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Natural Resources Committee
December 15, 2015

[LR154 LR247]

The Committee on Natural Resources met at 1:00 p.m. on Tuesday, December 15, 2015, in Room 1525 of the State Capitol, Lincoln, Nebraska, for the purpose of conducting a public hearing on LR247 and LR154. Senators present: Ken Schilz, Chairperson; Curt Friesen, Vice Chairperson; Jerry Johnson; Rick Kolowski; Brett Lindstrom; John McCollister; and David Schnoor. Senators absent: Dan Hughes.

SENATOR SCHILZ: Well, let's just get started. Good afternoon, everyone. Welcome to the Natural Resources Committee interim hearing on LR247, which is Senator Ken Haar's LR, and LR154, which Senator Stinner introduced. How we do an interim hearing in the Legislature is there's no proponents or opponents. What we usually do is we usually have invited testimony for the committee, and what we have today is some invited testimony from some reviews that have gone on for the oil and gas commission here in the state that will be invited up here. And then we open it up to everybody in the room, whoever wants to testify, to come up and sit down. We will give you five minutes to testify, and there will be a light on. The green light stays on for four minutes, the yellow light goes on for the last minute, kind of your caution time, and then when the red light comes on, we would like you to either be done with your testimony or sum it up and finish at that point. So that's kind of how it works. I would like to take the opportunity to introduce the folks at the table here, the committee members. Now we'll start with Senator Kolowski on that side.

SENATOR KOLOWSKI: Rick Kolowski, District 31, Omaha.

SENATOR MCCOLLISTER: John McCollister, District 20, central Omaha.

SENATOR SCHNOOR: Dave Schnoor, District 15, Dodge County.

SENATOR LINDSTROM: Brett Lindstrom, District 18, northwest Omaha.

SENATOR FRIESEN: Curt Friesen, District 34, Hamilton, Merrick, Nance and part of Hall County.

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SENATOR JOHNSON: Jerry Johnson, District 23, Saunders, Butler and most of Colfax Counties.

SENATOR HAAR: Thank you. Let's see, I am Senator Haar, District 21, which is northwest Lincoln and Lancaster County.

SENATOR SCHILZ: And Senator Stinner sends his regrets; he wishes he could be here, but he is indisposed at this time, and I don't even think he's in the state, so we appreciate him...

SENATOR McCOLLISTER: He's here in spirit.

SENATOR SCHILZ: What's that? He's here in spirit, that's right. Absolutely. And on, if there are sheets at the door, if you do want to testify, or you don't want to testify, excuse me, you can sign in on any of those sheets, and you can put down whether you're opposed or for it or whatever on those sheets. That's fine. If you do want to testify, we do ask that you fill out a green sheet, and those are at the back as well, and then hand those sheets to Barb when you get close. And let me back up for a second. I need to introduce just a couple more people. To my left here is Laurie Lage; she is the legal counsel for the Natural Resources Committee. And then to my far right here is Barb Koehlmoos; she is the committee clerk, and today we have joining us, is Elice Hubbert, correct? And Elice is committee clerk for the Health and Human Services Committee, and she is sitting in today to have some training on how the committee process works. So we thank you both for being here, and we also have a couple pages today. It must be a good day at the Natural Resources Committee (laughter). So we have Brandon Metzler from Omaha, and we have Stefani Bradley from Kansas City, Missouri, and I think it's something to say that on this Saturday, both of them will be graduating from the University of Nebraska, so congratulations (applause). So with that, let me see, and if you have any, if anybody has any comments that they have in writing, please bring those to Barb, and we usually like to have, what is it, 12 copies? But if you don't have that, we'll help take care of that since we have the pages here today, so you can do that. When you come up to testify, you sit at the chair there and speak clearly into the microphone. Tell us and spell your first and last name for the record. That way we make sure that it gets in properly, and everybody knows what we're talking about. At this time I would ask you to turn off or set to silent any cell phones so that we don't interrupt any of the testifiers. And if

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anybody has to take a call, please take it out into the hallway, or if you have to have a conversation with someone, we would appreciate you taking that to the hallway as well as to not disrupt any of our testimony. We don't allow any displays of support or opposition to a legislative resolution, vocal or otherwise. So if somebody is testifying, we expect that everyone in the audience will give them the respect that they deserve, and that the committee deserves, to make sure that we can hear all that testimony and to make sure that it's not, that we don't have a ruckus around. And everybody does a good job with that, so I'm not too worried. And like I said, we will be using the light system for five minutes after the invited testimony, and that will help move things along. Not included in that five minutes, if a senator has a question for one of the testifiers, then we can take a little longer to take care of that. So I see that Senator Schnoor has showed up, Dave Schnoor from Scribner, right? Very good, thank you. So at this point, we will start out with Senator Haar, LR247...you're... oh, you did (laughter). Senator Schnoor, everyone (laughter). I apologize. Senator Haar, go ahead. Thank you; save me.

SENATOR HAAR: Saving you, Senator Schilz, anytime. Well, Chairman Schilz and members of the committee, I am here to testify on LR247 and, as you know, and most of us were at the hearing a couple months earlier. So what I want to talk about today are some suggestions. And it's sort of a numbered list. I'm just going to go down through this as suggestions. First of all, the...we really examined the whole process of public input in this process. It's my opinion that if a more adequate job of public input would've happened at the beginning, we probably wouldn't even be sitting here today. But the, as you know, the initial input was and the announcement was that only property owners within one half a mile of the proposed site could talk, and we in Nebraska have a tradition of public input. Some people have described it as democracy with a vengeance, and part of that is that we need to have a place for public input. Every person or political subdivision impacted should have their testimony considered in the permit process. The second item is adequate financial assurances. Currently Nebraska has no requirement for liability insurance, only a requirement for a \$10,000 bond per well. And a 2012 study by a Yale graduates energy study group suggested that cleaning up a 5,000 gallon spill of fracking fluid could cost \$2.5 million. The state of Colorado currently has a \$1 million financial assurance requirement. Nebraska should require a sufficient financial assurance to motivate proper care by permitholders and cover the costs in the event of a spill, rather than exposing, ultimately, taxpayers to the liability. I believe we need a process so that political subdivisions, such as counties and natural

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resource districts, could impose reasonable standards to protect the interests of their constituents, just the way we do with so many other things. And the area I'm working in, of course, is wind and solar, and counties do have the ability to pass reasonable standards to protect the interests of their constituents. I think there needs to be a process to regulate the transportation of fracking waste. Perhaps the Public Service Commission would be a logical candidate since he already regulates several areas of motor vehicle transportation. But in the process that we've been going through and listening to a lot of people, we can't think of all of this in terms of silos. For example, if fracking waste is being transported, one branch of government just can't say, well, that's someone else's. So we have to bring all that into harmony because ultimately taxpayers will pay for it. I think we need a process to recover costs incurred by the state or political subdivision as a result of disposal of fracking wastewater, for example, the road issue that we see in western Nebraska. If it causes additional problems to our roads, there ought to be...that ought to be paid for by the people doing the waste disposal. And then I get to the issue of the whole review and monitoring process, and at the hearing in Sidney, somebody put it this way; they said, we're disposing of materials forever. We're disposing of materials forever. And we have to make sure that whatever we're doing, and I...forever's a long time, but we have to make sure that there's adequate monitoring forever to make sure that those fracking fluids don't come back and contaminate our groundwater. And then finally, I would say that I believe we need to advance Senator Chambers' LB664, which is now sitting, I'm not sure in which state; I know it had a hearing in the Legislature, but I think we ought to advance that bill, which would require reporting of the contents of fracking fluids and of everything that goes into that. A Nebraska poll that was done last spring showed that 88 percent of Nebraskans surveyed wanted disclosure of all the contents of fracking waste. And I guess I have one more point here and that's I believe the role of the agency, that we should separate out cheerleader from regulator. I think those two conflict; they're both important processes, one to draw industry and so on to Nebraska, but the other is, I find it hard to see how someone can do both those roles at once. So those are my opening comments, and if you have any questions, I'd be happy to answer them. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator Haar. Senator Johnson. [LR247 LR154]

SENATOR JOHNSON: Thank you, Senator Schilz. Thank you, Senator Haar. The title of LR247, the word in there is "eliminating" the Oil and Gas Commission. What you stated here,

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talking about different ways of changing it, make it more transparent, and adding some other things in there, so are you kind of saying we still need an agency to do this? Do you think that can still be done under our current oil and gas commission with all these things that you've added in here, or what's your position on that actual commission right now? [LR247 LR154]

SENATOR HAAR: Well, I guess I've handed that responsibility now to the Natural Resources Committee to make that decision. I believe at this point, you know, it would be difficult just to transport that to another agency, but the issues I brought up are some that we need to address, not necessarily creating a new agency at this time. [LR247 LR154]

SENATOR JOHNSON: Thank you. [LR247 LR154]

SENATOR HAAR: Yeah, good question. [LR247 LR154]

SENATOR SCHILZ: Thank you. Any other questions? Seeing none, thank you sir. [LR247 LR154]

SENATOR HAAR: Thank you very much. [LR247 LR154]

SENATOR SCHILZ: And now we will...Jenni, I'm sorry, but I don't know your last name. [LR247 LR154]

JENNI SVEHLA: Oh, that's okay. Good afternoon, Chairman Schilz and members of the Natural Resources Committee. My name is Jenni Svehla, J-e-n-n-i S-v-e-h-l-a, and I am Senator Stinner's administrative assistant. I'm here today on behalf of Senator Stinner, as he is unable to attend today's hearing. We are here today because of two phone calls Senator Stinner received early in the session concerning a proposed wastewater disposal well application and a well located in Sioux County, Nebraska. Our investigation confirmed that an application had been submitted by Terex Energy Corporation to convert an existing nonproductive oil well into a Class IID disposal well for the specific purpose of disposing of produced water generated from the production of oil and gas. The application requested that the proposed maximum injection pressure at the surface be set for an injection rate of 10,000 barrels a day. A call to the oil and

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gas commission also confirmed that the applicant must be in compliance with the Safe Drinking Water Act by the EPA. Senator Stinner's initial concern was then focused on increased truck traffic and its impact on our roads, especially in small towns, and also a concern that the commission lacked enough funding to adequately monitor such a high-volume well. The resulting bill, LB512, is still pending in your committee. These initial concerns regarding the application have morphed into numerous additional concerns, as expressed in our committee hearings by Senator Stinner's local constituents via e-mail, letters and telephone calls, and by the media. The concerns and questions raised about the proposal include, but are not limited to: whether the disposal of such wastewater in a subterranean region in Nebraska may trigger earthquakes, the long term cost of monitoring such wells and how the cleanup would be financed if damage were incurred, the possibility of contamination of water used for human consumption, irrigation and the watering of livestock, and if the heavy truck traffic will damage Nebraska's roadways and pose a highway safety problem. The purpose of this resolution is to investigate and make recommendations regarding the authority of the Nebraska Oil and Gas Conservation Commission and its role and decisions regarding the disposal of salt wastewater into dry wells. The study shall address what can be done to protect the environment, the surface and underground water supply, public safety, and to ensure current regulations are robust enough to accommodate high volume wastewater wells. The study should make recommendations if further regulation is deemed necessary and examine the funding needed and possible funding sources for such additional regulation. To conclude, the focus of this review is on Class IID wells, commonly referred to as commercial wastewater disposal wells. It is Senator Stinner's understanding that, at the present time, our state has four commercial wells in use, including the Sioux County well. Senator Stinner's hope is that this could be the start of a process whereby we accumulate factual information and data to make informed decisions and recommendations. Thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you very much. And I told Jenni that we wouldn't ask her any questions, so we appreciate your filling in for Senator Stinner. I think she could come back and fill in for Senator Stinner anytime she wants, actually. So we appreciate it, kid. Thank you. Now I would just like to take a minute before we turn it over to some of our testimony, and let everybody here know where we've been and where we've come from on this issue. We did have a hearing in Sidney and, subsequent to that, we have had a couple reviews, one by EPA Region 7

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and the other one by the...is it States First, is that kind of...a group of folks that came together from all across the nation, from different backgrounds, to look at the way that the Nebraska Oil and Gas Commission functions as it comes to these wastewater disposal wells. So Senator Stinner and I took the opportunity to sit in on those reviews on a couple different occasions, and it was very enlightening, although very technical, and it took quite a bit of time to run through all the issues there. So obviously, as everybody may or may not know, the program came about pursuant to the federal drinking water act, and that gave states...the EPA said then that states could take over this process, and they had to make sure that the process that they undertook was as effective and as efficient as what the federal government would do. I think it was in the early eighties, Nebraska was given primacy over that, enabled to handle that themselves with the EPA's blessing. Obviously, the wells that we're talking about here are Class II wells, oil and gas production, and we've had that primacy since 1983. We have, if you look at how many wells we have that are, fall under this category, we have about 500 active. That's both private and commercial wells, and those are the ones with the Class II permits. By comparison, our neighbor to the south, Kansas, has 16,000 of these disposal wells, and most of them are for enhanced oil recovery. We have 126 that are the Class IID permits, which are the saltwater disposal permits, which is basically the focus of this interim study. As a comparison, the United States has about 35,000 of those disposal wells within the country. Like I said, and others have said, we have five commercial wells, all of those are Class IID, and those can only be used for brines and fluids that are brought to the surface during the oil and gas production. What...you know, we took...this committee is taking on and is in the process of the review to see how the Class II UIC program is handled, a general review of the Nebraska Oil and Gas Commission, its practices, rules and regulations, and then the research that we are conducting includes the complex federal and state regulations, EPA, DEQ and the Nebraska Oil and Gas Commission interaction and agreements, how those all work, the well data that we have available to us and how that works and what it means, the associated costs that come along with all of this activity that we talk about, what other states are doing, and then comparisons with that. We had, obviously we had the public hearing in Sidney in September and then this hearing today here in Lincoln. The EPA reports, and I believe that Mr. Hildebrandt will have some things to say on that when he comes up, but we were expecting that to be available by the end of 2015, and then the state's first initiative, there will be a briefing at some point in December, if I understand that right and if that's still on track. Obviously the EPA does periodic comprehensive program reviews to evaluate authorized

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programs to determine what is working well, what are the deficiencies, and if there's any recommendations for improvements. The state's first purpose is to evaluate the efficacy of Class II underground injection control programs in the states that have been granted primacy by the U.S. Environmental Protection Agency, under the Safe Drinking Water Act. The review team, as far as the state's rights, was, had a lot of folks from the industry as well as environmental folks and others that sat on there to help do this, that was a very informative review, as we sat there for most of a day. And the committee is well on its way to having its work done. This hearing here today will culminate the hearings that we have. All of the information will be put into a form, and we have that structure there. We have...and all the committee members have received what is, at this point, a table of contents and all of those, all of those tabs will be filled in as we move forward with this. And we will be examining all those issues that Senator Haar talked about when he gave his presentation, and there will be a recommendation from the committee on how we will move forward and if there will be any legislation to effect change for the Oil and Gas Commission's permitting process and/or how they regulate that. And with that, I would go ahead and invite Mr. Kurt Hildebrandt, from the Environmental Protection Agency Region 7, and he was the one in charge of administering the review of the EPA. Mr. Hildebrandt, welcome to the Natural Resources Committee, and thank you for your time and (inaudible). [LR247 LR154]

LAURIE LAGE: (inaudible). [LR247 LR154]

SENATOR SCHILZ: Okay, and at this time, for the environment testifiers, we won't use the light system. [LR247 LR154]

KURT HILDEBRANDT: (Exhibit 1) That's good. I wish... [LR247 LR154]

SENATOR SCHILZ: Mr. Hildebrandt, it's all yours. [LR247 LR154]

KURT HILDEBRANDT: I thank you very much. [LR247 LR154]

SENATOR SCHILZ: Don't try to fit a ten-minute thing into five, but we'll take the time. [LR247 LR154]

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KURT HILDEBRANDT: I will speak slowly and clearly, hopefully, and not speak with too many acronyms. [LR247 LR154]

SENATOR SCHILZ: There you go. [LR247 LR154]

KURT HILDEBRANDT: Anyway, good afternoon, Mr. Chairman, members of the Natural Resources Committee. My name is Kurt Hildebrandt, K-u-r-t, and the last name is H-i-l-d-e-b-r-a-n-d-t, and I'm an environmental scientist with the Environmental Protection Agency down in Kansas City, actually Lenexa now, I apologize; we moved. But I've worked there for 27 years as both an implementer and a coordinator and oversight person for the Underground Injection Control program. So anyway, I appreciate the opportunity to come before you and respond to your interest in EPA's UIC program and our oversight or activities and responsibilities associated with the Nebraska Oil and Gas Conservation Commission's implementation of the UIC program. My goals in speaking to you this afternoon are to 1) provide you with some background and insight in how the UIC program regulates injection wells operations and in an environmentally sound manner, highlight for you the recent assessment that was done of the NOGCC, and the oil and gas related portion of the Underground Injection Control program here in Nebraska, answer any questions that you might have about the overall underground injection control program and EPA's role in oversight of delegated programs. As you heard earlier, the UIC program was established back in the seventies, and under Section 1421 of the Safe Drinking Water Act to protect underground sources of drinking water, also known as USDWs, from endangerment by the subsurface emplacement of fluids through any type of injection well. An underground source of drinking water is defined as an aquifer or a portion of an aquifer which contains water that has less than 10,000 parts per million total dissolved solids. Under Section 1421, EPA was charged with the development of a minimum set of program requirements necessary to meet that protective standard and to rules that could be delegated to states, territories, and tribes. At this time, there are six separate classes of injection wells, ranging from deep injection that occurs below the lowermost USDW, to shallow injection systems such as large capacity septic systems which inject into or above underground sources of drinking water. Class II wells are those injection wells used to dispose of fluids brought to the surface in oil and gas related production operations or enhanced recovery operations or for the storage of hydrocarbons that are liquid at standard temperatures and pressure. These wells inject those fluids into formations which do not

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meet the USDW criteria. The process for delegating primary enforcement responsibility, or primacy, to a state, territory, or tribe was established under Section 1422 of the Safe Drinking Water Act and requires primary applicants to, or primacy applicants, to meet EPA's minimum requirements for UIC programs. These provisions of the act were amended in December of 1980 with the addition of Section 1425. This particular sections allows for oil and gas producing states to demonstrate the effectiveness of their already in place programs for the control of oil and gas operations in lieu of adopting EPA's minimum requirements. This approach is one of the most unique features of the program and assures that the program implementation is not unduly burdensome to oil and gas production. The requirements for Class II oil and gas related injection wells are based on strict operational standards, and in order to meet the statutory mandate of preventing endangerment to underground sources of drinking water. EPA has specified that these operations are prohibited from allowing any fluid movement into an underground source of drinking water or from operating in a manner that might fracture or otherwise damage a confining zone. These performance standards are met through an array of regulatory requirements, including well siting, construction, operating, periodic testing and reporting requirements, all of which are designed to ensure that injected fluids remain confined to the prescribed injection zone. Additionally, the intervening geologic confining layers isolate the injection zone and prevent migration of a brine or enhanced recovery fluid up into an underground source of drinking water. EPA directly implements the Class II program in nine states, three territories, the District of Columbia and for all tribes except for two. Twenty-three states, including Nebraska, and the Navajo Nation and Fort Peck tribes have come in and achieved primacy for the Class II program under Section 1425 of the Safe Drinking Water Act. Seventeen states and three territories have UIC Class II primacy under Safe Drinking Water Act Section 1422. NOGCC was one of the first oil and gas programs to obtain primacy under Section 1425 back on June 24, 1984. Regulated community of Class II operations is quite large; EPA's current inventory data shows approximately 180,000 wells. Our inventory shows about 660 are located in Nebraska. Now I'd like to discuss the EPA's overall role in the development and oversight of the UIC program and the results of our recent comprehensive program review of NOGCC. At EPA headquarters level, they are responsible for the development of program regulations and guidance, and also provide funding to go through to the states. The EPA regional offices both implement the UIC program in states which do not have primacy, for all or part of the UIC program, and also provide oversight for states which do have approved UIC programs,

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particularly Class II programs. This oversight includes negotiation of annual work plans, reviewing grants and program reporting, as well as conducting periodic program evaluations. Even though a program may have been delegated, EPA maintains responsibility for that program and continues to be accountable for ensuring that the statutes are fulfilled. The periodic program reviews that help EPA in determining a delegated program's overall effectiveness and to determine what is working well, along with any deficiencies and/or recommendations for improvement. EPA evaluates delegated programs each year to determine which ones might need to have a comprehensive program review conducted. The decision is based on the length of time since the last program review was conducted, significant changes which may have occurred to the program, as well as changes in state staffing. The last comprehensive review of Nebraska's 1425 program prior to this year's was conducted back in August of 2009. The results of the review that was conducted on September 1 and 2, 2015, by EPA found that NOGCC is operating the Class II UIC program consistent with its primary primacy approval. The review findings indicate the program is strong in all aspects of the UIC regulatory authorities. These include permitting, enforcement and compliance, monitoring, reporting, well construction and operations, mechanical integrity testing, inspections, and data management. State regulations are continuously reviewed and updated to provide any necessary changes to comply with the federal regulatory changes that may have occurred. While some implementation procedures have been altered over the years, such as the program's addition of electronic data management in addition to its paper files, EPA finds that these changes enhance, rather than reduce, the effectiveness and openness of the program that EPA approved back in 1984. There are several areas in which NOGCC operates a strong program, as identified in the final program review that was conducted in September. In the permitting process, NOGCC has a well develop permitting process in place which addresses all of the aspects of the federal well permitting. NOGCC utilizes forms and checklists to ensure that owner/operators applying for permits have addressed the required information necessary for that program to make a sound permit determination. In cases of area permits, NOGCC reviews the individual proposed wells within the area permit application. NOGCC has regulations in place which would require affected parties within one half mile to be informed of the permit decisions and are allowed to provide comments at an NOGCC hearing. They also post the notice of public hearings and permit determinations on their Web site and in area local newspapers to ensure information is ready available to any parties who may be interested in attending the hearing. If an existing permit owner/operator requests a major permit

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for modification, NOGCC requires the permit to go back through the public comment period. For wells converting from production over to an injection operation, NOGCC requires, through permit conditions, that the well be remedially cemented behind the casing, if necessary, to protect any aquifers that contain from 3,000 to 10,000 milligrams per liter TD, total dissolved solids, to ensure that no fluid migration, outside of the intended injection zone, occurs. In inspections, NOGCC requires field staff members to be present for 100 percent of all mechanical integrity tests that are conducted, to ensure that the wells are in working condition and that those tests are being conducted properly to ensure the protection of underground sources of drinking water. Additionally, NOGCC has recently added robust tablet, a robust tablet-based inspection program which allows NOGCC staff to document inspections via forms, photographs, and additional information collected in the field in an electronic manner. Someone's trying to break in? (laughter). [LR247 LR154]

SENATOR SCHILZ: We're not exactly sure. [LR247 LR154]

KURT HILDEBRANDT: Compliance and enforcement...the NOGCC has several effective ways of encouraging compliance and enforcement. They utilize mail, e-mail, phone calls to inform owners and operators of any upcoming required testing which needs to be conducted. If an owner/operator is found to be out of compliance, they have the ability to assess fees or pull the company's ability to sell oil and gas, which are both strong incentives for owners and operators to remain in compliance. Additionally, NOGCC has systems in place to deal with and ultimately resolve any perceived or confirmed contamination by an operator of an underground source of drinking water. In the area of data management, NOGCC has been involved in the development of the Risk Based Data Management System, RBDMS, and FracFocus from their infancy. As a result, NOGCC maintains a very robust electronic data management system which has the ability to track all aspects of permitted wells, including mechanical integrity testing inspection reports, upcoming due dates for any reporting or other things, and has the ability to flow the data from the tablet-based inspections into RBDMS. Additionally, NOGCC has been active participant in the development of systems to flow data from their data base to the EPA national data base. While the overall 1425 program is strong, there are some areas where EPA has some recommendations that they have made for improving the program. These include that NOGCC develop documentation such as SOPs, desk guides, or other documents to assist in the retention

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of institutional knowledge on how NOGCC runs their current oil and gas program. EPA also recommends updating the NOGCC rules and regulations to better reflect the current pricing required for financial assurance. This would also include a periodic reevaluation of existing financial assurance requirements on wells to ensure that they are adequate to cover the cost of plugging an abandonment. EPA also recommended updating the NOGCC rules and regulations regarding the protection of underground sources of drinking water that have a total dissolved solid content of greater than 3,000 and less than 10,000, so that the rules mimic the current practices of the program as well as the Safe Drinking Water Act. Additionally, EPA recommends integrating NOGCC practice of requiring remedial cementing of conversion wells for the protection of underground sources of drinking water into their rules and regulations. EPA encourages NOGCC to work toward clarifying the extent, where practical, of the aquifer exemption boundaries within counties where exemptions were granted as part of the original primacy package. EPA also encourages NOGCC to actively seek backfilling the current vacancy of the UIC program staff. While some of the recommendations listed above are specific to NOGCC, others are common to most UIC programs, both within Region 7 and nationally, and don't take away from the overall finding that the program is strong in all aspects of UIC regulatory authorities. I thank you for your time, and be happy to answer any questions. [LR247 LR154]

SENATOR SCHILZ: Thank you, Mr. Hildebrandt. Any questions for Mr. Hildebrandt? As I sit here and look through the list that you talk about, the third thing here where you say the EPA recommends updating the NOGCC rules and regs regarding the protection of underground sources of drinking water, so that the rules mimic the current practices of the program. Can you explain that just a little bit? [LR247 LR154]

KURT HILDEBRANDT: Um-hum. The specific definition that they have for fresh water doesn't extend, it only goes to 3,000 parts per million TDS, but the current practice of the program is to protect all aquifers through 10,000 TDS. So it's a matter of just changing the definition to be clear, and it's the way that the current program is being operated. [LR247 LR154]

SENATOR SCHILZ: So this is just bringing the paperwork up to speed with what's happened. [LR247 LR154]

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KURT HILDEBRANDT: It's just bringing the paperwork up to speed. [LR247 LR154]

SENATOR SCHILZ: Okay. And then as you've gone around, I take it you've done a few of these. [LR247 LR154]

KURT HILDEBRANDT: Just a few. [LR247 LR154]

SENATOR SCHILZ: Yeah. As you go around... [LR247 LR154]

KURT HILDEBRANDT: But not hearings (laughter). [LR247 LR154]

SENATOR SCHILZ: Right, I understand. Well, you're doing fine here too. So as you go around and look at the programs that are in your area and not to name any specifics, how would you classify the Nebraska Oil and Gas Commission program in its completeness, what it does and how it protects? [LR247 LR154]

KURT HILDEBRANDT: Again, overall it is a very strong program, one of the strongest in the region. Given the staffing that they have and the funding that they receive from EPA, it's, amazing the amount of work that they do get done and the level of protection that they provide. So... [LR247 LR154]

SENATOR SCHILZ: Very good. Thank you. Senator McCollister. [LR247 LR154]

SENATOR McCOLLISTER: Thank you, Mr. Chairman. How large is your region? You gave us statistics on all the states in the entire country, I think. [LR247 LR154]

KURT HILDEBRANDT: Right. [LR247 LR154]

SENATOR McCOLLISTER: Your region encompasses what states? [LR247 LR154]

KURT HILDEBRANDT: Region 7 encompasses Iowa, Nebraska, Missouri, and Kansas. So we've got the Kansas UIC program with over 16,000 Class II wells, and Nebraska's is second

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with 600, slightly more. Missouri has 400 and Nebraska is a directly implemented program and has a whopping 4 wells and those are really associated with disposal of fluids brought to the surface during natural gas storage. [LR247 LR154]

SENATOR McCOLLISTER: In this four states that you have, what are their levels of review, or what...how do you manage them? [LR247 LR154]

KURT HILDEBRANDT: We go through the, we go through the same periodic review process and similar questions. Some of the questions are tailored more towards the specific program in areas where we may have concern, based on seeing what the reporting has shown over the number of years. So, but they go through a similar process. Did that get to what...? [LR247 LR154]

SENATOR McCOLLISTER: Yes, I think that that should (inaudible). [LR247 LR154]

KURT HILDEBRANDT: Thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator McCollister. Any other questions for Mr. Hildebrandt? Senator Friesen. [LR247 LR154]

SENATOR FRIESEN: Thank you, Chairman Schilz. Mr. Hildebrandt, when you've granted...the EPA typically grants primacy to the states to do lots of different programs, I take it. [LR247 LR154]

KURT HILDEBRANDT: Yes. [LR247 LR154]

SENATOR FRIESEN: Has there any been cases where you have had to step in and take over programs because of mismanagement? [LR247 LR154]

KURT HILDEBRANDT: In UIC, not yet. [LR247 LR154]

SENATOR FRIESEN: Okay. [LR247 LR154]

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KURT HILDEBRANDT: So it would be, it would be unusual. We certainly have made recommendations, as an agency, in other regions to various programs that, for areas of improvement. [LR247 LR154]

SENATOR FRIESEN: And so as your regulations change, I take it you update them, and they update their rules in return and follow your plans... [LR247 LR154]

KURT HILDEBRANDT: Correct. [LR247 LR154]

SENATOR FRIESEN: ...because of the reviews that you conduct. [LR247 LR154]

KURT HILDEBRANDT: Right. [LR247 LR154]

SENATOR FRIESEN: Okay. Thanks. [LR247 LR154]

KURT HILDEBRANDT: Okay. [LR247 LR154]

SENATOR McCOLLISTER: One more. [LR247 LR154]

SENATOR SCHILZ: Senator McCollister. [LR247 LR154]

SENATOR McCOLLISTER: All right, you indicated this...thank you, Mr. Chairman, Mr. Hildebrandt...the state of Kansas has a great many more wells than Nebraska. Have there been incidences of well water contamination in that state that you're aware of? [LR247 LR154]

KURT HILDEBRANDT: There have been some over years, but they're mainly associated with surface spills, but not injection well related, that we've been able to find or the state has been able to find. Most of the contamination instances that get reported are leaks at the surface of the well and not actually fluids moving up through the back side of the well. [LR247 LR154]

SENATOR McCOLLISTER: Other than spills, are there any other contamination issues that you're aware of? [LR247 LR154]

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KURT HILDEBRANDT: Not at this time, no, sir. [LR247 LR154]

SENATOR McCOLLISTER: Thank you, Mr. Hildebrandt. [LR247 LR154]

KURT HILDEBRANDT: Okay, thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator McCollister. Just one last question for me. When you send out a report and it says the EPA recommends... [LR247 LR154]

KURT HILDEBRANDT: Um-hum. [LR247 LR154]

SENATOR SCHILZ: What does that mean? [LR247 LR154]

KURT HILDEBRANDT: It is, it is that, a recommendation. And we would hope that the state would act on it. If it was something more significant, as an issue, it would move beyond being just a recommendation. We would be working with them to correct that problem more actively. [LR247 LR154]

SENATOR SCHILZ: Okay, thank you very much. Senator Haar. [LR247 LR154]

SENATOR HAAR: Yes, thank you. I would assume, but I want to know if this is the case, that it's sort of you don't deal with any of the issues like truck traffic and road destruction and all those other kinds of issues. [LR247 LR154]

KURT HILDEBRANDT: That would be correct. When we come in to do an assessment of the program, we would be focusing solely on just the underground injection control aspect of that program, not the truck traffic, not other aspects, transportation, etcetera. [LR247 LR154]

SENATOR HAAR: Or public input in all those other kinds of issues. [LR247 LR154]

KURT HILDEBRANDT: Correct. [LR247 LR154]

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SENATOR HAAR: Do you have any recommendations on that, or that's just not your purview?
[LR247 LR154]

KURT HILDEBRANDT: It is outside my purview, sir. [LR247 LR154]

SENATOR HAAR: Okay, guess that's up to us. [LR247 LR154]

KURT HILDEBRANDT: Um-hum. [LR247 LR154]

SENATOR HAAR: Thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator Haar. Any other questions? Mr. Hildebrandt, thank you very much for your testimony and your time today. [LR247 LR154]

KURT HILDEBRANDT: Thank you. [LR247 LR154]

SENATOR SCHILZ: Appreciate it. At this point, I would like to invite Mike Nickolaus, from the Groundwater Protection Council, to approach the stand, and...Mr. Nickolaus, good afternoon and welcome. [LR247 LR154]

MIKE NICKOLAUS: (Exhibit 2) Good afternoon, Chairman Schilz. Members of the committee, thank you for inviting me here today. My name is Mike Nickolaus, that's M-i-k-e N-i-c-k-o-l-a-u-s. I'm the special projects director for the Groundwater Protection Council. Chairman Schilz and Mr. Hildebrandt have given you excellent background information on the UIC program in general, and the Class II program in particular, so I will forgo any additional information in those areas. The Groundwater Protection Council is an association of state groundwater and underground injection control agencies, and we assist the states by facilitating federal and state program coordination, providing regulatory development assistance to the states, technology transfer and data systems assistance. One of the programs of the GWPC is the Class II underground injection control, or UIC, peer review process. This is conducted, as the chairman mentioned, under the purview of the state's first initiative, which is a joint Groundwater Protection Council and Interstate Oil and Gas Compact Commission initiative. The goal of the

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review process is to evaluate the Class II UIC program against the requirements for federally delegated programs and to determine if the program is effective in achieving the goal of protecting underground sources of drinking water, or USDWs. The review process involves an evaluation of the state's Class II UIC program, conducted by a team of experts from Class II UIC programs in other states, and includes an evaluation of the state's regulations, programmatic elements, staffing, bonding, field operations, permitting, enforcement and compliance, and administrative processes. It is conducted via an in-state interview of the state regulatory staff, along with a review of the official documents, regulations, program delegation documentation, and responses to a questionnaire filled out by commission representatives. A review of the NOGCC Class II program was requested by the commission in September 2015, and the in-state interview was conducted on November 11, 2015. The review team consisted of three state UIC program representatives, one from Utah and two from Ohio. These representatives have a total of over 60 years of Class II underground injection control experience. Additionally, the in-state interview was facilitated by a former U.S. EPA UIC program manager and officially observed by representatives of the U.S. EPA Region 7 office, Mr. Hildebrandt in particular, a staff attorney, and a staff attorney from the Environmental Defense Fund. Also present were Natural Resources Committee Chair Senator Schilz, committee member Senator Stinner, Ms. Laurie Lage, NRC Counsel, and Ms. Marty Link, a representative of the NDEQ. Although the report is currently in the drafting phase, I can relate some of our preliminary findings and recommendations. Some of this may sound quite familiar to you as Mr. Hildebrandt has already mentioned many of these items. I would say, however, that the review team came up with these items independently of the EPA's review. Overall, we found the Class II UIC program managed by the NOGCC to be a well-run, efficient and effective program that meets or exceeds all of the requirements for a federally delegated UIC program under Section 1425 of the Safe Drinking Water Act. Several elements struck the review team as being particularly significant, including the following. The fact that the NOGCC uses a half-mile area of review, that is the area around the proposed injection well, to review wells that may intersect the injection zone and water wells and others, is quite interesting because this area of review is twice the size of most area of reviews (sic) in other states, which is typically a quarter of a mile. The NOGCC has a well-thought-out and progressive system for determining field inspection priorities. This system, which includes an evaluation of environmentally sensitive areas, operator compliance history, well history, and well type, results in an inspection protocol that is particularly protective of the environment. The well

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construction requirements for injection wells in Nebraska exceed the level required to assure groundwater isolation during the injection process. The NOGCC does have some additional requirements on commercial wells, even though that is not required under federally delegated state programs. And program requirement for operational sampling of water wells also goes beyond the requirements for a federally delegated program and provides additional protection for groundwater in the state. The NOGCC UIC program provides both direct and published permit application notice. This also goes beyond the requirements of federally delegated programs and leads to enhanced public participation in the permitting process. The use of infield data access systems, such as the tablets that were mentioned earlier, allows inspectors to have real time information on wells, including their construction, compliance history, and operational status. Last, but not least certainly, the NOGCC witnessing 100 percent of the mechanical integrity tests run on injection wells is particularly significant. This far exceeds program standards and assures that this most important element of well integrity is not in question. As with every review of any state program, we found a number of improvements that might be considered by the NOGCC in the implementation of their program. The first of these is that we believe the NOGCC should develop some written procedures, including guides, manuals for permitting, well testing, plugging, site investigation, and general field and administrative operations. Improvements in this area would assist the agency in assuring that the program is implemented in a consistent manner and that the training and transition for new staff is assured. As Mr. Hildebrandt mentioned, the NOGCC would do well to define, in its rules, the underground source of drinking water in a manner consistent with the Safe Drinking Water Act. Although drinking water aquifers in the oil and gas areas do not typically exceed 3,000 milligrams per liter, as far as we're aware, the current definitions in the regulations are inconsistent with the federal standards. And it could lead to issues should injection begin occurring in areas where there is drinking water between 3,000 and 10,000 milligrams per liter. The NOGCC should also consider hiring a replacement for the staff engineer who left earlier in 2015. In the area of bonding and financial assurance, we believe they should consider a change to their current regulation to provide for a maximum number of wells that could be placed under a single blanket bond, so that there is a reasonable amount of bonding on a per-well basis. And although the NOGCC stated that no diesel fuels were used in the hydraulic fracturing process in Nebraska, should the NOGCC decide to allow their use, they may need to adjust their program and rules to be consistent with the U.S. EPA Guidance #84 regarding injection using diesel fuels. Although the following will

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not appear in our review of the program, we wanted to cite two important points regarding the Nebraska program. The state of Nebraska, through the NOGCC, has been a national leader in the development of data management systems that have resulted in more environmentally sound and protective regulation of the oil and gas industry. Since the NOGCC was an early adopter of the risk-based data management system, a data base program that is currently used by 24 states to manage oil and gas and underground injection control programs, we feel they are well suited to assist in this area. The NOGCC was also instrumental in the development of the FracFocus system, which publicly discloses hydraulic fracturing chemicals and is used by 21 states, including Nebraska, to inform the public about hydraulic fracturing chemical additives. It is also the opinion of the review team that the Class II UIC program should continue to be run from the NOGCC office in Sidney. This is consistent with other state programs which are run from offices close to the oil and gas fields which they regulate. Even in large states such as Texas and California, where the main program resides in the state capitol, there are district offices close to the oil field injection activities throughout the state. In the case of Nebraska, where the oil and gas and Class II injection activity is centered primarily in the western tier of counties, it is more effective, efficient, and environmentally protective for the program to be based in that area. Finally, I'd like to say, on behalf of the team, that it's their position that the Class II UIC program managed by the NOGCC is a good example of a program that uses a minimum of resources to achieve a maximum of environmental protection. Thank you very much, and I'd be happy to answer any questions you might have. [LR247 LR154]

SENATOR SCHILZ: Mr. Nickolaus, thank you very much. Any questions? Senator Johnson. [LR247 LR154]

SENATOR JOHNSON: Thank you, Chairman. Thank you for coming in. Do you have any guidelines or recommendations on the level of bonding? Is that based on risk or is there limits out there that...in some industries you can't get anywhere close to the amount of bonding that would cover everything. [LR247 LR154]

MIKE NICKOLAUS: Bonding is a kind of a funny issue because many states view it differently. There are states that have what we would refer to as performance bonds; that is, the bonding level is established at a level that's designed to take care of whatever physical problem occurs. In

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the case of a well, it might be the replugging of a well. In other states, the bond are what we refer to as penal bonds. They're not designed to actually cover the entire cost. What they are designed to do is to enforce compliance on the parts of the operator. And so it's kind of difficult to measure state to state, in addition to which, some states use a per well, or, excuse me, a per footage depth ratio in their bonding, on a so many dollars per foot of well. And then you've got the differences in well depths; for example, in Texas it's not unusual to have well depths of 15,000 or 20,000 feet or more. In some states, there are wells, not Class II wells necessarily, that are as shallow as a couple of hundred feet. So bonding is very unique to the individual situation in which the state finds itself geologically and from a practical perspective. So it's not really a good idea to say, well, you should have a bond of X amount, because that would have to do with the unique specifics of the state. [LR247 LR154]

SENATOR JOHNSON: So you having this in your comments and your recommendation, you're probably saying that Nebraska's bonding is low? [LR247 LR154]

MIKE NICKOLAUS: With respect to the blanket bond, our primary concern is that because there are no limits on the number of wells that could be on a blanket bond. If you have a blanket bond of \$20,000 and you have ten wells on it, that's \$2,000 a well. But what if you have 100 wells on it? Now it's \$200 a well. So you know, it becomes a very different thing. So our recommendation, effectively, is to make sure that if there is a blanket bond, that there are some limits on the blanket bond such that you have at least a minimum of assurance on a per well basis. [LR247 LR154]

SENATOR JOHNSON: Thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator. Senator Haar. [LR247 LR154]

SENATOR HAAR: Yes, thank you. Kind of the same question I asked before. Does your organization deal with any of the other issues connected with fracking and disposal of wastewater, like roads, public input, all those kinds of issues? [LR247 LR154]

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MIKE NICKOLAUS: Within the context of the Class II UIC peer review program, the answer is no. In the context of generalization, the Groundwater Protection Council does deal with issues related to surface spills, pits, tanks, and other related appurtenances. For example, we did a 2009 study and a 2014 update study which you folks have, we provided at the last hearing, which covers what we call the state oil and gas, natural gas, regulations designed to protect water resources, which covers a lot of areas outside of the UIC program. In fact, that report doesn't cover the UIC program at all. So we do generally, but not within the context of the Class II UIC review, because it's designed to look at the state's program as it relates to its delegation from the federal government. Does it meet the delegation standards of a 1425 program? [LR247 LR154]

SENATOR HAAR: Do you...even though you may not be studying these aspects, do you find that in some states, at least, there are considerations for things like effects on the roads and so on, or is that usually just totally ignored by... [LR247 LR154]

MIKE NICKOLAUS: Not so much the effects on the roads. There are, in some states, manifesting and licensing of haulers, the waste haulers themselves. Most of that is to make sure that, you know, if you've got 10,0000 gallons of waste here, that 10,000 gallons of waste gets there in a manifest-type system. Ohio for example, has a manifest system and waste hauler licensing. The Railroad Commission in Texas has much broader authority than what the NOGCC has here. They cover pipelines and a lot of other things. But generally, the roads themselves are typically not part of the mix, as far as the damage to the roads and that sort of thing. [LR247 LR154]

SENATOR HAAR: The one you just mentioned that had authority over a lot of things, which state was that and (inaudible)? [LR247 LR154]

MIKE NICKOLAUS: That's Texas, and Texas has the Railroad Commission of Texas, which is...which really isn't about railroads. But they've thought about changing the name several times. But they cover a wide variety of things, as I said, including in-state pipelines and several other aspects. They cover air and lots of things. But that's fairly unusual. Most oil and gas agencies in oil and gas states don't cover those aspects. Most of them cover what's on the lease. Sometimes

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they'll cover pipelines from lease to lease or to recycling facilities or that sort of thing, but otherwise, no. [LR247 LR154]

SENATOR HAAR: Thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator Haar. Any other questions? One question that I have. Back to...you talked about the half-mile inclusion area for landowners. What is the justification for that? I would guess that it's not just an arbitrary distance that's been come up with. What is the reason for that? [LR247 LR154]

MIKE NICKOLAUS: Well, there are several things that can be used, and I believe the Oil and Gas Commission also uses what's called ZEI, which is a zone of endangering influence, which is a mathematical calculation on the distance that injectate can reach over a certain period of time in certain types of formations. In actuality, the quarter-mile area of review, which is sort of the minimum standard that is typically used, is...this is going to sound kind of funny...but in a way, it was kind of pulled out of a hat when the program was first started. I mean it was sort of mathematical, but it's not what I would call a hard and fast determination. So some states have decided to use the quarter mile with the zone of endangering influence calculation as a backup, other states have used a half mile. We just did a review of Utah, as a matter of fact, and they use a half mile just as Nebraska does. But that's kind of unusual. Most states use a quarter-mile area of review. And the other thing about the area of review is...what you have to remember is...this is...what you do is, in this incidence, is you take the well and you draw a quarter of a mile radius circle around it. Well, that's not the way geology really works. I mean...it...you know, it goes here and here and here and here, not in a sphere around the well site. So it's sort of a fallback position to use a quarter of a mile. Now, it's been considered that unless you have a very large capacity, or a series of very large capacity wells, very limited formation, that is, a very thin formation with not a lot of porosity or permeability, so that the fluid has a hard time traveling, the quarter mile is a fairly large area. I mean, that's 1,320 feet from the center, so it's really a half a mile across from the well. [LR247 LR154]

SENATOR SCHILZ: Sure. Senator McCollister. [LR247 LR154]

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SENATOR McCOLLISTER: Yeah, thank you, Mr. Chairman. Wondering if your organization does any peer review with the other organizations like yours, in the other states. [LR247 LR154]

MIKE NICKOLAUS: Well, the GWPC does the actual Class II peer reviews. Under the States First Initiative, states can request a review of any part of their program, their oil and gas program. For example again, Utah was looking for information about horizontal drilling rules. And so they requested a review under States First, and they convened a...not just a hearing...it was more of a public meeting that included information about what other states do on their horizontal drilling rules, spacing and distances and all the rest of that, so that they could figure out what they, perhaps, be doing with their horizontal rules. So that's an example of one of the areas where a state requested something way outside the UIC program. It was part of their oil and gas rules, and they wanted a review of that. [LR247 LR154]

SENATOR McCOLLISTER: In what way do you initiate best practices? What, what...how do you do that in a way we could feel that you're up to speed with the other states that are in that? Are these similar things? [LR247 LR154]

MIKE NICKOLAUS: Well, one of the things we do is we hold two primary meetings every year, and they're not just, you know, sit around the coffee table kind of talk meetings. They're very highly technical. We bring in technical experts from universities, from oil and gas companies, from other states, and we talk about the specific issues and the scientific information that's being distributed throughout the country on a particular issue. This led, just recently, to a primer that we developed on induced seismicity from underground injection. We involved, we had 93 people involved in that, and the primary review team involved seismologists from universities and companies, and state regulators, the state geologist in Kansas, and so on. And so we do this routinely to make sure that we're up to speed on what's going on technically and scientifically throughout the U.S. and even overseas. We've brought people from the United Kingdom to discuss and do seismicity related to hydraulic fracturing, for example. So that's how we make sure that our states get the best information possible, the latest information available on technology. [LR247 LR154]

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SENATOR McCOLLISTER: What's the name of this group that you're referring to...that the...the larger group that... [LR247 LR154]

MIKE NICKOLAUS: It's actually a conglomeration. It's actually an initiative of the...the States First is an initiative of the Groundwater Protection Council and the Interstate Oil and Gas Compact Commission. It's just sort of an umbrella. It's just an agreement between our two associations to work together on specific issues. And for example, States First involves this Class II peer review process. It involves what we call State Oil and Gas Regulatory Exchange, which is where states get together and they talk about specific issues state to state. It includes Inspector Certification Program, which is a program the IOGCC actually runs under this umbrella that has...let's see...the Colorado School of Mines, Penn State University, and the University of Texas at Austin as organizations that contribute to determining what the certification program is for inspectors. So it's not actually an organization; it's just an agreement between the two associations to conduct activities under one umbrella. [LR247 LR154]

SENATOR McCOLLISTER: The way you're describing it, it's more of a loose confederation than some kind of a formal peer group that... [LR247 LR154]

MIKE NICKOLAUS: Yes, it is. But we form individual peer groups like we did with the induced seismicity group. That was about an 18-month effort that ended up with a primer that includes information for the state regulatory agencies that says, well, you know, if you have an induced seismicity here, here's what you should be doing, here's the things you should look at, here's how you should interact with the public, and so on and so forth. [LR247 LR154]

SENATOR McCOLLISTER: Well, thank you, Mr. Nickolaus. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator McCollister. Senator Haar. [LR247 LR154]

SENATOR HAAR: One more quick question. So in your experience dealing with other states, it sounds like the EPA has the requirement basically that what goes on right around the well. But then there are all these other things like transfer of the material by trucks or whatever and the

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effect on communities. Who makes those kinds of decisions? I mean, that's not in any way an EPA requirement, is it? It's up to the... [LR247 LR154]

MIKE NICKOLAUS: No, that's individual states, to make those determinations...which agencies are involved, what statutory authorities are necessary and who they should belong to and so on and so forth. Individual states do that. There's no national initiative that I'm aware of in areas like that. [LR247 LR154]

SENATOR HAAR: So there would be some, two or three models of how that works, or... [LR247 LR154]

MIKE NICKOLAUS: No, I'd say there's probably 50 models of how that works. [LR247 LR154]

SENATOR HAAR: 50 models, okay. [LR247 LR154]

MIKE NICKOLAUS: You know, actually closer to 31, because that's the number of oil and gas producing states that we have. [LR247 LR154]

SENATOR HAAR: Okay. Thank you. [LR247 LR154]

MIKE NICKOLAUS: You're welcome. [LR247 LR154]

SENATOR SCHILZ: Mr. Nickolaus, I take it you've at this quite a while, as well. How many of these reviews have you conducted? [LR247 LR154]

MIKE NICKOLAUS: I've personally been involved in about five reviews, but the GWPC, over the years...and this is reinitiated process...over the years the GWPC has conducted reviews of probably 20 state programs. [LR247 LR154]

SENATOR SCHILZ: And there's...and how does that work? You volunteer to do these, is that? Or is that... [LR247 LR154]

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MIKE NICKOLAUS: The state volunteers to undergo a review. We put together a review team. We make sure that the reviewers are from state programs that are outside of the region, the EPA region that that state is in, so there's no potential conflicts with respect to that. And then we bring folks in who have UIC experience. For example, one of the folks on the last review team was, is Scott Kell from the state of Ohio. Scott has been at this for over 30 years. He's the deputy chief of the Ohio Oil and Gas program, retired and then hired back as the deputy chief again, because they needed him so much. So I've been at this, I mean, 30 years myself, 20 years as a state regulator and the last 10 as special projects director for GWPC. [LR247 LR154]

SENATOR SCHILZ: Thank you very much. And with that, I'll ask you the same question that I asked Mr. Hildebrandt. Looking at your review and understanding that it's not yet completed, but close, relative to other reviews that you have done, how does the NOGCC stack up? [LR247 LR154]

MIKE NICKOLAUS: Given the size of their staff and the extent of what they have to deal with, I'd say they stack up very well with most other state programs I've reviewed. Certainly. [LR247 LR154]

SENATOR SCHILZ: Does their size restrict them from getting the job done that they need to do? [LR247 LR154]

MIKE NICKOLAUS: I don't think it restricts them from getting the job done. I'd say they actually, at times, may have to extend themselves because of the size of their staff. It would never hurt to have more staff; it never does, and more resources to do the job you want to do, because it may allow you to do some things you may not physically be able to do now, not that their program is lacking in any way in that regard. It's just that, and I'll go back to Ohio again as a good example of this. In the last...well...15 years ago the state of Ohio had 30 people in its oil and gas program, and their program is probably three or four times the size of the Nebraska program. The program is still three or four times the size of the Nebraska program, and they now have 156 people. Okay? This allows them to do a lot of things, real specific highly scientific things that other agencies in other states can't do. It's a nice problem to have, to have 156 people. You know, for example...Ohio...they deploy, they actually deploy seismograph stations and do all

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kinds of things like that because they can. Not that you need it here, but I'm just saying, you know, when you've got the wherewithal, it's nice to have. [LR247 LR154]

SENATOR SCHILZ: Right, so. One more question. So what you're telling me, and I'm being a little tongue in cheek here, is that we actually have a agency out there that is mindful of the money that it's spending and doing a good job with the limited dollars it has. [LR247 LR154]

MIKE NICKOLAUS: Yeah, you're doing more with less. [LR247 LR154]

SENATOR SCHILZ: Thank you. And then you talked about the seismic activity and stuff like that. Can you explain to the committee a little bit of...why that isn't...why we aren't seeing the same things that other states may be experiencing here in Nebraska and the reasons for that, because of the geology? [LR247 LR154]

MIKE NICKOLAUS: Oh, sure. Your geology is very different from other states. I worked in the Illinois Basin and, compared to the Illinois Basin, and I'm sure your state geologists would disagree with this, but your geology is simple. Okay? You've got a really well-defined confining zone and then injection zones underneath that. It's very uniform, comparatively speaking, that sort of thing. You don't have the seismicity and seismic problems that other states have. Oklahoma is a good example of that. Recently, I'm sure you've read the stories of what's going on in Oklahoma as far as them putting restrictions on injection wells and all sorts of things because they've been having a lot of seismic activity. You're fortunate; you don't have that kind of problem, so... [LR247 LR154]

SENATOR SCHILZ: Very good, thank you. Any further last questions? Seeing none, thank you very much for your testimony. We appreciate that. [LR247 LR154]

MIKE NICKOLAUS: Thank you very much for inviting me. [LR247 LR154]

SENATOR SCHILZ: Yep. And at this time, we will go ahead and open it up to the public testimony. So if anybody would like to come forward and...now's the time to do it. We've got our first one on the way. Good afternoon, sir. [LR247 LR154]

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DAVID CORBIN: (Exhibit 3) Hello. My name is David Corbin. D-a-v-i-d C-o-r-b-i-n. I'm talking today on behalf of the Public Health Association of Nebraska, which is an affiliate of the American Public Health Association, and I happen to be the Nebraska representative to the governing council of the American Public Health Association. I want to thank you for the opportunity for holding the hearing and to discuss the appropriate authority for regulating various things related to fracking waste and so on. The Public Health Association, and it's a public health professional for over three decades, we are not, of course, engineers or experts in geology; we are concerned about the policy-making and managing and monitoring local commissions and agencies who are charged with regulating things such as fracking waste. And we, of course, believe that there should be strong representation by professionals with training and experience in public health. State regulations should be amended to close loopholes regarding such things which might be, as you've heard before, what actually is in fracking waste. And if you don't know what's in it, then it's hard to react as a public health professional, to know how to counteract that. Regulations should protect the workers. And although I have confidence in the studies that were done before, as indicated by Senator Haar, it doesn't talk about, not only trucks, what the damage it does to the road, but if there's a traffic accident, what happens to the waste. Our professionals trained to deal with this especially, do they know what they're dealing with if there is a large spill? The workers themselves, how are they protected? And basically it's not a good practice, in our view, that you should regulate your own industry and also be charged with promoting it. State, local and health agencies should adopt precautionary and adaptive approach in the face of uncertainty regarding long-term environmental impacts of the defracking process and disposal of waste materials. The recommendations mentioned above cannot and will not be met in total by the previous testimony. They do have to have the expertise and incentives to address these concerns. So in public health, we defend the right to clean air, soil, and water. And we can't appropriately respond to public health threats and emergencies when we do not have the detailed information about the content, as I said again, in the totality, not in the specifics of the wells and the drinking water, but the other aspects that are involved. At the current time, the public health of Nebraskans could be protected better under the current regulations, and we just ask you to take those under consideration. Thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, sir. Any questions? Seeing none, thank you very much for your testimony today. [LR247 LR154]

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DAVID CORBIN: Thank you. [LR247 LR154]

SENATOR SCHILZ: Next testifier. [LR247 LR154]

GRAHAM JORDISON: (Exhibit 4) Good afternoon, Chairman, committee members. My name is Graham Jordison, and I have here with me today 85 comments from folks collected by Bold Nebraska and the Sierra Club, and... [LR247 LR154]

SENATOR SCHILZ: Can you say an spell your name, please? [LR247 LR154]

GRAHAM JORDISON: Yeah, Graham, G-r-a-h-a-m J-o-r-d-i-s-o-n. [LR247 LR154]

SENATOR SCHILZ: Thank you. [LR247 LR154]

GRAHAM JORDISON: As I was saying, I have 85 comments collected from Bold Nebraska and the Sierra Club. I would just like to submit them to you today for public record. [LR247 LR154]

SENATOR SCHILZ: Very good, thank you. Next testifier, please. [LR247 LR154]

JANECE MOLLHOFF: (Exhibit 5) Good afternoon. My name is Janece Mollhoff, J-a-n-e-c-e M-o-l-l-h-o-f-f. Chairman Schilz and committee members, thank you for allowing me to speak today. The League of Women Voters has a long history of conducting research, examining issues from various perspectives, and reaching positions based on consensus. Advocacy based on these positions is an important part of league activity. Since 2010, the league has sought to reduce the environmental impact of mining processes that contaminate and pollute. The League of Women Voters believes that hydraulic fracturing, or fracking, poses a threat to water and other natural resources. With respect to the makeup of production fluid from fracking, the league supports inspection and monitoring of the fluid throughout the process, from its return to the earth's surface to transportation to disposal wells to storage in the wells. The league also supports full disclosure of pollution data as we are concerned about how disposal wells are monitored, because the contents of production fluid are unknown. Also there is concern about future liability

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issues, because often oil and gas company liability issues are paid for by taxpayers and not by fuel companies. The league supports locating disposal facilities in areas posing the least public risk, and so we encourage wastewater to be housed near the site of use instead of exposing public and roads to disposal truck traffic. Currently in Nebraska, the Oil and Gas Conservation Commission has been charged with both promoting and regulating the oil and gas industry. There is clear conflict of interest in this dual role which does not ensure that they protect the land and water of Nebraska with regards to fracking wastewater storage. The commission further has claimed its rules barred testimony of citizens during consideration of a wastewater injection well. They also ignored requests from senators and the public to wait for scientific studies and legislative review before approving wastewater disposal in Sioux County. The League of Women Voters of Nebraska believes that the Oil and Gas Conservation Commission has not been open and transparent in their response to management of fracking wastewater storage and that the regulatory duties of said commission could be better conducted by the Department of Environmental Quality, the Department of Natural Resources, the Public Service Commission, natural resources districts, counties, or other appropriate agencies and elected entities. As hydraulic fracturing has expanded throughout our country, communities have been forced to make decisions without access to reliable information about the potential risks to health, safety and the environment. It is befitting that our Legislature and other duly elected officials make laws and establish safeguards to protect our land, water, and public health from possible contamination and pollution resulting from wastewater spills and leakage. The Oil and Gas Conservation Commission has shown that it is not the agency best suited to that role. That's the end of my printed remarks, but on a personal note, in response to the positive reviews from the EPA and other agencies that you just heard earlier, the EPA was supposed to be protecting the water at one of our church camps, Camp Joy in New York. Recently they had to close that camp, because the water was contaminated by fracking. So in your deliberations, I ask that you would consider these comments. Any questions? [LR247 LR154]

SENATOR SCHILZ: Thank you, ma'am. Any questions? Seeing none, thank you very much for your testimony today. Next testifier, please. Good afternoon. [LR247 LR154]

DONNA ROLLER: (Exhibit 6) Hi. My name is Donna Roller. D-o-n-n-a R-o-l-l-e-r. And I provided some written testimony, but based on what I've heard so far today, I'm going to try and

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respond to what is said, so I commend Senator Haar for his comments. And they're all viable and I agree with him, but I want us to take a deep breath and a pause. When did the citizens of this state decide we need to accept fracking waste from another state? I think that's the first question we need to answer. And I agree with the last testimony. We've heard glowing reports. So we heard from Mr. Hildebrandt, okay? We talk about rules, regulations, minimum state requirements. You're boring me to death. When we're talking about minimum here, what are we talking about? We're not talking about risk. Where is their statistics about the leaks? And what kind of...with oil and gas, it's always going to be a risk of a contamination. And where is the public input? You know, you talk about the Oil and Gas Commission of the State (sic). Where is the public input if there hasn't been any? They just decided to do this on their own, because they know what's best. We don't want these trucks on our farm roads. We don't want these injection chemicals in our aquifer, even near it. Mr. Nickolaus also commented about glowing reviews, about how well we are doing. We are not even addressing the issues. And he talks about guides and manuals. He talks about Oklahoma, and they've had seismic activity and we're not going to be subject to that, right? It is the...I've read up on Oklahoma...the geological surveys and everything the geologists have done in that state, all of the seismic activity is attributed to the injection wells. Talked about North Dakota. They are totally contaminated with fracking waste here and there. Colorado is fracked to hell, and that's the people that want to send their crap to us. You know, we have the greatest resource in this state, and that is the water. And I'm tired of us not respecting that water. We shouldn't be allowing pipelines. We shouldn't be accepting fracking wells. We should say no, because we have the greatest water and the greatest water source all over the world. And you're willing to throw that away on a few recommendations. You know, water is in short, I just learned. The Colorado River is dry by the time it gets to Arizona. You know about the drought in California. The well on my farm, the center pivot, is dry in York County. When are we going to wake up? Saudi Arabia has emptied their aquifers; they bought land in Arizona to grow hay for their cattle. And they're exporting it. And they're busy emptying Arizona aquifer. Pretty soon people are going to be tromping into Nebraska, just like the Oil and Gas Commission people, because they want a piece of Nebraska water. You better start thinking about our future; I'm sorry. I'm on square one. When did we give them permission to do this? I didn't; none of the people have. That's their objection. We don't care about regulations; we don't want it. Thank you. [LR247 LR154]

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SENATOR SCHILZ: Any questions for Ms. Roller? [LR247 LR154]

DONNA ROLLER: I doubt it; I spoke in generalities. [LR247 LR154]

SENATOR SCHILZ: Excuse me. I would appreciate some respect to the committee. [LR247 LR154]

DONNA ROLLER: Okay. Well, okay. Sorry, I apologize. I apologize. I apologize. [LR247 LR154]

SENATOR SCHILZ: Thank you, ma'am, for your testimony. Thank you for your testimony. Next testifier, please. Good afternoon and welcome, sir. [LR247 LR154]

ROBERT KRAMER: Good afternoon. My name is Robert Kramer. R-o-b-e-r-t K-r-a-m-e-r. And I'm a completions and production engineer with Murfin Drilling of Wichita, Kansas. I have an industrial engineering degree. I've been working in the oil and gas industry for about 13 years now. During that time, I've been in various states throughout the Midwest and northern Rockies. And first, I would just like to thank the committee for its thorough review of the issues surrounding the regulation of oil and gas production in Nebraska. And I understand that Chairman Schilz, Senator Stinner, and other senators along with committee staff have invested many hours on this topic since the conclusion of the legislative session in May. I attended this committee's hearing on LR154 and LR247 in September in Sidney, and I want to congratulate the committee on holding a thorough, fact-based hearing in which many important aspects of the oil and gas production were addressed. And the Sidney hearing ran long; I want to thank the committee for its patience that day. I'll try to keep my testimony short today. I just want to take a moment to underscore the testimony from the Nebraska state geologist, Matt Joeckel, at the Sidney hearing. Dr. Joeckel testified that the Sioux County disposal well proposed by Terex posed no threat to pollution of the Ogallala Aquifer, and that Nebraska's geology was not conducive to induce seismic activity. And therefore, disposal wells in this area were not likely to cause any perceivable earthquakes. I say this because these are a few of the key issues that caused some people to question the NOGCC's decision to permit that Sioux County disposal well. Dr. Joeckel's expert testimony should help to ease some of the public's concern with those

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issues. And regarding the authority of the commission permitting disposal wells, the underground injection control of produced water is regulated by the EPA, and the NOGCC is granted primacy by the EPA. This means that the commission rules are as stringent as the federal program and contain the effective requirements for inspection, monitoring, recordkeeping with the EPA. You heard earlier from the EPA, in their generally favorable findings at their five-year review...the commission that was conducted a few months ago. I think, in his words, it's a strong program. And you've also heard from a representative of the state's first peer review that was conducted in November. And again, it was a favorable review of the Oil and Gas Conservation Committee operating a good program. Nebraskans can and should be proud of the work done by the NOGCC and the recognition the commission has received for their work on behalf of the state, its oil and gas producers, and its people. Thank you for allowing me to testify. [LR247 LR154]

SENATOR SCHILZ: Thank you, Mr. Kramer. Any questions? How long have you been in the oil and gas...or maybe you said this (inaudible)? [LR247 LR154]

ROBERT KRAMER: A little over 13 years. [LR247 LR154]

SENATOR SCHILZ: Thirteen years...and do you have any wells in the state of Nebraska? [LR247 LR154]

ROBERT KRAMER: Murfin does, mostly in Dundy and Hitchcock County and a few over in Furnas and Red Willow. [LR247 LR154]

SENATOR SCHILZ: Southwest...are any of those fracking wells...(inaudible)? [LR247 LR154]

ROBERT KRAMER: Since I have started there, we have not fracked any. I haven't gone through the history well and to see if any of them could have been in the past. Some of the wells were probably seventies vintage. [LR247 LR154]

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SENATOR SCHILZ: Sure. And then as you look at this wastewater disposal,...how...as you function with your company, where's most of your wastewater disposal taken and how is it disposed of? [LR247 LR154]

ROBERT KRAMER: The majority of the water...that was going to a commercial disposal. A good deal of it also is reinjected, so we do kind of have both those options. [LR247 LR154]

SENATOR SCHILZ: When you say reinjected, you would be talking about enhanced oil return? [LR247 LR154]

ROBERT KRAMER: We do have some enhanced oil recovery wells, and we also have some on-site disposals that are not commercial disposals, just take water from that lease. [LR247 LR154]

SENATOR SCHILZ: And you try to keep that as close to the source as possible, correct? Because... [LR247 LR154]

ROBERT KRAMER: Correct. Due to economics, it doesn't make sense to have to truck it long distances. So if we can have a disposal nearby, we can go directly to that. [LR247 LR154]

SENATOR SCHILZ: What's the...if you can tell me...what is the farthest that you have to travel with disposal water, or do you know? [LR247 LR154]

ROBERT KRAMER: To truck or to pipeline to where we can on-lease disposal? [LR247 LR154]

SENATOR SCHILZ: Let's talk about trucks first. [LR247 LR154]

ROBERT KRAMER: Trucks? [LR247 LR154]

SENATOR SCHILZ: Yeah. [LR247 LR154]

ROBERT KRAMER: Probably if it gets more than roughly 10-15 miles, it probably isn't economic just due to costs. [LR247 LR154]

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SENATOR SCHILZ: And then let's talk about pipelines and how that works. How far are you?
[LR247 LR154]

ROBERT KRAMER: Generally speaking, those are probably 1,000 feet or less from the tank battery where the water tanks are. [LR247 LR154]

SENATOR SCHILZ: Okay. Very good, thank you. Any other questions for Mr. Kramer? Seeing none, thank you for your testimony. [LR247 LR154]

ROBERT KRAMER: Thank you. [LR247 LR154]

SENATOR SCHILZ: Next testifier, please. Good afternoon. [LR247 LR154]

AMY SCHAFFER: (Exhibit 7) Good afternoon. Amy Schaffer, A-m-y S-c-h-a-f-f-e-r. You know, just because we've done something in the past doesn't mean that we continue to do it or we should continue to do it going forward. Senator Schilz, you made the comment when you opened about the number of wells in Kansas being 1,600, and Nebraska has about 500. I might also remind you that Kansas doesn't have any water. Their geography is a little bit different than Nebraska. And if you look at the wells in Kansas...or in Nebraska...most of them are probably located in western Nebraska. Currently the restrictions with the Oil and Gas Commission, which I find is a complete conflict of interest, you know, it doesn't restrict them from putting that disposing well anywhere else in the state, which is worrisome. We do have an asset to protect. I was at the hearing in Sidney and to the point of this being a conflict of interest, all of the testimony from the Oil and Gas Commission...those folks...it was all about their jobs. It's easier to do business here in comparison to Colorado or other states; that's why they're coming here. That doesn't make any sense to me. Why are we accepting waste from another state? And do these risks outweigh...what are the benefit...are we really getting any benefit? And you know, not once did I hear them mention about our roads or our children or the schools or the effects on the communities. They were worried about their bottom line and their business and the ability to do business in our state, you know. And as we've heard today about the programs that are overseeing this, it doesn't take into account the roads, the communities, the public input, and the clear conflict of interest. So you know, I'm suggesting, as I did that day, that this be moved over

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to the Public Service Commission so we can ensure that we have fair hearings. There's full public disclosure of the chemicals because we know that these are toxic and in minute quantities. We need to establish a bond for clean-up. We need a yearly fee for first responders. We need to ensure that there's no use of eminent domain for private gain. So that concludes my comments today. I also have a letter on behalf of some landowners with the Nebraska Easement Action Team that I'll be submitting for the public record, as well. [LR247 LR154]

SENATOR SCHILZ: Very good. Ms. Schaffer, thank you for your testimony. Any questions? Senator Haar. [LR247 LR154]

SENATOR HAAR: Yes, thanks. So you're not an engineer and we've heard it's safe. Why do you care? [LR247 LR154]

AMY SCHAFFER: Exactly, why do I care? Because I care about our water, and I care about Nebraska's assets. And I think, underlying the principle of the matter is, again, why are we accepting waste from another state? We have better assets in Nebraska to protect, and that is our water and our agriculture economy, so it makes no sense to me. I just don't see how we can rationalize this, and also the concept of just because we've done it in the past, that we continue to do that. That doesn't make sense; we're moving forward and we should be thinking forward and thinking about Nebraska and what's best for our state. [LR247 LR154]

SENATOR HAAR: Thank you. [LR247 LR154]

AMY SCHAFFER: Um-hum. [LR247 LR154]

SENATOR SCHILZ: Thank you, Senator Haar. Any other questions? Seeing none, thank you very much for your testimony, appreciate it. Next testifier, please. Good afternoon. [LR247 LR154]

RANDALL GILBERT: Good afternoon. My name is Randall Gilbert, R-a-n-d-a-l-l G-i-l-b-e-r-t. I live in Lincoln. I do want to thank the committee. I know you have spent, as Mr. Kramer said, a lot of hours on this out of session, and I know you're trying to do the best thing and do good

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work. So thank you; thank you for hearing us today. I'd like to say it does seem that the Oil and Gas Conservation Commission is competent to regulate the industry. I don't think it's feasible for them to also promote the development of oil and gas production. The Department of Economic Development would seem to be better suited for this promotion, which it does with every other economic activity in our state. This kind of solution would remove the inherent conflict of interest for the Commission, which would benefit, I would think, from being perceived solely as a science-based neutral regulatory body rather than an industry cheerleader looking at revenue and job creation. From standard discourse you might think I'm shouting blasphemous obscenities, but, personally, I am against further development of oil and gas in our state, particularly, given as we heard in Sidney, the relatively insignificant economic activity, revenue, and jobs it does provide Nebraska. I want to quote President Eisenhower to express my views on this topic. "As we peer into society's future, we--you and I, and our government--must avoid the impulse to live only for today, plundering for, (for) our own ease and convenience, the precious resources of tomorrow. We cannot mortgage the material assets of our grandchildren without asking the loss also of their political and spiritual heritage." Surveys regularly show that Americans want the choice of cleaner energy, and yet we see that our lawmakers constantly resist enacting legislation that would promote the development of this. I think I can figure out why that is, generally. But it is only through the creation of public policies that encourage this development that it will happen. We individually cannot do anything about this issue; no one in this room has the ability to develop clean energy on their own. These are substantial issues that need to be covered regionally. So I just want to encourage you, as policymakers, to take courageous leadership in developing these. I know you are doing good work on this, particularly Senator Schilz, Senator Haar, and I appreciate what you're doing. We need to make this a reality. We know that what we've been based on, this lifeblood of our society for quite a while, is ending. It is not feasible to continue to do this. We know it's not practical; we know it's running out. We know it uses far more water than we should be giving. And I just want you all to continue to work to preserve this heritage that President Eisenhower is talking about for the future. So thank you. [LR247 LR154]

SENATOR SCHILZ: Thank you, Mr. Gilbert. Any questions? Senator Schnoor. [LR247 LR154]

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SENATOR SCHNOOR: You made a comment that...about clean energy and why some don't want to promote it. So you said generally you know why, so what do you think is the reason why? [LR247 LR154]

RANDALL GILBERT: I think that the carbon industry is among the wealthiest in the world. And, as it is said, we have the best democracy money can buy. These things go hand in hand. This is quite clear why this does not happen. [LR247 LR154]

SENATOR SCHNOOR: The carbon industry? [LR247 LR154]

RANDALL GILBERT: The coal industry, oil and gas industry...the influence is impressive on our political leaders. They have usurped our democracy for sure. [LR247 LR154]

SENATOR SCHNOOR: So you think we're...you think this committee's influenced by the carbon industry? [LR247 LR154]

RANDALL GILBERT: I would venture that all elected officials are affected by that. And I would like to say again, as the surveys show, people, the public, want...they don't necessarily want to keep polluting and keep risking contamination of other resources for...to keep using this. If you buy an electric car here in Nebraska, if you were to buy a Tesla car...and it's all electrical... 80 percent of our electricity in Nebraska is generated by either nuclear or coal. You can't buy a clean car in Nebraska and use it that way. You're going to plug it into the wall at night, and you're going to burn coal to fuel that car the next day? That's irrational. [LR247 LR154]

SENATOR SCHNOOR: Okay, thanks. [LR247 LR154]

SENATOR SCHILZ: Thank you. Any other questions? Mr. Gilbert, thank you for your testimony. [LR247 LR154]

RANDALL GILBERT: Thank you. [LR247 LR154]

SENATOR SCHILZ: Next testifier, please. Good afternoon, sir. [LR247 LR154]

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DAVE HAACK: (Exhibit 8) Good afternoon. My name is Dave Haack, D-a-v-e H-a-a-c-k. I'm the president of Z & S Oil Construction (sic), (inaudible). And we operate a business in Kimball, Nebraska. We've been incorporated in the state since 1963. We support 28 families in our area, and I've been 1 of the 4 that have owned and operated a commercial disposal well. I've operated one of them that's actually in the city limits of Kimball, Nebraska, for over 20 years. The one I have now is south of Kimball. But I wanted to stop in just to see if you might have any questions based on my past experience, what I've done, regards to roads, regards to spills, regards to whatever. I thought maybe you might want some feedback from somebody that's actually involved, and have been involved, in the commercial disposal well for years and years. I've attended all four of the hearings that they've had, and I do appreciate everybody doing a thorough investigation and considering all sides of the issues. You know it's very important that we do keep our water clean. I drink the same water everybody else does. I would never, in any instance, want to do anything to contaminate water. I got grandkids coming up, and I'd like to protect the water, as well. One of the things that I've learned over this past year, or however long we've been going through this process, is there's been a lot of misinformation that has been spread around. And, as an example, the Crawford Harrison paper, there was a woman that put out information that the Sioux County disposal well was going to take chemicals, hazardous materials from all over the United States. They figured that Harrison...they would have no objections. You know, mistruths like this have been in the public papers. I've heard some of the public comments, rumors. It's kind of like it was described as sitting at a camp fire. You sit at one end, you tell somebody something; by the time it gets out to the other end, it's completely different than that. And a lot of that has happened in this state. I've heard of people saying that we inject water directly in the aquifer, which isn't true. And I've gone to several meetings in Mitchell, Harrison, Scottsbluff, trying to educate the public on what has happened. And I agree with Senator Haar if the oil industry would've been invited to some of these meetings, we probably wouldn't be sitting here today. The other thing that I'd like to touch a little bit on is some of the rules and regulations. The two gentlemen here testified the EPA and this other organization, they keep a close keen eye and have done a terrific job. There hasn't been one evidence of any water contamination in the state of Nebraska since the Oil and Gas Commission, or since oil and gas have been produced in over 50 or 60 years. I think that says a lot in itself right there. We've talked about the people that operate the Oil and Gas Commission; both of them are very competent. They've received awards. We have one of the best in the state of...or in the whole

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United States. They've won awards and have done a very good job. And so, you know,...more regulations, you know...since President Obama took over, there are 21,000 new regulations have been introduced. Right now there's an average of 12 to 14 new regulations that are imposed on Americans every day. I have to...in my company, I'm responsible to 20 different organizations with rules and regulations. And it's just, you know, you just feel like this: you're getting ground in. If my son wasn't wanting to get in the oil business, I would sell it tomorrow just to get out from all this crap...the regulations. I mean, a lot of them are in place and they do a very good job, but there's a lot of unnecessary things, too. And I don't want our state to impose a bunch of regulations that's going to cost the state money and have unintended consequences like, you know...it maybe even...force the petroleum business out of our state. There's been a lot of taxes; there's been a lot of revenues, property taxes that have been paid to the state. The last testimony that we had in Sidney, we had support from the mayor of Kimball, we had support from the administrator of Kimball, we've had support from the schools, ranchers, farmers. None of that gets said, but... [LR247 LR154]

SENATOR SCHILZ: Mr. Haack, let me..I see our red light's on here. [LR247 LR154]

DAVE HAACK: Sure. [LR247 LR154]

SENATOR SCHILZ: So let me ask you a question. You're in the business yourself. [LR247 LR154]

DAVE HAACK: Yes, and we're in there for over 30 years. [LR247 LR154]

SENATOR SCHILZ: And you work it every day. And you own a disposal well, yourself. [LR247 LR154]

DAVE HAACK: Yes. The only...well, the Sioux County one hasn't really been operational yet, but mine has been operational for years and years. [LR247 LR154]

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SENATOR SCHILZ: Um-hum, correct. Can you give the committee a flavor of how that works when you decide to take some of this produced water and what you do to ensure that it's handled in a proper and safe manner? [LR247 LR154]

DAVE HAACK: The majority of the water that we take is produced water which, produced water if it's over 10,000 parts per million, has to be disposed of. The water that we take is injected into the ground over 6,000 feet, over a mile... [LR247 LR154]

SENATOR SCHILZ: Let me stop you for just a moment. When you say 10,000 parts per million, you're talking about... [LR247 LR154]

DAVE HAACK: It's total dissolved solids and chlorides and those sorts of things. [LR247 LR154]

SENATOR SCHILZ: Mostly salt, right, is what we're talking about? [LR247 LR154]

DAVE HAACK: Right, um-hum. [LR247 LR154]

SENATOR SCHILZ: Okay, thank you. [LR247 LR154]

DAVE HAACK: As far as frack water, I mean, we have taken a little bit. Most of the water that's injected into the ground, you know, they might flow it back for, you know, it may be a couple weeks; it might even be a month. But from that on, that period on, that water is produced water. It might make produced water for 20, between 20 and 40 years. A lot of those wells have been out there for that long. That water doesn't change; it comes from the same formation. And the water that we're injecting back into the ground goes back into the same type of formations that the water came out of. [LR247 LR154]

SENATOR SCHILZ: How far...when you have...is...is the well that you...it's a commercial well that you're operating. [LR247 LR154]

DAVE HAACK: Yes, ours is commercial. [LR247 LR154]

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SENATOR SCHILZ: What is the farthest distance that anyone is trucking any of this from?
[LR247 LR154]

DAVE HAACK: As far as the trucking, probably 50 miles. [LR247 LR154]

SENATOR SCHILZ: Is the farthest? [LR247 LR154]

DAVE HAACK: We have our own trucks. I've hauled just as much water from Nebraska to Wyoming and Colorado as I've brought in from Wyoming and Colorado. Very little right now is...I'm right in the corner; I'm 25 miles from the Colorado border and about 20 miles from the Wyoming border. [LR247 LR154]

SENATOR SCHILZ: Um-hum. [LR247 LR154]

DAVE HAACK: Most of Colorado's water...in fact they will right now...in Colorado there's some injection, some enhanced recovery wells, that will take all the water you can haul down there for free. They won't even charge you for it. Wyoming...they have caught up; they were so far behind in getting their disposal wells that they did bring some of their water in. And now they're getting caught up to where,...and our...in my particular case, there's very little water that comes in from Wyoming, maybe two to three loads a month at the most. [LR247 LR154]

SENATOR SCHILZ: Um-hum. When you inject this water, is there anything that you ask from those folks that want to inject it? Are you testing that water to make sure that it's... [LR247 LR154]

DAVE HAACK: When we've applied for our application, you have to give them samples of what your water that you're going to dispose in. Those samples, like I said, most of that water...it's production water; it doesn't change. It's just like if you went out and took a sample out of the ocean. That water's going to stay the same over the 20 to 40 years. So there's no need to keep testing it over and over and over again. It's the same water. And it's produced water. And it's a necessary item in the oil business because, say like you have a well that makes 10 barrels of total fluid. You know, for every...and the most of them in the western Nebraska...maybe 1 barrel in

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that's oil and the remaining 9 barrels would be water they have to get rid of. In a lot of the wells in Nebraska, they're, you know, the parts per million, it's considered fresh water where you can just evaporate it in ponds, but anything that's above the 10,000 parts per million gets injected back into the ground. [LR247 LR154]

SENATOR SCHILZ: Right. And do you accept any fracking fluids at your facility? [LR247 LR154]

DAVE HAACK: We have, but the water's so diluted by the time we get it. They put...when they frack a well, they'll put some of the...there's a lot of same things that you use in household chemicals. They'll have some surfactants, and I can't remember all the different things. It's in that FracFocus if you'd look it up and see what's in there. A lot of the same things, like guar gum is the same thing that's in ice cream that they use to gel that stuff with. By the time they put a million gallons of water down there to do their fracking, it comes back so diluted that they don't...the water that's production water and fracking water isn't even listed on the Department of Transportation as a hazardous material. And I think that's where a lot of confusion is, that they're saying okay, well, we've got spills. We've got to have a Hazmat team. We've got to have this; we've got to have that. A lot of this water that we haul has less sulphides or less chlorides and the salt than what they have in...than what the state's putting on the ground to thaw out snow on the highways, a lot less. But you don't see Hazmat teams going out there to clean that up after we have a snowstorm. [LR247 LR154]

SENATOR SCHILZ: When you have somebody that wants to bring fracking materials in, has anybody refused to tell you what the constituents of that material is? [LR247 LR154]

DAVE HAACK: No. [LR247 LR154]

SENATOR SCHILZ: And you've asked? [LR247 LR154]

DAVE HAACK: You can find out from the Oil and Gas Commission. They know what's put in there. With this FracFocus, this new thing that they implemented, you know what's in there. [LR247 LR154]

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SENATOR SCHILZ: Okay. Senator Schnoor. Thank you. [LR247 LR154]

SENATOR SCHNOOR: You talked about truckloads. And we're talking just a regular semi tanker, kind of actual semi tanker? [LR247 LR154]

DAVE HAACK: We haul between 120 to 130 barrels, which would be equivalent to about 5,000 or 6,000 gallons of water per truckload. [LR247 LR154]

SENATOR SCHNOOR: How many truckloads per day? [LR247 LR154]

DAVE HAACK: That goes into ours? [LR247 LR154]

SENATOR SCHNOOR: Yes. [LR247 LR154]

DAVE HAACK: Oh, probably two or three. We haul about 5,000 barrels per month, roughly. [LR247 LR154]

SENATOR SCHNOOR: Everybody understands trucks; nobody understands barrels. [LR247 LR154]

DAVE HAACK: Right. [LR247 LR154]

SENATOR SCHNOOR: So two or three semis per day, that's it. [LR247 LR154]

DAVE HAACK: Yes. [LR247 LR154]

SENATOR SCHNOOR: Because there's a lot of talk about... [LR247 LR154]

DAVE HAACK: It's right in the corner. I mean, one of the things with getting rid of this production water is economics plays a key role. It is very costly to haul this water, so they want to haul it to the closest point at the least amount of cost. [LR247 LR154]

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SENATOR SCHNOOR: Right. That's understandable. [LR247 LR154]

DAVE HAACK: And that's why we get a little bit from Wyoming, but not much. Most of it goes to their wells over there. When they were drilling a couple of the wells up in Sioux County, a lot of the water that, you know, that they swap back came down here and it was very costly. You know, both of those wells turned out to be dry holes, but would venture a guess that the majority of the water up in Sioux County would have come from those wells. But since they were not economically feasible, they did not complete those. So... [LR247 LR154]

SENATOR SCHNOOR: Okay, so we heard all the stories that there's going to be 60 to 80 truckloads per day at these fracking wells, and you get... [LR247 LR154]

DAVE HAACK: No, that was the one at Sioux County. [LR247 LR154]

SENATOR SCHNOOR: But you get two, two to three. [LR247 LR154]

DAVE HAACK: Two to three. [LR247 LR154]

SENATOR SCHNOOR: Okay. In other stories we heard about the fracking waste, it was referred to as toxic waste. And you had talked about that it's generally just water. Are any of the... [LR247 LR154]

DAVE HAACK: Coming back, it's very diluted. [LR247 LR154]

SENATOR SCHNOOR: Are any of the trucks that come to your disposal wells, are they placarded for any type of hazardous waste? [LR247 LR154]

DAVE HAACK: They don't have to be. They don't have to be. The DOT doesn't require them to be placarded for produced water. [LR247 LR154]

SENATOR SCHNOOR: Okay. That's all I needed to know. [LR247 LR154]

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DAVE HAACK: But, you know, in regards to your question about the 80 truckloads, from my understanding that when they submitted this application, that number was pulled out of the sky. It was just a guesstimate. They didn't know at the time. A lot of things have changed now. Like I said, Wyoming has caught up with a lot of their disposal wells. Colorado's taking it for free. So they just ballparked, and I think one of the reasons that they guessed so high is they thought that the people in Sioux County would be excited about the prospects of growth in their area. Well, it backfired. The schools...and there again I think it's similar (inaudible), said we would have had some more meetings up front where these people could have asked them questions or had some ideas of what's going on, we probably wouldn't be here today. But as far as the roads go, you can talk to our county commissioner, Dave Hottell (sic), in Kimball County. When the oil business was booming, our county roads were the best that they've ever been. They've fallen down a little bit because the, you know, the oil production has fallen off. You can talk to the one in Cheyenne County; you can talk to Banner County, to Tom in Banner County, all of them, you know. The roads, especially the county roads...a lot of times the oil companies, they'll go out and they'll fix them themselves. When they were drilling those two wells up in Sioux County, those oil companies hired my company to go up there and dress the roads up just to help the county out, because the counties are so broke right now. [LR247 LR154]

SENATOR SCHNOOR: Okay. The last question I have...you know, the purpose of this resolution is to examine the process of eliminating Nebraska Oil and Gas Conservation Commission. Have you had any, do you have any negative comments, anything bad to say about them? [LR247 LR154]

DAVE HAACK: I think that would be about the biggest mistake that ever happened. We got to have that here. We need access to them 24/7. When somebody drills a well, or if we got a problem, we need them right here. We don't need them clear down here in Lincoln or someplace. You know, they've testified, both of those guys said that Nebraska was far and above a lot of the other states. These guys do a terrific job. I don't have anything negative to say other than I've had a couple disappointments when some of my wells haven't passed and I've had to spend a tremendous amount of money to get them repaired and replaced. [LR247 LR154]

SENATOR SCHNOOR: So you're...well, that leads me... [LR247 LR154]

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DAVE HAACK: (Inaudible). We monitor, and we have to send in reports. They come by and do the visual inspection to make sure that everything is working on those wells. [LR247 LR154]

SENATOR SCHNOOR: How often are you inspected? [LR247 LR154]

DAVE HAACK: Once a year for commercial. Now the enhanced recovery well, I believe it's every five years. [LR247 LR154]

SENATOR SCHNOOR: Now if you have a...I'll just say a write-up of, and it could be anything, what is the process then? [LR247 LR154]

DAVE HAACK: We have to repair it, and then they have to come back out, inspect it, and make sure it's insured. I mean if the well won't pass, if for some reason, say, maybe there's a hole in the casing and it's too expensive to repair, then you go through the plugging process. And that's the end of the well. You want to make sure you take very good care of it. You don't want to put any pollutants or solids or anything like that down there. Then you plug up your well and you got the same problem. [LR247 LR154]

SENATOR SCHNOOR: Okay. [LR247 LR154]

DAVE HAACK: So we filter everything. We do the monitoring. You know, it's pretty extensive on what it takes to run a commercial well. If I had my druthers, I'd rather not. But it's so important to the oil industry, you know, to have a commercial disposal well or the disposal wells, or otherwise there wouldn't be oil production in our state without them. [LR247 LR154]

SENATOR SCHNOOR: Well, didn't you in...back to the purpose of this resolution, you're very pleased with the Oil and Gas Conservation Commission and how they're working? [LR247 LR154]

DAVE HAACK: Yeah, I think they've done exceptional. They've won awards. They're instrumental in a lot of the various committees around, you know, trying to implement water rules and regulations for other organizations. I don't know all of them off the top of my head. I

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can't think of, but I know that they've done a terrific job. The only thing that I would say is that, you know, is a...some of the other guys recommended it...maybe they have some more help. If the senate would give them a little bit more money so they could hire some more people to help oversee, that would help a lot. But they're doing a terrific job with the money that they do get. [LR247 LR154]

SENATOR SCHNOOR: Okay. Thank you, sir. [LR247 LR154]

SENATOR SCHILZ: Speaking of...you said that the Oil and Gas Commission has to come out and inspect that well once a year. [LR247 LR154]

DAVE HAACK: Yes. [LR247 LR154]

SENATOR SCHILZ: How often are you inspecting it to make sure that the tank is... [LR247 LR154]

DAVE HAACK: We have to send in reports monthly. I have a pumper that goes out there daily that checks the pressures, make sure that there's not a problem. But they go out there daily. [LR247 LR154]

SENATOR SCHILZ: And let's say that your pumper, is that the right term?... [LR247 LR154]

DAVE HAACK: Um-hum. [LR247 LR154]

SENATOR SCHILZ: ...would go out there one day and there's something wrong. [LR247 LR154]

DAVE HAACK: Yeah. [LR247 LR154]

SENATOR SCHILZ: What happens? Something's off; say the pressures have gone haywire or something. [LR247 LR154]

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DAVE HAACK: Well, then we have to report to the states, and now we got a problem. See, that's one of the reasons that you monitor, because that...inside there's casing...I don't know how you could describe it--a different time, but you have your casing and then you have your tubing inside of that. If the pressures on the casing exceed what the tubing is, then you know you got a hole in the tubing. So you shut the well down. You got to pull the tubing and the packer and everything out of it. And then you hydro-test the tubing back in the hole and reset your packer. [LR247 LR154]

SENATOR SCHILZ: Let me ask you this. So even if you'd have a hole in the casing, that doesn't mean that anything is escaping anywhere, does it? [LR247 LR154]

DAVE HAACK: What's that? A hole in the casing? [LR247 LR154]

SENATOR SCHILZ: Yeah. [LR247 LR154]

DAVE HAACK: It does. [LR247 LR154]

SENATOR SCHILZ: But it's not escaping into... [LR247 LR154]

DAVE HAACK: No, because there's cement on the outside of the other casing. There's cement, you know, to protect the surface water. So that cement goes way below any fresh water zones. [LR247 LR154]

SENATOR SCHILZ: Okay. Thank you. And then once you shut it down, you can't start it back up until it's... [LR247 LR154]

DAVE HAACK: Until it's repaired. We've had to hydro-test it or you know...there's, you know...just depends. It could be an electrical problem. It could be a mechanical failure. [LR247 LR154]

SENATOR SCHILZ: And if you... [LR247 LR154]

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DAVE HAACK: That's why they do what they call it an MIT, or a mechanical integrity test.
[LR247 LR154]

SENATOR SCHILZ: So if you see any of those problems, it's your responsibility to contact the Oil and Gas Commission, and you don't... [LR247 LR154]

DAVE HAACK: Right. [LR247 LR154]

SENATOR SCHILZ: And if you don't, what's the consequences then? [LR247 LR154]

DAVE HAACK: I'm sure they probably have fines or something in place. [LR247 LR154]

SENATOR SCHILZ: But you've never had to deal with that. [LR247 LR154]

DAVE HAACK: No. [LR247 LR154]

SENATOR SCHILZ: Okay, thank you. [LR247 LR154]

DAVE HAACK: No, I've never had to get fined, fortunately. We try and stay on top of it. [LR247 LR154]

SENATOR SCHILZ: Yes, sir. Very good. Any other questions for Mr. Haack? Sir, thank you for making the long trip today. Appreciate it, and appreciate your testimony. [LR247 LR154]

DAVE HAACK: Sure. [LR247 LR154]

SENATOR SCHILZ: Next testifier, please. Anyone? We're going to...come on up. Good afternoon, sir. [LR247 LR154]

PHILLIP KRIZ: Good afternoon. My name is Phillip Kriz, spelled P-h-i-l-l-i-p K-r-i-z. I'm a petroleum engineer. I work for Evertson Companies which is headquartered in Kimball, Nebraska. I've been in the industry since 1984, really since 1977, because I roughnecked my way

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through college. I run injection wells every day. I permit injection wells. I've worked in 16 states, 6 tribes, and several foreign countries. I wanted to come up here and allow you to ask me any questions, but I also want to address some of the things and questions like Senator Haar's question on bonding. The way bonding works, mostly in Nebraska, it's to go and sit there and plug the well. Me, as an operator, let's say we have 100 wells that we operate and we have a blanket bond. If I walk away from a well, I walk away from my right to operate in the state. The state has the right to take all my equipment. But the equipment on most wells are very, very valuable, you know. So most operators are not going to go sit there and walk away from their production and their right to work. Normally what happens is this: When someone goes bankrupt,...if someone does go bankrupt, then the state has the right, not only to go after their bond, but they have the right to go and sit there and take that equipment. My average well, the equipment normally is worth \$150,000 to \$300,000. And all that equipment can be sold and used to go sit there and plug the well or clean up any issues. The Underground Injection Control Program in Nebraska is ran like all the other states and has an excellent track record. I know Dave was trying to go sit there and explain how a wellbore works and stuff. It has three layers of steel and a layer of concrete, and it's pressure monitored. If there's a leak in the tubing, we know it immediately because we're pumping pressure down there. It's water; it's a noncompressible fluid. Just like hydraulics, you see it on the other side immediately. As an operator, my wells are checked every day. If there's a leak in the tubing, and there are leaks in the tubing, we go and we pull the well, and we fix that tubing. And then we have to repressure test the casing to make sure it holds pressure. I've "taken" several of you out to go see what a wellhead looks like and what a well looks like. The reason why the UIC Program is so successful is that wells are mechanically very simple. It's pipe inside of pipe inside of pipe. If the casing has a failure, it won't pressure test, we got to fix it or we're shut down, and we can't use that well again until it is fixed. And that happens. And even if that casing did have a leak, there's another string of casing that covers the aquifer. Normally that, in our state, ranges from 200 to 1,000 feet. And that's decided by people at the Nebraska Oil and Gas Commission who have a lot of geological experience to figure out where the water zones are to get protected. So if the tubing leaks and the casing leaks, there's still another layer of cement and pipe, and so the system works very, very well. And that's why there's 500,000 wells in the UIC Program, 160,000 to 180,000 that are oil and gas, and we're not having a lot of major problems. I know it's very fearful when a new process comes into an area like Sioux County, but I have wells operating in Ogallala for decades.

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My production superintendent has three wells on each side of him. And it's been nothing wrong; they've been operating for decades. There's no problem with his water well that he drinks out of. I drink out of the same water well when I stay at his house. We have irrigation center pivots running right in our oil fields. If we had problems with salt water, we'd be seeing dead crops immediately. The program works, and I think the Oil and Gas Commission here in this state does an incredible job for the size of their staff. And I don't think that the state is lacking of being protected. They're doing a great job. [LR247 LR154]

SENATOR SCHILZ: Thank you, sir. Any questions for Mr. Kriz? Seeing none, thank you very much for your testimony. [LR247 LR154]

PHILLIP KRIZ: Thank you. [LR247 LR154]

SENATOR SCHILZ: Any further testimony? Going once, going twice...okay. Folks, thank you very much for your time and your day today. We appreciate all your testimony and this will end the hearing on LR247 and LR154. Thank you very much for your time and have great day, and happy holidays. And Merry Christmas. [LR247 LR154]