making it available. Point I'm making is they trust that we know what we're doing. And if we don't, we're going to hear about it.

MOSER: Well, I think the point of the bill is that, that there are clouds on the horizon and how do we respond to those.

BRANDT: Thank you, Vice Chair Moser.

MOSER: Senator Brandt.

BRANDT: Thank you, Ms. Sahling-Zart, for your testimony. And no, that isn't where I'm going with this. I toured your facility, I believe, last year. You have a $100 million facility out there, LES does. State of the art.

SHELLEY SAHLING-ZART: State of the art.

BRANDT: Very impressive. And my question is a technical one. We are constructing a CO2 pipeline across the state of Nebraska. Is this something that our coal plants can utilize to improve their green scores or not? Technologically, can a coal-fired power plant take advantage of the CO2 pipeline?

SHELLEY SAHLING-ZART: I'm going to defer that to my engineer CEO, who will be testifying soon.

BRANDT: All right. That's all I've got. Thank you.

SHELLEY SAHLING-ZART: Or-- no. Maybe to Brad. So one of these guys will probably be able to answer that better than the, the lawyer.

MOSER: Senator Jacobson.

JACOBSON: Thank you, Vice Chair Bostelman-- or-- Bostelman-- Moser. Yeah. It's, it's-- Senator Hughes has got me confused now.

MOSER: She confuses us all sometimes.

HUGHES: Well, you know. You got to keep it jumping.

JACOBSON: Shelley, I always have time with-- problems with your last name, so I hope I can call you Shelley, so--

SHELLEY SAHLING-ZART: That's perfect.

JACOBSON: The-- you've indicated that there's some edu-- more education that needs to be done here, and, and I'm all in favor of that. But I heard testimony from Senator Bostelman early on that says that OPPD had sent out notices during this cold snap for all their customers to turn their thermostats down. That suggests that we're, we're getting very close to the edge now. And I think the concern that we've-- a lot of us have had is we need to know-- there's the old [INAUDIBLE] verify. And I think we're there. In other words, we see this aspirational goal. We see testimony a year ago on OPPD wanting to make sure they've got the ability to use eminent domain to put more solar and wind up, which would be thousands of acres of farmland coming out of production to meet that aspirational goal. So what are we missing here with regard to saying we want to know that there is a reliable baseload there and prove that you're building the new stuff before you take any more offline? What's the problem with that concept?

SHELLEY SAHLING-ZART: I don't know that there's a problem with the concept. I'd tell you, in some respects, it, it's, it's there. So first of all-- and I think OPPD's going to address the situation from a couple of weeks ago, which was more of a localized Omaha issue. The rest of us were not putting out calls to conserve, and SPP was not in a-- at that level of emer-- energy emergency. But I'll, I'll leave that for them to discuss. You know, we still have the requirement-- if we're building resources, we, we still today have to go to the Power Review Board and get those resources approved. And the transmission.

So that process is still in place, and that's the structure that this body, that the Legislature set up decades ago, which was the Power Review Board is the authority for approving generation and transmission. Now, that structure was set up in another time and in another way that the industry was structured and we didn't have SPP. So we've seen some of that evolve. So I think there's some things that can be adjusted. I don't think this bill is the right solution. I think there are things within SPP-- within the Power Review Board. For example, the load and capability report is a statutory requirement. 70-1025 requires that the representative industry-- or, representative association of the industry, NPA, do that report. Since Winter Storm Uri, there were a lot of concerns after Winter Storm Uri about resource adequacy and fuel supplies and a number of things. So we worked with the Power Review Board and we added, gosh, about ten or so more criteria to the scope of the load and capability report. We worked with the Power Review Board. As a matter of fact, I can tell you Jason Fortik and I are having an ongoing discussion right now tweaking some of those things, and we'll continue to do that. Why? Because they're the ones that approve this. They're the ones that, that are charged with looking at that. And we want them to be comfortable with that. So they spent a lot of time. The problem-- I don't know if it's a problem-- but the, the, the, the dialogue we have here is we do this every legislative session. We're aren't doing it-- you know, we aren't having these discussions other times. We aren't sitting down with the, the boards or the planners or anything else. And we just seem to have an information gap. And I don't, I don't know if that's yours to do or if that should be the Power Review Board. We're trying to increase the dialogue and understanding with the Power Review Board. And there's a lot of things still evolving. We talked about the, the planning reserve margin. SPP went From 12% to 15%. Actually, they're having an ongoing process about that. There are different PRMs for winter and summer, and there's a good chance those might continue to increase as they look at these concerns. But that's sort of the framework and the structure that's set up that we operate in every day to deal with that.

JACOBSON: Well, I-- the only thing I would just say that, that there are a number of cosponsors on this bill. But as you read the tea leaves on some of the other bills introduced in the Legislature this year, one of them having to do with, with boards, an election of boards, there is a-- some serious concerns among a number of people in the Legislature. So we need to get that education gap closed pretty quickly or bills like this will pass in their current status. So, so

I, I would encourage you to-- if this isn't the right bill, we need to know what it is. But there are a lot of us that are very concerned about seeing more plants closed without reliable replacement.

SHELLEY SAHLING-ZART: I appreciate the concern. The only other thing I would add is that while our boards are making some of those decisions, it's based on the planning and the modeling done by our planning staffs: trained engineers who spend a lot of time working with these models and running lots of sensitivities and scenarios.

JACOBSON: Thank you.

MOSER: Other questions? Senator Hughes.

HUGHES: Thank you, Moser. The Power Review Board.

SHELLEY SAHLING-ZART: Mm-hmm.

HUGHES: So that makes sense that, because we're not here all the time, they're kind of that structure to-- that go-between. What power do they have in terms of-- I mean, you say you're running your generation capacities by them and-- can they say, nope, that cannot be taken offline yet?

SHELLEY SAHLING-ZART: Today, yeah, they can. Oh, well, they can't say it can't be offline. We'd have to go with new generation. Right now, today, they don't have authority over the retirements of plants, the decommissioning of plants. But you would be going-- so, you know--

HUGHES: So is that something that should be added then to make it--

SHELLEY SAHLING-ZART: Well--

HUGHES: --make people feel more comfortable? I don't-- you know?

SHELLEY SAHLING-ZART: Their charge really isn't looking at the overall reliability. And frankly, that's done with NSPP. But mine is-- you know, you mentioned the, the taking Fort Calhoun offline. You know, for the most part, all of us that have major generating resources, if you're retiring one, you still have the load.

HUGHES: Yeah. Right.

SHELLEY SAHLING-ZART: So you're going to replace it with something. It's a matter of what it is.

HUGHES: Mm-hmm.

SHELLEY SAHLING-ZART: And, and I think what we come down to is deciding whether or not the SPP requirement to have enough accredited capacity to meet your peak demand plus a 15% planning reserve margin is adequate. What I'm hearing from people is they have concern about that. What I'm confused about is it's, it's sufficient for SPP. It's sufficient for FERC and NERC. Those are the parameters that all the RTOs--

HUGHES: But you have--

SHELLEY SAHLING-ZART: --are pretty much operating under.

HUGHES: And so you-- and-- but then you're saying, like, that FERC report that shows us as elevated status lists-- it's, it's more than just generation because it was worried about drought and things like that that, that put us on that slippery slope.

SHELLEY SAHLING-ZART: Well, and if, if there's other generation coming online on the footprint this, this year, that elevated might go back to normal conditions. I mean, that's going to ebb and flow most of the time.

HUGHES: OK. Thank you.

MOSER: Any other questions? Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair. Thanks for being here, Ms. Sahling-Zart. I always have trouble writing down your name because you talk so fast, but.

SHELLEY SAHLING-ZART: [INAUDIBLE] three minutes.

J. CAVANAUGH: Well, I appreciate it. I got it now. But-- I, I will be brief. So is, is your opposition to the dispatchable requirement at all or is the opposition the, the definition of what dispatchable is?

SHELLEY SAHLING-ZART: Both.

J. CAVANAUGH: Both.

SHELLEY SAHLING-ZART: Both.

J. CAVANAUGH: Would it be a less, I guess, fervent opposition if the definition of dispatchable was changed in some sort of way?

SHELLEY SAHLING-ZART: I don't know how to answer that. Part of it is-- part of the opposition is that it seems to be-- trying to think of a diplomatic way to say it. It seems to be substituting judgment for the judgment of the local utilities and boards who make these decisions, like I said, using a lot of planning and sometimes in dialogue with their communities. And it kind of seems to substitute that and take that out of the equation. And again-- and there's nothing about cost in there. So, you know, this might require you to replace it with another dispatchable resource, but that might not be your most economic decision.

J. CAVANAUGH: OK. Thank you.

MOSER: Other questions? All right. Thank you for your testimony.

SHELLEY SAHLING-ZART: Thank you.

MOSER: How many more people plan to testify? If you could raise your hand. Oh, boy. OK. We're going to take a five-minute break. Just a quick comfort break. And we'll come back. No-- a little bit more than five minutes. No later than 3:30.

[BREAK]

MOSER: Oh, good. Here's Brandt. Welcome. Still entertaining opposition testimony. Welcome.

RYAN SCHMITZ: Thank you, Vice Chair Moser and the Natural Resources Committee. I'll try to one-up Shelley here. R-y-a-n S-c-h-m-i-t-z, Ryan Schmitz. I'm the utilities director for the city of Grand Island, Nebraska. Our municipal electric utility provides power to approximately 27,000 customers in south central Nebraska. Grand Island has worked hard to diversify its portfolio in recent years, and our portfolio extends across coal, gas, oil, wind, hydro, and solar. [INAUDIBLE]-- feel that diversity is our greatest protection in regard to reliability and future regulatory variables. Of the many generating assets we currently have, Platte Generati-- Platte Generating Station is our largest. The unit was commissioned in 1982, making it one of our oldest generating facilities. It is a 100 megawatt coal-fired power plant on the south side of Grand Island. Since 2011, Grand Island has spent over $50 million in upgrades to Platte Generating Station in order to comply with the regulatory rules. Additionally, due to increases in the cost of coal, rail, and consumables, the city has seen its variable cost per megawatt generated increase over 25% in

the last five years. Conversely, during that same time frame, the average day-ahead price the market pays Grand Island for power generated from this facility has decreased 9%, 9%. Although Grand Island has not made a final decision on the longevity of Platte Generating Station and it's the city's intent to keep the unit as-- around as long as is feasibly and reliably possible, it can be seen without saying that both economics and regulation are not trending in favor of long-term viability at this time. Like many Nebraska utilities, Grand Island conservatively carries an excess of dispatchable generating capacity far beyond that which is required by the Southwest Power Pool. As with any business, there is a financial fine line between too much inventory and not enough inventory, and that extends to capacity as well. To pick a static point in time and mandate that certain utilities maintain an indefinite higher threshold of dispatchable energy, albeit at an economic loss, to supplement other utilities outside of Nebraska who are not held to the same standard will inevitably put Grand Island's ratepayers at an increased economic disadvantage compared to our peers. In summary, whenever the time comes to retire the Platte Generating Station-- or any of our dispatchable units for that matter-- our existing abundance of excess capacity allows us the ability to replace a retired asset without a one-to-one nameplate replacement. This bill as written would saddle our small utility with continuing to maintain an indefinite surplus of higher cost generation assets at the benefit of other states in the power pool, including investor-owned utilities, who would continue to move forward using economics as a barometer. Although I do appreciate the underlying intent of LB1370, I respectfully oppose this bill as written and encourage further dialogue on the topic to avoid unintended hardships to small municipal utilities such as Grand Island.

MOSER: OK. Questions? Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair Moser. And thanks for being here, Mr. Schmitz.

RYAN SCHMITZ: Thank you.

J. CAVANAUGH: And thanks for the slow spelling. I got it written down here. First, I really appreciate your testimony. Would it be possible for us to get a copy of that if we had--

RYAN SCHMITZ: Yes. I can get you a, a clean version.

J. CAVANAUGH: If you could email it or something, that'd--

RYAN SCHMITZ: Yes.

J. CAVANAUGH: --be great too. So just to kind of help me understand. So you-- I guess-- so you're saying you have more generation of, of dispatchable generation than you require in baseload power.

RYAN SCHMITZ: Right. So beyond the 15% required by the Southwest Power Pool, excess we have 30%, which-- that allows us, if we were to retire a unit, we wouldn't have to retire a one-to-one nameplate because it already exists. This would require us to build out excessively at the detriment of our rate base because of how the language reads currently.

J. CAVANAUGH: OK. Do you have an idea or can you explain to me why you guys are in that situation? Did you decrease your overall need?

RYAN SCHMITZ: So the Southwest Power Pool has been around since 2016, or at least that's when Grand Island entered into the pool. Before that, it was you bought enough generation to offset your load. So whenever options became available that looked beneficial to the community for long-term growth, assets were built or, or bought into other, other units that others were building. So at, at-- in, in essence, we ended up long on capacity. And you're going to hear that from a lot of small entities. You take the advantages when they come about for you. We don't have the economy of scale of a lot of larger utilities. So in essence, we are long. And other utilities are also long, especially smaller ones. And as, as SPP evolves, we have to be competitive. So we have to make choices to get us closer to where we need to be rather than where we are because, economically, that's where, where you go, right? You don't carry a glut of inventory. You don't carry too little inventory. You carry a su-- sufficient amount.

J. CAVANAUGH: And to be clear, when you say competitive, you mean the price per kilowatt hour of generation.

RYAN SCHMITZ: Right. You, you have maintenance and operating costs on every asset you own. So if you have a significant overage of assets, you're paying maintenance and operation costs on those. If you, if you have under, now you're exposed. So that's the game you play. I mean, that's the balance we all face.

J. CAVANAUGH: OK. Thank you.

RYAN SCHMITZ: Yes.

MOSER: Senator Hughes.

HUGHES: Thank you, Senator Moser. Sorry. I missed the very beginning of your-- so maybe you've addressed this, but I'm just curious. I heard you're the Grand Island--

RYAN SCHMITZ: Yes.

HUGHES: CFO or-- what-- CEO-- whatever.

RYAN SCHMITZ: Utilities director.

HUGHES: Utilities director. Do you guys then-- since you've got-- you said you've got more dispatchable than what you need-- and I, I over-- I got here when you were saying there's a couple you might-- or, one you might have to close down because of costs, whatever. Are you-- do you sell out then?

RYAN SCHMITZ: Yes.

HUGHES: Yeah.

RYAN SCHMITZ: Yeah. We--

HUGHES: I mean, that's got to help your ratepayers, I'm assuming.

RYAN SCHMITZ: In the current market, you sell everything into the market and you buy back what you need. It's not--

HUGHES: Oh, it's [INAUDIBLE]-- you-- how it works is you sell all and then-- OK.

RYAN SCHMITZ: And, and your units are dispatched based on price point.

HUGHES: Got it. OK. Thank you.

MOSER: Did they tell you what you can charge SPP for the energy you put into the pool?

RYAN SCHMITZ: You submit a mitigated offer curve. And you also submit an energy curve every morning. And that curve is put into their algorithms. And you're awarded your runtime based on the most efficient units available at that time. And they take into account transmission paths and congestion along with that.

MOSER: So it has no regard for what it costs you to generate electricity--

RYAN SCHMITZ: You're very--

MOSER: --it's based on the market?

RYAN SCHMITZ: Well, it's based on the market. Your variable costs are your break-even costs, right? Your fixed costs are sunk, so your variable costs are your-- what you use to market the unit. So you have to cover those. Otherwise, there's no point running the unit.

MOSER: OK. Thank you for your testimony.

RYAN SCHMITZ: Thank you.

MOSER: Other opposition? There's still some heavyweight testimony that'll help kind of flesh out the bill a little bit, so. We can kind of try to go with the flow and get all those perspectives before we get too deep. Welcome.

RACHEL GIBSON: Hi. Thank you. I think I figured it out. If we could just harness the energy of my seven-year-old when he's procrastinating bedtime, we might be, we might be able to solve this. I don't think that's possible, though, so. My name is Rachel Gibson, R-a-c-h-e-l G-i-b-s-o-n. And I am the vice president of action for the League of Women Voters. And I am here to read a, a letter put together by our director of natural resources, Claudia Stevenson, who is from Ogallala. The League of Women Voters of Nebraska believes that energy conservation and the use of renewable resources must be part of any national or state energy program. Public understanding and cooperation are essential to the success of any program of energy conservation and implementation of technologies that employ generation of energy from renewable resources. Specifically, the league supports: one, the use of a variety of energy sources, with emphasis on conserving energy and using energy-efficient technologies; and two, the environmentally sound use of energy resources, with consideration of the entire cycle of energy production. It's for these reasons that we oppose this bill, which would dictate and limit the type of energy production methods available as the state updates its power infrastructure, including coal and natural gas. The energy demands that recently affected OPPD's supply of electricity is a good example of using various technologies to produce electricity for the good people of Nebraska. The levels of the Missouri River were too low to rely on coal plants to produce

electricity. One technology is never 100% reliable, and the impact of the drought on the Missouri River affected the reliability of the coal-fired plant for OPPD. New technologies are on the horizon. To restrict the capacity of production of electricity to only known sources is a mistake. Nebraska needs to use current technologies as well as new methods that are being evaluated to produce electricity. Nebraska needs to evaluate each technology and use the most efficient while reducing CO2 outputs. As an example, at OPPD, the following sources are used in the complete portfolio of electricity production: low-sofor corl-- low-sulfur coal, wind, community solar, landfill glass, natural gas, fuel oil, and hydroelectric. As new technologies emerge, they should be evaluated and brought online not only for environmental, but for economic reasons. It cannot be predicted what options will be the most effective and affordable in coming decades. Nebraska should not limit the future by requiring a source of electricity to be replaced by a duplicate of one that is being replaced. And it is for these reasons that the League of Women Voters of Nebraska asks you not to advance this bill.

MOSER: Thank you.

RACHEL GIBSON: Answer any questions.

MOSER: Questions from the committee? Seeing none. Thank you for your testimony. More opposition?

AL DAVIS: I'm going to get out of here before the professionals come to tell you everything.

MOSER: Senator Davis, welcome.

AL DAVIS: Thank you, Senator Moser. Members of the Natural Resources Committee, good to see you all today. My name is Al Davis, A-l D-a-v-i-s. I'm here to represent the 6-- the 3,000 members of the Nebraska Chapter of the Sierra Club. And we are speaking here today in opposition to LB1370. The Nebraska Chapter of the Sierra Club appreciates Senator Boselman's concerns for reliable and sustainable power generation into the future, but we feel that the framework for maintaining that stability should be left strictly in the hands of the generation, transmission, and distribution managers who are intimately acquainted with their capabilities and the needs of their customers. The bill locks public power into an inflexible and rigid generation model, which ignores the potential for significant technological developments which will revolutionize the industry as scientific

breakthroughs open the door for alternative sources of energy generation, storage, and distribution. I recently saw an old news story from 1985 about the new technology called a cellular mobile phone. The newscaster interviewed people about this new technology which gave us the ability to phone someone from our car or standing on the street with a bulky headset twice as large as their hand with a long, rigid antenna attached. And all the people were amazed at this massive device. These phones cost $2,500 in 1985. The equivalent in 2024 dollars is $2.80, rounding up to $7,000 in today's dollars for that bulky dinosaur phone. Today's cellular phones are in universal use all across the planet, and fees are as low as $29.95 at Walmart. I share that story because technological changes have remade this nation many times over and will continue to do so into the foreseeable future. We don't want to put rigid handcuffs on our public power industry or professional employers-- employees and managers that are on the cutting edge of industrial progress in the sector and have the ability and knowledge to lead us forward. Elsewhere, Hawaii has closed its last coal plant and installed a massive array of Tesla batteries, which will power the capitol at night. Geothermal breakthroughs are being made all across the country using fracking technology to release hot water streams for an unlimited amount of energy. New transmission wiring has been developed with the carbon-aluminum-steel makeup, which is lighter weight, stronger, and provides the ability to transmit much more energy than wiring in use today, and without the sag, which can be problematic. The adoption of this bill will inevitably lead to obsolescence in Nebraska's electrical grid. This will eventually lead to higher costs for consumers. It is important to remember that the mission of public power when it was established was to provide power to the consumer as cheaply as possible. This is not a solution that we need to pursue. And thank you.

MOSER: Thank you. Questions for Senator Davis? Thank you for your testimony.

AL DAVIS: Thank you.

MOSER: Appreciate it. More opposition? Welcome, sir.

EMEKA ANYANWU: Thank you.

MOSER: Your green sheet?

EMEKA ANYANWU: Sorry. First timer.

MOSER: You're doing great.

EMEKA ANYANWU: Hello. Yeah. Good afternoon. My name is Emeka Anyanwu. Spelled E-m-e-k-a; last name's spelled A-n-y-a-n-w-u. I'm here on behalf of Lincoln Electric System. I'm the chief executive officer. Just started the beginning of the year. I am new to LES and to Nebraska but certainly not new to the Midwest or to public power or utility work. I've had a nearly 22-year career in three different utilities now, and happy to be at LES and here-- to be here today. I'm here in opposition to this bill. LES finds this bill in conflict with prudent utility resource planning, at odds with our duty to adjust to changing customer and operational needs, and lacking in its development the important collaboration between utilities and policymakers. Utility resource planning processes are complex and pretty well-governed. As my colleague, Shelley, said earlier, our processes take quite a bit of time. Our last IRP took over a year to complete. Most jurisdictions take two to three years between IRPs because they are very complex. Governance and oversight is obviously very well-established here in Nebraska as well, through statute and through the Power Review Boards' authorities and procedures. So it's not clear to us what the-- what problem this bill is trying to solve relative to the way we approach these things. And as has been already talked about here today, some of the bill's provisions appear to be based on assumptions that are objectively and technically not, not quite accurate. As an example-- again, this was misstated today-- the definition of dispatchable seems to be a pro-- as a provision of reliability seems to assume, essentially, that dispatch ability means 100% availability at all times. And, of course, that's not true, as has been, again, detailed today. More specifically, diversity, reliability, and other factors of risk are required in addition to dispatchability in Nebraska's Revised Statute, 66-1060, which is what we are required to do within our IRP processes. So this bill places limitations that will prevent utilities from accounting for the full range of factors necessary for prudent and robust resource planning. In addition, technology and markets are evolving. We're going through a time of immense change and transformation all across our, our entire vertical integration. Our customers' needs are changing as, as those things are happening as well. And so this bill really both doesn't account for all of those changes and certainly takes important tools away from us that we need to respond to those changes. Finally, collaboration really is important to achieve the best outcomes. And we don't believe this bill has had the time or opportunity for that to occur. These few minutes of comments certainly cannot suffice or be

substitute for that. This is a very impactful decision. It's, it's a-- this bill represents a really profound and wide-reaching choice that deserves more time to be considered. The discussion does need to be robust and comprehensive, not cursory or tied to language that is incomplete or inconsistent with reality. And LES and our other peer utility operators are ready and willing to have that conversation as my colleague, again, Ms. Sahling-Zart, fully detailed. So we look forward to having that conversation. And thank you again for having me. Take any questions.

MOSER: Questions? Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair Moser. And thank you, Mr. An-yan-way?

EMEKA ANYANWU: An-yan-wu.

J. CAVANAUGH: An-yan-wu?

EMEKA ANYANWU: Yes.

J. CAVANAUGH: OK. Well, thanks for being here. Welcome. First time in the Legislature.

EMEKA ANYANWU: Yes.

J. CAVANAUGH: I'm sure you'll have lots of fun times in front of the Natural Resources Committee.

EMEKA ANYANWU: I look forward to it.

J. CAVANAUGH: We like to have fun here. So-- OK. I heard you-- I wrote down "dispatchable equals available." So can you re-- kind of parse that a little bit? So is your, I guess, point that this bill is equating "dispatchable" with "always available?"

EMEKA ANYANWU: Yes. I mean-- and-- so you've heard that sort of talked about in various characterizations today. It's been talked about as sort of flipping a switch. It's been talked about as sort of dialing it up when we need it. It's been talked about as sort of being available to respond, obviously, through a wide variety of potentially extreme conditions. And what you've also heard, of course, again, as some of my colleagues have testified already, is that that isn't true for any kind of technology, which is why, as I said, the statute, the Revised Statute that governs our IRPs requires us to evaluate other

aspects like diversity, like other factors of risk because geographical diversity, fuel, and, and energy source diversity, all of those things contribute to reliability. So dispatchability alone is not certainly a proxy for availability.

J. CAVANAUGH: And-- so-- you said another interesting thing there. See? We like to have fun here. Diversity leads to reliability. Can you kind of explain that? But, like, in my mind, I guess I hear you don't want to have only natural gas because the gas price speak-- peaks, right?

EMEKA ANYANWU: Right.

J. CAVANAUGH: Or you don't want coal because coal prices, you know, probably peak at some point or, like, nuclear goes offline for some lengths of time, but very, I guess, infrequently. And wind doesn't perform all the time, right?

EMEKA ANYANWU: Yes.

J. CAVANAUGH: Is that kind of what you--

EMEKA ANYANWU: Yes. And well-- so, yeah. I mean, there, there are a whole bunch of different dimensions of diversity, but you captured it pretty well, right? Which is that, if-- depending on sort of the conditions, right? If water levels in the Missouri River are low in one place, they may not be so low somewhere else. If the wind is blowing in one place, it may not be blowing somewhere else. Same is true, of course, for sunshine. And so all of the sources and all of the fuels-- you know, natural gas pipelines rupture and have issues. Natural gas supply can be interrupted, right? And so part of the way we as utility operators plan for diversity is by creating that-- or, or plan for reliability is by creating that diversity so that it covers a range of uncertainties, which is what we face every day.

J. CAVANAUGH: And how does efficiency play into any of this conversation? Is that part of something LES is working on or are we just, like, completely out the window? We're like, we're never going to decrease our consumption at this point because we're building whatever-- Bit-- mine-- Bitcoin mines in the middle of nowhere. Or is there a-- at least a hope with technological advancement that we could at some point decrease consumption?

EMEKA ANYANWU: Yeah. So the reality is that consumption is increasing, but the rate at which it is increasing does need to be mitigated by

increasingly efficient technologies. And we've seen incredible advances over the last few decades in that area. And that's really the key, right? The reality is if we just simply continue to use energy without incorporating efficiency, you get to a prohibitive place where this simply-- the numbers don't add up, right? So all of the, all of the above need to be brought to bear, including efficiency measures, to make sure that we can balance the supply and demand.

J. CAVANAUGH: And I guess I'll ask one last question. I'll ask you the same question I asked Ms. Sahling-Zart about, is your problem with this that we are requiring one-for-one replacement dispatchable or is it-- the specifically the definition of what dispatchable means?

EMEKA ANYANWU: Well, I think it's, it's all of the above, as I've said, right? So it's more than just the dispatchability because dispatchability by itself, as I said, is not a sufficient-- it's not a sufficient measure of what it takes to achieve reliability. And so, you know, we need to be able to use all the tools at our disposal and we need to be able to consider all the dimensions of risk and operational uncertainty and cost-- again, affordability being really important, which is not something that is contemplated by this bill. And all of that has to be brought to bear. And so the, the bill as presented simply has not had the, the opportunity for the utility operators to be involved so that we can have a conversation about policy that certainly achieves, again, something that we all agree with. We're-- as, as-- again, my colleagues said-- we're very enthusiastic about having this conversation. We really do appreciate, Senator Bostelman for wanting to engage this conversation. We just-- we want to have it in a complete way.

J. CAVANAUGH: Thank you.

EMEKA ANYANWU: Thank you.

MOSER: Senator Hughes.

HUGHES: Thank you, Senator Moser. Thank you. Good to see you again.

EMEKA ANYANWU: You as well.

HUGHES: Welcome to Nebraska, and LES too.

EMEKA ANYANWU: Thank you.

HUGHES: You're pretty new. So I'll, I'll kind of talk about, like, what I mentioned before. You know, we've got people that have cosigned on to this. The-- you hear that the SPP that we're, you know, in this elevated status. You hear other states that are shutting down plants and maybe not having a backup, or they're shutting down theirs and relying on us because I know we export. You see the wind towers going up and solar and we-- just all the things. Do you-- I mean, can you understand, I guess, the concern that's out there? And then what do you see as a better solution? Is it something that we can change with our-- and I know-- I think-- I believe Power Review Board's coming up at some point. Is there something there that can be changed that'll make it-- I don't know. I-- there's a sense of app-- apprehension, kind of like Senator Fredrickson said, that-- what do you see-- and I know you're new, but-- coming in that would maybe make people more comfortable?

EMEKA ANYANWU: Thank you for that, Senator. And, yeah. I'm new to LES, but certainly I've been doing this a little while and will say, all across the country, obviously-- but certainly here in our territory-- we are concerned about that. And we are, we are certainly-- we take seriously the apprehension, as you described, and certainly the sense of urgency around responding to that. Again, as I said, we are sur-- we are willing and ready to have the conversations around what do we need to do. And that's a conversation that is constantly evolving. You know, the conditions are changing. The available resources are changing. The technology is changing. Customer need is changing. And we need to be constantly having that conversation. There simply isn't a silver bullet that can be written into a, into a bill in perpetuity that solves that problem. And it certainly isn't this bill. And that's really what the concern is. What we would very much like to do is have the conversation about how we are meeting these, these goals and, and, and certainly doing what we can to make sure that we retain a supply of reliable energy for our communities that we serve. And we think that the ability to bring all tools to bear is essential to that, to that work. And this bill simply takes things out of our toolkit that we, that we have to have in, in, in order to be able to do this right. And it takes flexibility away from us that will allow us to evolve along with the world around us.

HUGHES: OK. Thank you.

MOSER: OK. Thank you for your testimony.

EMEKA ANYANWU: Thank you.

MOSER: Next opposition?

BRAD UNDERWOOD: Well, my testimony starts with, good afternoon, Natural Resources Committee. My name is Brad Underwood, B-r-a-d U-n-d-e-r-w-o-o-d. And by title, I'm the vice president of systems transformation at the Omaha Public Power District, which is primarily a system-planning function. I'm here to testify in opposition of LB1370, which would dramatically change the way we plan our system. Some of my testimony was picked up in the Q&A earlier, so I'm going to be a little bit choppy on my delivery, but I want to respect the time of the committee. For over a hundred years approximately, public power has prioritized affordable, reliable energy services and will work vigorously into the future to continue to do that. Someone also had mentioned highest reliability in the country and fifth cheapest rates from 2022. And we're awaiting the '23 rankings, which I expect us to perform well. We also talked about the Southwest Power Pool and their role in resource adequacy. They recently increased the planning reserve margin to 25% from 12% to 15%. And I would continue-- or, I would expect ongoing conversations on the sufficiency of our resources into the future. I know our engineers are heavily involved in that with the policy folks at the Southwest Power Pool. Like, like Shelley said, we do that literally every day. We take great pride and honor in doing that. One of the more, OPPD-specific aspects of my testimony is that, later this year, we're going to start operations for 600 megawatts of natural gas generation. We're very excited about that piece of our portfolio to be able to provide our customers that energy from those resources. And we anticipate that greatly. About the time that's coming on, a few months ago our board unanimously approved 8-0 another up to 950 megawatts of natural gas. The board took that as a recommendation from our engineering terms-- teams as we optimized affordable and reliable energy services. And so we'll be out pursuing that with, with rigor. We look forward to that coming online. LB1370 is also predicated upon the assumption that dispatchable generation is always available. And I don't want to duplicate the prior conversations. But technology diversity and geographic diversity are of the utmost importance to system planners. And any sort of constraint to a technology that's available to a system planner, whether it be a requirement for renewables or a requirement for something else, tends to have the effect that you box the engineering teams in based on what is required without maybe having specific knowledge of what that system needs. So every system is different. Every system-- or, many systems peak at different times. They have different import capacities. They have different voltage. They have

different stability profiles. They have inertia issues or don't have inertia issues. All of those things are critical to reliability. You've almost heard nothing on that today. And so I wanted to take time in my testimony to, to make that visible and offer that to the Natural Resources Committee. We've dealt with floods. We've dealt with tornadoes. We've had six inches of water outside of our Nebraska City facility in this most recent storm. And we've been able to deal with that primarily because of our diversity. I see my light's red, so I'll, I'll yield back to Vice Chair Moser.

MOSER: Questions? Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chair. And thank you for being here, Mr. Underwood.

MOSER: You won the lottery.

J. CAVANAUGH: Oh, did Senator Brandt raise his hand?

MOSER: No, no, no.

BRANDT: Not yet.

J. CAVANAUGH: Not yet.

MOSER: Not yet. You'll, you'll get him thinking, though.

J. CAVANAUGH: I do-- I-- it's-- that's how this works around here, you know. We all ping-pong off each other. So I appreciate you being here and willing to, to answer our questions. I think you did sort of hint at it, and it's been brought up before, about both north Omaha coal power plant and Nebraska City were shut down during the most recent cold snaps. That's not-- is that right?

BRAD UNDERWOOD: Yeah. It's correct. So what happened was river elevations vary throughout the river. And so we had a combination here in the last few weeks where we had some very harsh temperatures come in. We had some icing on some instrumentation equipment, which constrains the operators' ability to operate the facility. And after that, we had river level issues. So if the instrumentation freezing hadn't compromised the operation of facilities, the river levels we believe would have, especially in Nebraska City. And so we were navigating that with heaters and other things we do from a, from a winterization and a weatherization perspective. We continue to learn in that regard for where the facilities have vulnerabilities. Wi--

winterization is something you make a perpetual commitment to. You never really get there and stop. You're always looking for resiliency investments you can make to make sure the facility, facilities operate as predictably as possible. When we experienced that, we drew upon some of the feedback that we got from Winter Storm Uri, which was: in the event there may be a system condition, the utilities should be proactive to communicate that to customers and to those who may be affected. So we made the decision to be quickly transparent, that we had a system issue primarily related to cold weather and river levels to create awareness in our service territory. The other reason we did that, in addition to some of the prior learnings that we've had as we've gone through these more harsh winters and water level troubles, it is-- our customers tell us, we want to help. It-- if you're in a situation, please make that visible to us so that we can do the little things that-- where we consider the impact across your system as a whole, we're able to, we're able to help you when we can. And so we made that voluntary notification that, hey, the system is challenged right now. If you're inclined, stay out of using electricity from, I think, 7 to 9 in the morning and something like 4 to 6 in the afternoon or something along those lines.

J. CAVANAUGH: And I got that text as [INAUDIBLE]--

BRAD UNDERWOOD: Very good. Very good.

J. CAVANAUGH: --customer. You didn't have to turn off anybody's power or do any brownouts or anything like that?

MOSER: No, sir. We did not. That's correct.

J. CAVANAUGH: OK. And I'm not great at remembering storm names, and I should have asked the first person who said it, so, Winter Storm Mu-- Muri?

BRAD UNDERWOOD: So I have this same struggle, actually. Uri was in '21.

J. CAVANAUGH: Uri?

BRAD UNDERWOOD: Yes. Uri, U-r-i.

J. CAVANAUGH: OK. And that was the one that was February of 2021.

BRAD UNDERWOOD: Yes. We had rolling service interruptions. Correct.

J. CAVANAUGH: OK.

BRAD UNDERWOOD: Yup.

J. CAVANAUGH: And then we had a very robust hearing in this very room about that.

BRAD UNDERWOOD: I remember watching that.

J. CAVANAUGH: OK. OK. So I guess-- that I think is a pretty interesting point, though. And, and we can talk about that some more, but I'm going to save some of my questions about that for Mr. McClure because I like to torture him.

BRAD UNDERWOOD: Duly noted.

J. CAVANAUGH: Well, you're new here, so you can move up the list in terms of people I like to torture. OK. So-- but your specific example-- you know, we have this bill-- and a lot of this I think sometimes comes out of OPPD's zero carbon standard. And, you know, we've heard that kind of talk here. And comes from this sort of perspective of, there's a politically motivated interest in changing our power mixture from members of the OPPD board-- or maybe NPPD too, but we're talking about OPPD here.

BRAD UNDERWOOD: Sure.

J. CAVANAUGH: And so then we have a solution that comes from the Legislature to say, not so fast. Don't change this mixture just yet because it's going to pro-- protect us. And this is an example of a situation where we got a lot of power from wind at that time, didn't we?

BRAD UNDERWOOD: Correct. Tremendous contributions. Yep.

J. CAVANAUGH: And was it something, like, 40% or something?

BRAD UNDERWOOD: Yeah. It depends on if you look at the state or the footprint as a whole. But I, but I would say it was, it was significant. Yep.

J. CAVANAUGH: And if we were relying entirely on our, our dispatchable baseload coal at that moment, do you have any idea what would have happened?

BRAD UNDERWOOD: I, I think it's generally safe to say that if there was more generation on the river and the river levels dropped the way they did and we had the weather event that they would have been susceptible to similar challenges. Yep.

J. CAVANAUGH: And so sometimes we all look and we think this is a solution to a problem as we see it. But I-- what I'm hearing from a lot of folks-- and maybe you can correct me if I'm wrong-- is that do you guys need to be more dynamic than this bill would allow you to be.

BRAD UNDERWOOD: Yeah. We, we, we need to have a, a blue sky cafeteria of options. We need to be able to draw on different things depending on what the system condition is that we're trying to fix. So as an example, our primary tool for winter is natural gas. That's why you see the volume so high of natural gas from OPPD is 1.5 gigawatts. That is our primary mechanism to make sure we have reliable power in the winter. Now a-- any tor-- any type of situation that prohibits the combination of resources will affect optimization. It will affect our ability to keep rates low. An example of this, I believe, sir, you just asked is, what is the outlook for efficiency? And I would offer that, you know, if there's a, if there's a breakthrough in compressor-- our, our air conditioning units run on compressors. If there's an efficiency breakthrough in compressors, I would expect to see a significant load drop. And currently today, OPPD has about 180 megawatts of conservation. That's the size of a gas generator.

J. CAVANAUGH: And you're-- when you talk about that, it's like the nest thermostats [INAUDIBLE]--

BRAD UNDERWOOD: It's a--

J. CAVANAUGH: --conservation.

BRAD UNDERWOOD: Yeah. It's a combination of efficiencies. Yeah. We have various programs that customers like to participate in.

J. CAVANAUGH: And I guess to kind of circle back to my original question about, I guess, OPPD's zero carbon goal or whatever your goal is-- and you can characterize it because I, I don't know off the top of my head-- but you just listed off-- you're building 600 more megawatts of natural gas, and then you've authorized a potential 950 more on top of that?

BRAD UNDERWOOD: Yeah. So net zero would be the goal. In 2050, we expect to be emitting carbon because absolute zero is-- I'm going to

say impossible. It's extraordinarily difficult. And so what I tried to articulate earlier is 600 megawatts are going to come online and produce electricity this year. And then the approval was for up to another 950 megawatts, the unanimous approval. So some will come online this year and the balance will be a, a sourcing and construction.

J. CAVANAUGH: So you guys are still building carbon-based generation, I guess.

BRAD UNDERWOOD: That's correct, sir.

J. CAVANAUGH: OK. And I know you didn't really want to go back to the dispatchable versus available conversation, but what's, you know, your interpretation of, I guess, that specific conversation that-- do you think a definition of dispatchable that is just more flexible would be workable? Or is it a definition constraining you to replacing dispatchable with dispatchable problematic?

BRAD UNDERWOOD: I, I, I-- the entire bill is challenging. There is a lot of attributes of reliability that are not included. And that would be the first place my mind would go as you asked it. If it's definitions and those sorts of things-- anything that binds or constrains a planner can be, can be problematic and can have unintended consequences whether it's a definition or whether it's a characterization of, can you turn the resource on and off whenever you want? An-- anything like that can, can be trouble for planners.

J. CAVANAUGH: I've got more questions if anybody else has-- [INAUDIBLE] interrupt.

MOSER: Let's switch to Jana. Senator Hughes.

HUGHES: Senator Moser. Thanks for coming in. OK. So I don't know as much about OPPD as I do NPPD, but what is your net neutral goal? Is it 2050?

BRAD UNDERWOOD: It is 2050. Net zero. Yes, ma'am.

HUGHES: Net zero.

BRAD UNDERWOOD: Yup.

HUGHES: And then just what do you think your chance is of hitting that?

BRAD UNDERWOOD: So the publications we've had on the net zero goal, they talk about the challenges in the goal: maintaining reliability and affordability over time. They talk about the key contributions that technology breakthroughs could have, specifically on the feasibility of nuclear. If there's a hydrogen or ammonia fuel that can be used in the future or if carbon capture can be commercialized to a viable state. I think all of those things we talk about in the report would be helpful in expediting our goal. If we don't get those things, it'll be more difficult.

HUGHES: And then do you think as-- and I'm, I'm going to ask NPPD this as well. Do you think-- for your board, is it more important-- or are they more focused on that goal? Or is it more important that we have the electricity that we need even-- for, like, SPP. Not just Nebraska, but SPP-- like, which one are we focusing more on? Does that make sense?

BRAD UNDERWOOD: Could you clarify-- between the two, you're saying a sustainability goal versus a, a sufficiency of supply?

HUGHES: Yeah. More like just sufficiency. Mm-hmm.

BRAD UNDERWOOD: The board has been very clear, at least with me-- Mr. Fernandez has more interactions with them-- that reliability is a key concern. They want a reliable system. And they want to be able to work towards reducing emissions over time as that's possible.

HUGHES: Thank you.

BRAD UNDERWOOD: You're very welcome.

MOSER: Senator Brandt.

BRANDT: Thank you, Vice Chair Moser. Thank you for your testimony today. I asked a previous testifier about the utilization of CO2 pipelines in regard to coal plants. Is that a possibility or not?

BRAD UNDERWOOD: Thank you. I had forgotten that Shelley passed me that. So there, there are one or two primary opportunities for a pipeline in or through Nebraska. And so as those efforts advance, I would just draw the attention to the committee on the technical issues around postcombustion capture. So combustion's required for thermal resources, and that creates CO2, as many of us know. So capturing that after the combustion process is very, very difficult. You have to capture it before you can get it in the pipeline. And you have to

transport it and store it. So I only articulate that just because it's, it's one aspect of being able to do that. But if we're able to, to move those pipelines forward and we're able to handle those other issues, I-- that--

BRANDT: Well, I mean, there will be pipelines that will transport and store.

BRAD UNDERWOOD: Yup.

BRANDT: With the technologies available on your end, I would think that would significantly drop your, your score toward the net zero.

BRAD UNDERWOOD: It would certainly reduce a meaningful amount of carbon, yeah.

BRANDT: And that would, that would-- should tip the balance toward-- I don't know how much you could score off a coal plant if you have-- if you're able to do that. Do you have any idea?

BRAD UNDERWOOD: Yeah. In concept, it would, it would positively contribute to the net zero conversation. There's not a lot of postcombustion capture out there. Petra Nova-- I have a prior life in construction. Petra Nova was the primary postcombustion pilot. And I don't believe that's in operations anymore. But it, it depends on what that equipment's able to do as far as how much capture-- carbon it'll be able to capture, excuse me.

BRANDT: All right. Thank you.

BRAD UNDERWOOD: Yeah. Pretty good.

MOSER: Let me ask one. I'll come back to you. Maybe I'll ask the same question you were going to ask.

J. CAVANAUGH: Probably.

FREDRICKSON: Most likely.

MOSER: So we're getting a lot of opposition to Senator Bostelman's bill. Can you see where he's coming from? Can you give him that much latitude?

BRAD UNDERWOOD: I think it's consistent with the national conversation on the focus on reliability.

MOSER: Yeah. I-- you know, to me, it's-- this is kind of a crazy analogy, but, you know, we're flying in a huge plane and we're in some turbulence and we're looking out the window and the ground's getting closer and we're banging on the cabin door. We're not claiming we can fly the plane, but we're trying to get your attention. So I think that's the gist of the story is, you know-- we need some reassurance that where we're going is going to be comfortable. Senator Cavanaugh, was that the same question you were going to ask?

J. CAVANAUGH: Thank you, Vice Chair Moser. I-- you stole my plane analogy. Well, I was actually going to ask Mr. Underwood about SMRs. We haven't-- I haven't circled back to that. You're talking about future installations for OPPD. Are you guys looking at that at all? Do you--

BRAD UNDERWOOD: Yeah. May-- could I have a brief word for Vice Chair Moser before I--

J. CAVANAUGH: Oh, sorry.

MOSER: Sure.

BRAD UNDERWOOD: --get to it, if that's OK? I want to thank you for the reliability conversation. It's very important. And I, I just wanted to offer that the OPPD teams have had this reliability conversation beginning in 2018, when we started building these resources, to make sure our community didn't need to worry about this. And so I just want to--

MOSER: OK. Thank--

BRAD UNDERWOOD: --acknowledge and thank you [INAUDIBLE].

MOSER: Thank you. Senator Cavanaugh.

BRAD UNDERWOOD: Thank you, sir. We, we have looked at this. The, the whole world's kind of looking at this, to be super, super direct. The last commercial reactor that was built in the United States-- which was a, an exceptional technical accomplishment-- it was $30 billion the last time I looked. The number changes. It was $30 billion. And it was for 2,200 megawatts just for a little scale or magnitude. The 2,500 megawatts that we've recently announced that we think is the right combination for affordable, reliable services to our customers is, you know-- I think the estimates are about $2 billion or something like that.

MOSER: $2 billion?

BRAD UNDERWOOD: Correct. So, so we, we got what we believe are the same solutions for 6%--

MOSER: 1/15 of the--

BRAD UNDERWOOD: Yes, sir-- 6% of the price. But we are cheering the reactors on. We want them to be successful. We want to support it whenever possible.

J. CAVANAUGH: I guess a follow-up question [INAUDIBLE]. So what you're telling me-- but that $30 billion, that's not a small modular reactor. That's a--

BRAD UNDERWOOD: That's a large commercial-- I think it's an AP1000, which is, which is a-- it's a known commodity. It's not any of the more modern technologies that people might be talking about.

J. CAVANAUGH: Do you have any idea of what a small modular would cost?

BRAD UNDERWOOD: The, the project I followed most closely was a 450 megawatt project-- this is public-- by UAMPS out in the Utah area. And the cost band was, I think, $5 billion to $9 billion for 400-- 450 or 500 megawatts. And then unfortunately, the originators of that project decided to cease the pursuit of it. And I, I wasn't super close to that decision, but that's the last one I followed. There's other ones that are, that are being explored and pursued. I, I don't know of anyone that, like, I could take the teams to and let's go look at it. Let's watch it operate. Can you give me operational data on the trouble that you have operating and maintaining it? One of the testifiers spoke about that earlier. What have you learned? We're just not there even though we're trying to-- we're trying to get there.

J. CAVANAUGH: OK. Thank you.

BRAD UNDERWOOD: Yeah.

MOSER: All right. Well, thank you for your testimony.

BRAD UNDERWOOD: Thank you.

MOSER: Next opposition. How many more testifiers have we yet? OK. Two or three. Thank you, Mr. McClure. Neighbor. Welcome.

JOHN McCLURE: Good afternoon, Vice Chair Moser, members of the committee, and staff. My name is John McClure, J-o-h-n M-c-C-l-u-r-e. I'm executive vice president and general counsel for Nebraska Public Power District. I'm handing out my testimony, but I'm doing you a favor and everybody else in the room-- I'm going to give you the CliffNotes version. Want to hit some, some highlights. First, I want to hit on something that's been mentioned by several. This is an extremely important topic, and I really appreciate the passion and the work that Senator Bostelman and his staff have done to dig into these issues. These are very important, timely issues to discuss. There's absolute agreement whether you're a generating electric utility or a distribution utility, which are represented in the room, reliability is number one. It's the number one priority for us as an electric utility. Right behind it is affordability. And hopefully you're getting some sense today that this is a lot more complex than what you can do with the words on one page. And while the, the, the desire is noble and it's timely and it's important, this is a much more complicated issue. And one of the things that really hasn't been hit on today is in SPP. All of us who serve load have an obligation every year to show that we have accredited generating capacity to serve that load. That doesn't mean nameplate. That doesn't mean 1,000 megawatts of wind to serve 1,000 megawatts of load. It means you have to have 1,000 megawatts of dis-- I'll call it dispatchable generation. That word's been used-- and another 15% planning reserve because we all know that equipment breaks down. There's forced outage. There's scheduled outages. All of that has to be accommodated. One of the things that's been mentioned is professional planning engineers at these utilities have a lot of experience dealing with these issues. Our last integrated resource plan where we looked out 30 years, what does our power supply mix like-- need to look like? Our, our team just calculated for me-- they spent 8,000 hours working on that over a 27-month period, and they used 550 hours of very high capability, complex computer runs. That's 23 days continuously of running computers that are on a dedicated server because they're so large to try to figure out the answers. One of the concerns I have about this bill is it-- really, it mentions five technologies, but there's really only one that's available out of that group for the next 5 to 10 years-- and that's natural gas. I don't think we want to put all our eggs in one basket. There are a number of other issues. I do have something I shared with Senator Slama and want the rest of you to know. And I think Senator Bostelman will appreciate this. Next week, our board will be taking up a second 20-year license extension for our nuclear plant. We're one of less than two dozen utilities in the

country with nuclear plants. And we think nuclear is a critical part of our future. I see I have a red light. I'll-- there might be a question or two.

MOSER: When you mention natural gas as a potential energy source, natural gas can be curtailed when power gets scarce too, right?

JOHN McCLURE: Absolutely, Senator. And that's the challenge in our industry. That's why we build in redundancy, we build in extra capacity because every type of machine that's out there, every fuel source has some kind of vulnerability. One of the things you've seen Nebraska utilities do as they've added new generation is to strive to have dual fuel. So they'll have natural gas and maybe an oil backup to make sure that, in a critical period, they have the highest probability that a particular generator is going to operate.

MOSER: OK. Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chairman Moser. And thank you for being here, Mr. McClure, and coming up even after I said I was going to give you a hard time. I always appreciate you. So I, I-- first off, I'm going to ask a question about-- you said the only one available is natural gas. And just, I guess for the record, what we're talking about is-- says hydropower, coal, natural gas, hydrogen, or nuclear are the ones. That's the definition you're talking about. And we just heard nuclear is essentially, at this point-- $30 billion was the last project. And then it was $5 billion to $9 billion was the project that didn't end up getting built. So you're saying effe-- effectively that's not really available, right?

HUGHES: Yet.

JOHN McCLURE: Not, not in the, in the next, I'd say, at least five years for certain for-- the nuclear plant that was referred to earlier is in Georgia. It's Vogtle 3 and 4. It's at an existing site. It was budgeted to be a $15 billion project. I've heard the number's actually around $34 billion; and unit four is not on yet. I want that to be successful. I'm a true believer in nuclear. It's a very important part of the resource mix. The same with SMR. We are following SMR closely. We're doing some preliminary siting study, studies. Unfortunately, everything so far is very much in a development stage. The new scale project that was referred to, they spent a half $1 billion just to get a license to build that facility. And then the project they were hoping to put together couldn't get enough participants because the

price kept going up. But we need to keep focusing on SMR because it's important.

J. CAVANAUGH: And is the new scale project the one in Utah that Mr. Underwood was talking about?

JOHN McCLURE: Yeah. It, it's Utah-- a, a coalition of municipal utilities in Utah. It was going to be built in Idaho at the Idaho National Laboratory.

J. CAVANAUGH: And then hydrogen. I mean, that, that technology is just not there yet. We haven't talked about it much today, I guess, but.

JOHN McCLURE: It, it's a great idea and-- but, but we're not developing that. It, it's, it's a niche technology. It exists a few places on a small scale. But to develop that fuel source and then to have the pipeline infrastructure to move it around, we don't have that today. So I'd say at a minimum that's five years off and maybe longer.

J. CAVANAUGH: Well, and maybe--

JOHN McCLURE: It's expensive to produce hydrogen today.

J. CAVANAUGH: And then hydropower. We're just not building a lot of hydroelectric dams.

JOHN McCLURE: Nebraska is fairly flat. We do have some great small hydros. We have hydros on the Missouri River that benefit Nebraska utilities, but there's not much potential. We've looked. We've looked around the state. Where can we build hydro? And there could be some small-- but it's not going to, you know, be hundreds of megawatts.

J. CAVANAUGH: So then what about coal?

JOHN McCLURE: The last coal plant was completed in this country in Texas in 2012. I don't see for the near future a lot of coal being built. It, it just-- it's-- we've gone from 50% coal as a national power supply in 20-- in 2007. It's under 20% now. Nebraska is still around 50%. We have the advantage of low sulfur, relatively low-cost coal from Wyoming that benefits our resource mix. And just to comment on the question of, of sequestration. If you sequester the carbon at a coal plant, it's going to consume about 30% of the energy of that coal plant to do all the processes: to capture it, to compress it, to get it into the pipeline. So if you had a 1,000 megawatt coal plant to begin with and you were going to-- and could go ahead and, and

sequester-- and there's only been about two or three plants that have done it, and they've done it on a small scale. We're looking at it at Gentleman. But there's about a 30% energy penalty. So that's going to have to be made up.

J. CAVANAUGH: OK. Well, I-- to go to the question I actually originally wanted to ask you or was going to ask you, which is actually-- not giving you a hard time, but about this Winter Storm Uri. Seem to me-- the, the situation there, we did have the brownouts. I know we had them in Omaha. Did you guys have them across NPPD?

JOHN McCLURE: It-- they were throughout the footprint. That's the way SPP worked, is they, they rolled it around because of the-- there was more demand for electricity than there was supply of power. And then in some cases, there were transmission constraints so that-- if, if they could have separated things north and south, we might not have had any controlled outages up here. But they-- it was sheer and sheer alike throughout the footprint that covers all or parts of 14 states.

J. CAVANAUGH: What I remember about that was that the big reason for the not adequate generation had to do more with natural gas and coal production in those Southern states.

JOHN McCLURE: It was thermal units that were the biggest piece of it. Now, you have to also remember: today, we have over 30,000 megawatts of wind in SPP. And what you will hear is, will wind performed as expected? Because it's only-- it was only expected to produce, like, 4,000 megawatts of power, and that's about what it did at that time. So it was, it was slightly above expectations. But, you know, to the point that's been made earlier: there's no way that we can reliably power the grid simply with renewable energy. That, that is not in the cards.

J. CAVANAUGH: Is anyone suggesting that we do that?

JOHN McCLURE: Well, there, there are certain areas that I think believe they can do a lot more with renewables than I think they can. And unfortunately, some of those states have created the problems that are being addressed in this bill. Not in Nebraska, but they've said, you know, we want to shut down these kinds of units by 2020. They're doing that in Colorado-- or, 2030. I think Colorado is shutting down all its coal by 2030. And the utilities out there are concerned about reliability and affordability.

J. CAVANAUGH: I can stop. I'll stop.

MOSER: Senator Brandt.

BRANDT: Thank you, Vice Chair Moser. Thank you, Mr. McClure for your--

MOSER: You guys should go out for supper.

BRANDT: --for your testimony. Are we asking the right question here? Should it be dispatchable energy or dispatchable transmission? And the reason I ask that is, wouldn't it be more efficient in Wyoming, where the coal is at, to have them generate power there and have us bring that into Nebraska?

JOHN McCLURE: You need both. You, you need, you need the generation and you need the transmission. The challenge on transmission is, depending on the system conditions, you can get congestion and challenges moving power across the transmission. And it's a very dynamic system. And I'm-- as a lawyer, I'm beyond my expertise. We'd need a, a transmission engineer up here to tell you about how all of these dynamic conditions affect flows. There are discussions around the country about, you know, building long lines and transporting wind from one area or solar from one area to another. The bottom line is the more transmission we have, the more reliable we can make the system and better access to resources. But it comes at a price. It's, it's, it's not, it's not inexpensive to build transmission, and it's not easy.

BRANDT: All right. Thank you.

MOSER: OK. Thank you for your testimony. We appreciate it. More opposition to LB1370. Welcome, John.

JOHN HANSEN: Vice Chairman Moser, members of the committee, good afternoon. For the record, my name is John Hansen, J-o-h-n; Hansen, H-a-n-s-e-n. I am the president of Nebraska Farmers Union, the second largest, second oldest general farm organization in the state. So like Shelley Sahling-Zart, I've been doing my job for 35 years. And I've been working on these and related issues relative to renewable energy and public power. My organization helped create the public power system. And so as we consider this issue and a lot of the other issues, I would encourage the committee, if they decide to take up the offer that has been made by public power-- which I think is a good one-- to have a more detailed and robust discussion about this issue and also other things that are impacting our state's public power

system and our future, that we include the stakeholders that are-- that do have an interest in public power. And you heard from a lot of them already today. And their comments I thought were, were very thoughtful and helpful. And so having worked in this area for a long time, I appreciate Senator Bostelman's concern about reliability because that's been the starting point of-- about every conversation we've had for a very long time relative to how much renewable energy can we plug into our grid and have it still-- while we gain the benefits of that renewable energy by not emitting any carbon, by using more of our own domestically produced products from wind and sun. They're both value-added agricultural products in our view. How much can we get away with and get the benefits of that while still maintaining reliability? So all the conversations I've been in all of these years have always started with reliability in terms of-- and then, of course, we get to redundancy and we get to the rest of the things. But we're-- in, in my opinion, we're-- and I think John McClure just touched on it a bit-- but our state is a-- in a precarious position right now because whatever kind of energy you plug into our system, it costs a lot more money. And it is also a lot less useful when you plug it into an anemic grid. And our state has needed an upgrade in, in its grid system for some time. That's what the analysis has said. And so we need to come to terms with the fact that whatever it is we do, we need a better, more robust transmission system in our state. And we're starting to pay the cost for not having one. And the last thing I would say is that it's been my, my challenge, my pleasure all of these many years to work with our public power system. And we have an incredibly bright and capable and competent public power system that has served our state extremely well. And I have come to trust their judgment a lot more than I used to. Not-- I'm still a trust and verify guy. With that, I'd be glad to end my testimony and answer any questions if you have any, which I can't imagine what they'd be at this point in the afternoon.

MOSER: Questions? Thank you for your testimony.

JOHN HANSEN: Thank you.

MOSER: Are there more opposition? Seeing none. How about neutral? Welcome.

TIM TEXEL: Hello. I may be batting cleanup here at the end. This is in the neutral. Vice Chairman Moser and members of the Natural Resources Committee, my name is Tim Texel, T-i-m; last name is T-e-x-e-l. And I'm the executive director and general counsel for the Nebraska Power

Review Board. As I believe you know, the board is the state agency with primary jurisdiction over electric utilities in the state of Nebraska, and the board has jurisdiction to approve all new commercial generation facilities constructed, installed, or acquired by Nebraska's electric utilities regardless of the fuel source. For private developers, there's a different approval mechanism. It's a more of a certification process that they go through. And then I administratively can approve theirs. And they don't have to go to any hearing before us. I do want to clarify that the Power Review Board has no jurisdiction over contractual arrangements for power, like power purchase agreements or retirements of facilities. And I know that question has come up. The board's jurisdiction ends once a unit is approved and the utility submits a completion statement. They have to do that afterward to see if the costs had an overrun. We have some limited jurisdiction if they had certain percentages of cost overrun. We can ask for a hearing on why that happened. LB1370 is an approach to ensure that Nebraska's electric utilities have sufficient dispatchable generation resources to meet the load in Nebraska, especially during emergency events. The board is neutral as to whether this approach is the best method. We don't take any stance on the policy side. We normally don't take any policy positions. We're the policy implementing body, not policy setting. That's up to you. The board does have a couple of technical requests. And first, it would be helpful if the bill were to include a definition or guidance regarding exactly what is meant by a generation unit being, quote, placed on the state's electric grid, close quote, as that phrase is used in-- on page 2, line 18 of the bill. I'm not exactly sure how to interpret that, and it kind of leaves my board to do that. We'd prefer to have you tell us what it means and we implement it than us kind of put it in a guidance document. The board believes it would also be appropriate if the text of the bill were considered be placed in Chapter 70, Article X, which is the Power Review Board's controlling statutes. And it's unclear how the bill's provisions would be enforced at this point. Placing the bill's provision in Chapter 70, Article X might provide some evidence that the board has some oversight over it. Because right now, as I read it, I think a court would be the only entity that would have jurisdiction over this. Maybe the Attorney General's Office. So I'm not sure if they would step in and do that. A lot of times, an administrative agency is the entity that would do that. Not necessarily lobbying for more work. But if the bill were to pass, the enforcement's a little bit unclear in there. So we would ask you to maybe consider that. In closing, the board does have concerns about the overall availability of sufficient dispatchable generation

resources if retired units are not replaced with resources with the same type of attributes. Maybe not the same exact type of source, though. Dispatchable units play a crucial role in ensuring that sufficient electric energy is available to meet the public's energy needs during emergency events such as-- you've heard the names Winter Storm Uri in 2021, Elliot in 2022, and then Gerri here this month. And so-- my time is out. I'd be at-- happy to answer any questions.

MOSER: Senator Hughes.

HUGHES: OK. Thank you, Senator Moser. OK. So Power Review Board, it sounds like the power of it is more just of what's coming online.

TIM TEXEL: We have other jurisdiction over charters and, and service areas. But for this purpose, yes. What's coming online.

HUGHES: But do you-- like, so we were handed out the, like, long-term reliability assessment for-- from NERC. Do you, do you do any assessment of that, like, for the state of Nebraska or anything like that?

TIM TEXEL: We oversee the preparation of the load and capability report on an annual basis. And you heard about the designated representative organization long ago was the NPA. That was what's anticipated under the statutes, the Nebraska Power Association. So do we have direct oversight? The load and capability report is more of our oversight. It's done under our auspices, but the NPA actually prepares it. The group that Jason Fortik leads, their subcommittee of engineers puts it together, and then they give a presentation to my board. My board accepts it. And then now we have ability to ask for additional things to be in there. As Shelley Sahling-Zart mentioned, we've asked for about ten additional things to be addressed in it beyond the original ones. Very limited role than what you're talking about. Like, the NERC or MRO, the-- I can go through the acronyms, but those entities have more direct role over reliability than us. We deal more with approving that the generation is needed. In other areas, we operate kind of as a referee between the utilities. If they have disputes, we're there to settle them. And that's originally a large role of what we did because there were a lot of disputes between utilities in the state. That isn't so true anymore.

HUGHES: So I guess from the load and capability report or whatever, do you-- is there anything that sticks out to you that, like, we're on a path that might not be good?

TIM TEXEL: Well, I, I remember-- and I, I actually-- I don't know what documents you have. I had a couple that I saw.

HUGHES: Long-term liability assessment, regional winter assessment.

TIM TEXEL: There's a long-term reliability assessment 2023 from NERC, North American--

HUGHES: I think that-- this one?

TIM TEXEL: Yes.

HUGHES: Yes. We have that.

TIM TEXEL: And I know I saw that one. What I saw in there that concerned me was under SPP in the high-risk area column that says, 2024, for SPP, winter generator and fuel risk: insufficient dispatchable resources. Obviously, that's a concern to my board. I'm sure-- we know it is to utilities too. And then at the bottom it talks about resource adequacy risk. And capacity shortfalls are projected in areas where future generation-- generator retirements are expected before replacement resources can be put in service to meet rising electric demand-- electricity demand. So yes, there's some things-- I, I saw that one. I didn't know what all you would have in your exhibits. But that's concerning to my board. Now, how you deal with that is a whole nother matter. And that's very complex, as you've heard. I know the MRO had a document, the 2023 regional winter assessment. I don't-- if that's one that you have--

HUGHES: Yup. We have that.

TIM TEXEL: --in your packet. And at the bottom middle column, there's a-- Southwest Power Pool's in a medium risk. And, and MRO and NERC are related, so they aren't completely separate organizations. One has oversight over the other, so. But that talked about the same type of risk that resources are sufficient. He says at the bottom: Resources are sufficient to meet reserve margin requirements under normal demand for the 2023-2024 winter season. Extreme weather may result in insufficient energy to meet anticipated winter peak demands and could require emergency response efforts, so. That's on those two documents. I had seen those. My-- had at least one of my board members point them out, that-- you know, it's a concern to us. It's a concern to the utilities, you know, especially during an emergency event. And that's why I bring up the names of the events, like Uri and, and Elliot and Gerri because that's when you see these issues. And we learned a lot

from Winter Storm Uri. And I know that Southwest Power Pool is, is very active in trying to come up with ways to deal with that. You know, one thing that my board members who are on the regional state committee-- which is the regulators group with the SPP-- has been to potentially reward or compensate our, our dispatchable units for their standby capability because you dispatch the, the wind and, and solar and such if the fuel's free. But you don't pay anything to the units. You really need an emergency that are probably more-- you can call upon them when needed. And there's-- you are not compensated right now. So that was certainly an oversight. It wasn't intentional on SPP's part. I think they do a very good job. And the utilities and the regulators and SPP are working on trying to address that. So there's some compensation for that standby capability that doesn't put them at such a disadvantage. And for-- and the market therefore kind of forces them to have a financial incentive to close. It's not a silver bullet, like you've heard. There's no one silver bullet, but there's a lot of things involved like that that can help.

HUGHES: And how long have you been on the board?

TIM TEXEL: I've been with them 25 years.

HUGHES: And have you, have you seen risk like this in your past 25 years? Or is it more coming to head now or--

TIM TEXEL: This is the shortest time frame before it would be negative that I, that I can ever recall. There was one that was six years a few years ago. And I think it's a little different with the SPP. In 2009, when our utilities joined that, it kind of changed the nature of, of a lot of this activity. So it is the shortest time period, and my board was very concerned about that. At the NPA's presentation to my board, the utilities assured the Power Review Board that if that were to be-- if the load and capability report were to be done now again, there would be different results because there are, there are units in the pipeline.

HUGHES: Like how OPPD has one coming up shortly.

TIM TEXEL: Yes. And, and that would put them into the planned category. One of the problems was each utility had the ability to define planned, studied, and committed resources differently. And my board was [INAUDIBLE] say a little frustrated that there wasn't one cohesive way to address those terms. And we've asked them to have one definition now so that is eliminated. So at least we know what the

definition is, and all the utilities do, because that's going to be important going forward. The timing is another one on the NPA report because there's a very short time frame when you're only a few years out. And my board's concerned. It takes longer than that to plan and build one of these units. But the utilities assured us-- and in our transmittal letter to the committee, we put in that letter that they have resources that are-- that they've been working on for a long time. We don't see them at the Power Review Board until they're ready to move on. So we don't know what's going on in the background. They may have been working on something for years that we don't necessarily know about.

HUGHES: Thank you.

MOSER: So-- but just to be clear, the responsibilities of the Power Review Board extend beyond just your concerns with this bill.

TIM TEXEL: Well, yes.

MOSER: I mean, you referee fights between utilities. I mean--

TIM TEXEL: We deal with the service area changes and the compensation for one utility--

MOSER: Lost territory and all those things.

TIM TEXEL: --taking over lost territory and customers. We deal with the charter amendments. You know, creation of a new district. They haven't done that for a long time, but we would be the authority that would do that. You know, we have limited ability to deal with customer complaints. You know, we, we aren't the-- we don't have the [INAUDIBLE] power regulatory authority that most commissions have around the country because our utilities are all public power and have elected officials, so they have more direct accountability. So our system's a little different than most states that have private entities that need ostensibly more regulatory oversight.

MOSER: The-- this isn't your sole focus?

TIM TEXEL: No, it's an a-- it's a very major focus and it's important to the board. But we have a lot of other duties that we're in-- involved in.

MOSER: Yeah. I was just trying to get you some credit.

TIM TEXEL: Thank you.

MOSER: Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chairman. Thanks for being here, Mr. Texel. And to, to give you credit, thank you for the blue book you gave us, which-- right? This is from you, right?

TIM TEXEL: Yes. And I, I must give credit to my staff. My paralegal put that together. And the committee counsel asked if the committee members could get one, so we had a new batch done. So I, I hope they're useful.

J. CAVANAUGH: Well, I appreciate it. It's nice. I've been looking through it while still paying attention. So-- but my question-- I wanted to get back to your technical comments to clarify. Line 18 on page 2, I circled "placed on the state's electrical grid." And you mentioned the word "generation unit." Are you asking for clarification because you don't know whether that includes a power purchase agreement for a facility outside of the state or with a private entity or--

TIM TEXEL: Well, that-- the power purchase agreement-- we don't have authority over power purchase agreements. But we don't know-- if, if we were to have oversight over some of this, I'm not exactly sure what "placed on the state's electric grid" means. If that means it has to be in Nebraska, if it has-- I mean, it means clearly online. But exactly what that term means, the board's unclear. So it would help to have a definition of that phrase.

J. CAVANAUGH: And, and that's my question, is, is there a interpretation of the way it's currently written that could include generation that's not in the state of Nebraska?

TIM TEXEL: I suppose. I mean, it's-- if it had transmission connecting it to our state's grid, you could say that that's placed on the state's grid because it-- you know, like Laramie River Station with LES, it gets onto our grid. It doesn't have to necessarily be in Nebraska's grid itself already. It could be connected to the grid. So I-- you can, you can make an argument either way. And as, as attorneys, I could probably make an argument either way. And that's what my board would prefer to avoid, is us being forced to interpret it when we're not sure if that's what all of you meant.

J. CAVANAUGH: Right. And, and I-- that's why I'm asking these questions because I hadn't really thought that through either. So then the other question is, does it have to be generation that is actually built and owned by the utility?

TIM TEXEL: Well, I think under the bill, I mean-- that's-- it would-- as opposed to who if it's not the utilities?

J. CAVANAUGH: Well, if they, if they-- a private developer develops and they purchase power from them. Would that be an acceptable [INAUDIBLE]?

TIM TEXEL: Well, I think-- well, because that would be renewable, that wouldn't be one of the accepted sources. So I don't think that would work, no. Because under this bill, they have to replace it with a--

MOSER: Dispatchable [INAUDIBLE].

TIM TEXEL: --types of, of dispatchable units, so no.

J. CAVANAUGH: So-- OK. And then my other question is to the definition of dispatchable. And this is going to get to renewable. Do-- if somebody were to build pumped hydro as a battery storage, would that satisfy this section of dispatchable then?

TIM TEXEL: Well, hydro is one of the sources. So if it's pumped hydro-- and pumped hydro would probably be more dispatchable than, than one that deals with, you know, running the river or behind a dam because you could have other entities that could limit your ability to-- you know, when I think of dispatchable, I think you can, you can ramp it up to 100% at-- under normal operating conditions. Well, hydro, you could have-- to me, like, the Corps of Engineers come in and say, you can't release any more right now because it'll kill all the piping plovers that are hatching, or something like that. So you may not be completely in control. Pumped hydro, if you have the system where it's pumped up and then used when you need it, might be a little better because you're in more control. There's other entities like the Corps who couldn't-- tell you no. Everything has-- as you've heard, everything has its pros and cons. But-- and to answer your question, it lists hydro. So pumped hydro would be one of those sources.

J. CAVANAUGH: OK. Thank you.

TIM TEXEL: Maybe that was a longer answer than you anticipated, but I'm kind of--

J. CAVANAUGH: No. That was perfect.

TIM TEXEL: --talking through as I'm thinking.

MOSER: Yeah. If nature lifts the water, it's a better deal. We don't have to pump it up there. It just flows to-- where gravity goes. Other questions? Yes, go ahead.

TIM TEXEL: If I could clarify one thing. Senator Jacobson had asked at the-- early on about the growth rate projected in-- under our load and capability report under the-- prepared by the NPA. Under that, there's projected to have a 1.5% load growth. In, in previous years, that's been lower. In, in-- many previous years, it's been much higher. But right now, the projected growth in the load and capability report was 1.5% according to that report. I would point out there's certain areas, certain utilities that would have a much higher growth rate and some would be very flat. So it's, it's kind of regional in the state and in the SPP. But overall, how we look at it at the state level: 1.5%. So I, I just wanted to clarify if that was a question you had.

MOSER: OK. Further questions? Thank you for your testimony.

TIM TEXEL: Thank you.

MOSER: Anybody else to testify in the neutral? Seeing none. Senator Bostelman, you're welcome to waive your testimony.

HUGHES: I don't think he's going to.

MOSER: Not a chance?

BOSTELMAN: Got to, got to have a closing. You'll be here for a little while longer. You ask the questions, not me. To answer a cou-- there are some more handouts coming out, so I'll answer a couple things, couple comments that were made. So the NERC report does take in future planned generation on the report. So it does take in that future land generation. I think small utilities have a, have-- the municipalities have a good comment there. I just don't know-- making sure that we have dispatchable for their cities and how that's done is a good question. Dispatchable generation in the bill is under normal operating conditions. SMRs-- I think Senator Cavanaugh asked-- SMRs are being built in other countries, and there's 25 SMR license applications that are out there by 2029 in the United States. I, I do take my com-- understanding of what happened to the coal plants with OPPD was they did not dredge their intakes on the river. So they did

not have the water flow. Because I contacted Coopler-- Cooper Nuclear Station just down the river. They didn't have to shut down because they dredged. And so my understanding now is that Cooper, Corps, and OPPD are working on that so they don't have that issue again, so. Part of it is a planned maintenance type thing you could say. But that's just a couple comments. So-- well, you've heard the doom and gloom of this bill. Public power says the Legislature has no business with oversight of a political subdivision. However, that oversight falls squarely in our purview. The Power Review Board has no real oversight either, although they were created for that specific purpose. I will tell you, this summer, Senator Brewer's office and myself tried to work with the Powers Review Board and public power on coming to some agreement on how the Power Review Board could be more involved in generation and making generation-- new generation or, or the decommissioned generation even equal upon everybody. Basically, what we got out of that was, here's, here's what we're going to do, and you're going to have to prove it. You know, that-- this doesn't give the Power Review Board any discretion whatsoever. Was it-- it was a check-the-block-type thing. So we didn't come to an agreement, so hence we have a bill before us today on dispatchable generation. Other opponents have said online that our professionals in this area oppose the bill, yet our regulators are the professionals are explicitly warning us against the retirement of dispatchable resources. This isn't my-- something I come up with. This is-- comes from NERC. NERC has identified the lack of dispatchable generation as an issue for years. December 2018, NERC published their Gener-- Generation Retirement Scenario Special Reliability Assessment, published in December 2018, to look at risk to various areas in the U.S. if plants-- specifically coal and nuclear-- had accelerated plant closures. That is, they looked at the stress analysis of ten different areas of the United States to hypothetically see what would happen regarding margins in the different areas for electricity. NERC was careful to point out that the study was intended only to be a risk identifier, not a predictive forecast, stating, and I quote: The scenario was selected not for its predictability or probability, but to illustrate unlikely but possible system stress. By minding the recommendations from this unlikely scenario, the system can be made more resilient and unexpected or rapid changes to the generation resource mix, end quote. What they did in the scenario was to look at accelerating-- look at accelerating a shutdown or closure of a coal and/or a nuclear plant in an area. They looked at baseload projections for 2025. And they tweaked their model to see what would happen if baseload generation was shut down in 2022 for that area. Interesting,

in this study, it is called a risk information study, that of the ten different areas in the United States, six areas were essentially resilient enough and could handle the accelerated shut down. However, four areas of the United States in their models show that, quote: New resources would be required to accommodate large-scale generation retirements contemplated in this stress test, end quote. SPP was one of those areas that indicated risk for meeting peak demand. We were identified in 2018 that this would happen, that-- in this model, this could happen. Again, the study is strictly a stress test, and they point out it is highly unlikely these scenarios will occur. But just making recommendations to make the system more resilient to unexpect-- unexpected or rapid changes to the generation resource mix. We see this playing out here in Nebraska and in the neighboring RTOs and in the NPA load and capability report now. Unless new generation is built or con-- contracted, the state will be in a deficit in meeting the reserve margin, which you can see in the handout five I gave earlier. If generation is built, then we can move that out a few more years before we hit the deficit. But as you can see, it is coming unless changes are made. Public power has told you, don't worry. Be happy. We have it all under control. But Mr. Texel just said he has not seen this short of a time frame in projecting deficits, deficits before. We should be concerned. The February 2021 power outages gave rise to questions about the reliability of Nebraska's public power resources. SPP noted that the event, quote: Highlighted weaknesses of the components of the supply side of the grid and the need to further assess SPPs ability to reliably operate the system with increased use of intermittent resources and further reduction of baseload resources, end quote. Barbara Sugg, president of the-- and chief executive officer of SPP has stated herself that maintaining reliability within the SPP is an extraordinary effort in itself. Further, during the LR48 and LR136 hearings-- for those of you who weren't here at that time, that was 11 hours we had with SPP and the public power after Winter Storm Uri-- Mr. Nickell, chief operating officer, responded when questioned about how SPP planned to handle the challenge of resiliency in the future. Mr. Nickell responded, and I quote: We hope to address it, end quote. Mr. Nickell earlier in the hearing stated that SPP, quote: Can't guarantee that we won't see this February 2021 event again, end quote. I've recently written two letters to SPP requesting information on how they plan to address this event. It appeals-- it appears they are still trying to figure this out. NERC released this long-term reliability assessment in December 2021. Again, this report states what I've already pointed out. Quote: Capacity shortfalls, where they are projected are the result of future generation

retirements that have yet to be replaced with new resource capacity, end quote. And that energy risk emerge when via-- variable energy resources like wind and solar are not supported by flexible resources that include sufficient dispatchable, fuel assured, and weatherized generation, end quote. Colleagues, if we continue down this path of, of prematurely retiring dispatchable generation-- and NERC's projections appear to be coming true-- we will almost definitely see rolling blackouts, if not worse, during our peak loads. Similar to what we experienced in 2021 during Winter Storm Uri, I have handed out a paper titled LB1370 Information that lists many of these concerns of grid instability unprecti-- unpredictability of intermittent resources are now realities. And that's item six. And highlights many of these short-- it highlights many of these short l-- it highlights many of these shortfalls in generation and the need for dispatchable generation at current levels or higher in the state. In January of this year, South Dakota's Public Utilities Commission raised concern that Xcel Energy, who was planning to retire three coal plants in Minnesota, decommissioning over 2,000 megawatts of electricity with no replacement. This is in addition to a 680 megawatt decommissioned last year. You can find additional information concerns from, from South Dakota PUC in handout seven. Remember earlier, SPP reported last month 6.8 gigawatts of generation of electricity was imported into SPP last month. This bill-- and Minnesota is in MISO. This bill does not impede any new generation developments. It does not keep renewables from being built. It does require a public power to maintain dispatchable generation at today's levels, which is currently at 8,584-- 85 megawatts. Creating state policy is what NERC has requested, and that is what this bill does. I'll send-- I'll end with a quote from Power Engineering International June 19, 2023, article titled "U.S. Faces Reliability Catastrophe as Dispatchable Resources Retire." Quoting for Commissioner James P. Danly, and I quote: We know that there is a looming resource adequacy crisis that the market operators have been explicitly telling us as much for years, end quote. That's handout eight. I'll take any questions you have.

HUGHES: Just one.

MOSER: Senator Hughes.

HUGHES: Thanks, Senator Moser. I'm just really glad I'm not in Revenue right now because I think we're almost done, but. So my qu-- OK. So question to you. I, I agree. It's horrifying what Minn-- Minnesota is doing. And, and we're in the, the S-- and the whole Uri thing was-- had nothing to do with us. It was Tex-- you know, Texas [INAUDIBLE].

This bill is just for Nebraska. It's not going to solve the problem because the problem is the Colorados and the whoever that are closing their "dispatchables" in terms of-- because I just heard OPPD say that they're bringing on some gas, which is a dispatchable, right? And they've approved how ever many more megawatts of this. Is your concern just, just in case we go that route of a Minnesota or a Colorado?

BOSTELMAN: The concern is, is if we continue to shut down dispatchable generation in the state of Nebraska, that when we need it, because what happened during Uri was congestion south--

HUGHES: Right.

BOSTELMAN: In Oklahoma, we had to have the power here in order to stay-- in order to keep the lights on. And we had rolling blackouts.

HUGHES: Because of them.

BOSTELMAN: Because of them. And so if we have dispatchable-- if our dispatchable generators here in Nebraska--

HUGHES: I gue-- I guess maybe that's my question.

BOSTELMAN: --keep, keep that-- keep, keep, keep, keep that, keep that generation-- the dispatchable generation at the levels it is today, then we should be able to meet those needs in the future.

HUGHES: Right. But do we-- and maybe this is what I need to know. Do we have-- is there a plan of-- for Nebraska from OPPD, from NPPD that they are closing these things down in the next five years or three years or seven years? Do we know that?

BOSTELMAN: I don't-- we know they're closing down in north Omaha.

HUGHES: Right. I heard that. But they've got the gas to--

BOSTELMAN: We know they closed down Fort Calhoun. We know that.

HUGHES: Mm-hmm.

BOSTELMAN: So they have done it in the past. What NERC has said, has said that we have a-- states need to develop a policy, and states need to do this because we're in a marginal risk of not having that generation when we need it. So what this does is does what NERC is asking us to do, is to find a policy, put a policy in place to ensure

that we do not retire dispatchable generation at the risk of not having that when we need it the most during peak loads.

HUGHES: I guess it just seems like with our system, we're-- it doesn't seem like we're that--

BOSTELMAN: Well--

HUGHES: --we're doing a better job, shall I say, than--

BOSTELMAN: --as long as-- well-- but the problem is, is we imported 6.8 gigawatts of electricity last month. You just heard Minnesota has almost 3,000 megawatts--

HUGHES: Yeah, their--

BOSTELMAN: --that they've lost. 4.7 gigawatts of, of MISO, MY-SO that's going to be short. So we can't, we can't depend upon someone else--

HUGHES: No, I know--

BOSTELMAN: --our neighbors anymore. So we need to make sure that we have the generation here to meet the need when we need it. So we can't depend upon them. This is just doing the bill. The intent of the bill is, is to make sure we have that dispatchable-- those megawatts available when we need them.

HUGHES: Mm-hmm. OK. Thanks.

MOSER: Senator Brandt.

BRANDT: Thank you, Vice Chair Moser. Thank you for bringing this. This has been an enlightening discussion this afternoon.

MOSER: Thank you for bringing this bill?

BRANDT: Yeah. So it kind of goes back to what the gentleman from Grand Island brought up. It's about cost. And so if we have dispatchable sitting on the sidelines, how much-- where's the balance, I guess? How much, how much do you want-- pain do you want to inflict on a, on a electric consumer--

BOSTELMAN: Well--

BRANDT: --to keep the dispatchable--

BOSTELMAN: That's a great question.

BRANDT: Do you, do you understand--

BOSTELMAN: Yeah. I know. Ask OPPD. They're spending $2 billion to do it.

BRANDT: OK.

BOSTELMAN: They're spending $2 billion because they're doing two peaking units. And they're going to have solar, wind, and batteries. And the two peaking units are there to back up-- as some will say, assure-- that that generation is there when those don't perform.

BRANDT: But that cost is borne by the ratepayers in OPPD--

BOSTELMAN: Sure.

BRANDT: --you, you know--

BOSTELMAN: Sure.

BRANDT: --until such time as--

BOSTELMAN: It's their decision.

BRANDT: Yeah.

BOSTELMAN: It's their board's decision.

BRANDT: I mean--

BOSTELMAN: Right.

BRANDT: --it only gets exported from OPPD at, at such time that somebody--

BOSTELMAN: It could be.

BRANDT: Yeah. Southwest Power Pool needs it in Arkansas or, or in the NPPD territory. So I, I mean. It's, it's--

BOSTELMAN: It could be dispatched. I mean, if they [INAUDIBLE]--

BRANDT: Yeah. I'm not trying to be antagonistic. I guess I'm just kind of, kind of looking for some guidance here as--

BOSTELMAN: Yeah. No. The, the, the thing-- the, the, the question is, is if we start shutting down-- I think NERC's concern is-- and what NERC has said and what I've read and what I've seen-- what NERC's concern is, is that retire-- you're retire-- we're retiring in general too much dispatchable generation, baseload generation. And we're not replacing it with light generation. So we're going to run into problems. We have run into problems already. So we need to make sure the intent of the bill is to make sure that we have a-- of a dispatchable generation fleet, if you will, citing there that'll meet the needs of the state or citizens when the time comes. Because if you did-- if you did commission our dispatchable generation and we have another cold snap, is the grid going to be there? Is electricity going to be there? That's part of the concern that NERC has, I think.

BRANDT: All right.

BOSTELMAN: I don't know if that helps.

BRANDT: Yep. It does. Thank you.

MOSER: Senator Cavanaugh.

J. CAVANAUGH: Thank you, Vice Chairman. Thank you, Chairman, for bringing this bill.

BOSTELMAN: You're not out of questions yet?

J. CAVANAUGH: I actually don't have that many for you, but. I just figure-- fini-- we'll finish it off. And I do appreciate you bringing the bill too. It's really been a really interesting discussion. And it-- like, a lot of the conversation went in different places than I was expecting. But my first question-- there's-- the folks who came in, the labor guys, they said they'd had a good conversation with you about their-- particularly concerned about those-- did you get a copy of their suggestion or did they give it and put on your desk or--

BOSTELMAN: For which ones again?

J. CAVANAUGH: The IBEW and labor--

BOSTELMAN: I talked to them this morning when they came in. They pulled me out to talk to them.

J. CAVANAUGH: Yeah. Are you amenable to pursuing one of their suggested avenues?

BOSTELMAN: Well, that's part of what I-- my-- part of my opening was, was if you dis-- if you, if you decommission, say, a coal plant and you're going to build a, a SMR or a natural gas plant or hydrogen plant or whatever it might be, that you transition those jobs over, remake that part of it. That's, that's-- I've said that all along, so yeah. I think that's part of their option too.

J. CAVANAUGH: And then my other question was just generally about-- we spent a lot of time talking about the dispatchable, available, and all that part. And your bill has some spec-- like, specifically lists out what you define as dispatchable. And I know other folks don't like the bill at all. But I guess my question is, are you married to that definition of dispatchable, including those enumerated generation sources?

BOSTELMAN: So what I've told, what I have told--

MOSER: Flexible [INAUDIBLE].

BOSTELMAN: --LES, OPPD, and NPPD is my concern is, is dispatchable generation: what that is; the megawatts that is; the [INAUDIBLE] what that ends up looking like; what those definitions are. I'm open to all those discussions. Because my concern is, is if a Uri hits again and another state has an issue-- transmission, whatever it is-- we need to make sure we've got the generation here. Or just like last month, we need to make sure-- we had-- OPPD had their coal plants go down. But then we needed somebody else in the state to step up. If we didn't have Gerald Gentleman back in '21 when Uri hit, lights would've went out. You know, it'll-- it, it's-- to me, it's that serious. And that's what I'm trying to get at with this. And I've been trying to do this for some time, so. I, I think-- and-- I think we're on similar ground there.

J. CAVANAUGH: Yeah. And, and, you know, you know I appreciate the conversation. And I, I was here for that 11-hour hearing. And I do appreciate you pointing out the 25 applications for SMRs because, you know, one of the things that was left unsaid there is the one SMR that-- application-- I think it was $6 billion or something. First application costs $500 million. 25th application maybe costs a much more reasonable amount.

BOSTELMAN: Just got to get them going. Got to get them started.

J. CAVANAUGH: That's, that's the idea of the innovation overall. And that's-- I think Senator Fredrickson hit on that earlier, and a lot of folks. We do want to make sure we're not stifling innovation, and that's one of my concerns when I read the list of what counts as discharge-- dispatchable. I want to make sure that the things that I can't think of that I-- I didn't know SMR existed until you told me about it after that 11-hour hearing. I mean, that's-- that is-- that, that's true. And I've been, I've been very interested in it since we had that conversation, but--

BOSTELMAN: I think--

J. CAVANAUGH: --we shouldn't limit ourselves to my imagination.

BOSTELMAN: I appreciate that because I think what-- the, the-- those generation sources that are in there now are those that predominantly you see as, as, as that-- what you call dispatchable generation. If it's geothermal or those type of things-- I had a friend when I lived in Albuquerque, New Mexico, that's what he did, on geothermal-- looking for geothermal for new-- and that was, that was a few years ago. So if it's come to that point, you know, what it-- what are those? You know, that's open-- you know, I'm open to that. It's-- do we-- how do-- how-- my que-- the question comes down to, how do you-- I won't say define it, but how do you bring that so you, you don't stifle? I'm not sure what that is. But, you know, how do you, how do you, how do you, how do you-- maybe that's more on the line of trying to, to define what dispatchable is and that any generation source that meets that criteria. That might be a better way because then we're not stifling any type of generation. So if it's an on-demand type of a generation-- so if I can-- if, if I-- if it's a 100 megawatt facility and at the current time I'm only doing, say, 50 megawatts and then we need generation, so now it can be-- increase that to 75 or, or 90, you know, that's what we're get-- that, that's what I'm-- I think we're getting at, is to make sure we have that capability to do that. We don't want to lose that.

J. CAVANAUGH: Yeah. Well, thank you.

BOSTELMAN: Mm-hmm.

MOSER: Further questions? Thank you, Senator. That will conclude our hearing today. Thank you for attending. At least. Inside of.