2009 HOUSE APPROPRIATIONS

HB 1267

2009 HOUSE STANDING COMMITTEE MINUTES

Bill/Resolution No. HB 1267

House Appropriations Committee
Human Resources Division

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Minutes:

Representative Metcalf: I am Representative Metcalf from District 24 representing Barnes County and Ransom County. Ransom County being the location of the Veteran's Home. I am coming to present a bill that would finance Geothermal Heating. We are going to drill a bunch of holes in the ground and take a lot of heat out of the ground and some cool air too. We will get that accomplished. The main thing I want to point out is that I'm not an expert in this. I know very little about it except that it needs to be done. Our Veteran's are deserving of every situation that we can provide for them. I am hoping that this bill will be approved by this committee. I would like to bring forth the experts on this and let them explain to you exactly what it entails.

Representative Bellew: Why is there an Emergency Clause on the bill?

Representative Metcalf: It's very important because the federal government is participating in the construction of this building. As you may or may not know last session we authorized the construction of this building and then there were certain problems and we had to get an extension. The government says we have so long to do the money and we got an extension and it terminates on the first of March this year.

Representative Wieland: I did sign on to this bill but I'm assuming that it is all general fund dollars and that the federal government is not going to participate in the geothermal heating system?

Representative Metcalf: According to my knowledge the federal government is participating a certain amount of dollars by percentage on the total construction. As we add and change things, yes it will be more upon the state of ND as we add to the viability of this building. It could in truth be a 100% general dollars. It will also not show this way in the long run.

Chairman Pollert: The Veteran's Home budget was on the Senate side. Why wasn't this originally put in there? Was this because you didn't have the dollars ready for the Governor's Budget?

Representative Metcalf: I believe that I could possibly allude to an answer to that question. First of all the main bill for the construction of the building is on the senate side. It was thought that we needed to have additional money to add geothermal to it. It was said to put this into the house side with the idea that if the house approves it we could just add it over to the senate side and marry the bills together and bring it in to the total committee as one bill. That is probably not the best reason in the world. That is what happened and why it was that way.

Chairman Pollert: When I have the people come forward I'll ask them if this was discussed in the Veteran's home budget if that's alright.

Representative Metcalf: Yes you can ask any question you want to. This is not in the Veteran's home Budget this is for a new building for the Veteran's home. The operational budget is a separate budget.

Chairman Pollert: Isn't the construction for the extra funding coming through the Veteran's Home or a separate bill from the Senate.

Representative Metcalf: A separate bill from the Senate.

Norris Braaten: Testimony handout (Attachment A) 5:50-7:56

Marlen Galde: Testimony

Representative Ekstrom: Mr. Galde before you start, I know there is a lot of good information. First it would be helpful for the committee to understand the basics of geothermal. I ran an architectural firm for 30 years so I am very familiar with these systems. I think it would be good to tell them what the ambient temperature is of the water solution that is coming back from the ground. Could I get a year round average, I think that would help.

Charles Falk: I originally worked with Falk brothers well drilling. Five years ago we retired, split up, and sold it to our workers. It's still in operation today as Falk Groundsource Technology. We have done many ground source systems. At this point we have as many as 4,000 machines around this country in just about every application you can imagine, schools, hospitals, etc. We have done about anything you can imagine. The thing about it is that it is a natural resource for the state. It's a natural resource that until recent years has been overlooked. As the fuel prices went up and the need for cheaper fuel was needed, geothermal became popular. We brought the first geothermal heat pump to this country that anybody has ever seen. One of the first jobs we ever did was at Buxton, ND. That job is still running today. It is basically a simple system. The sunshine's on the earth, the heat is stores in the earth. Unlike wind power it is stored and can be used whenever you need it. It can be taken out and used. You can heat with it. You can air condition with it. The way it works is real simple. Heat travels from hot to cold. The sun shines on the earth. The temperature of the earth is about 47 degrees. What we do is drill holes in to the ground. The first thing we do is determine the heat load of the building or air conditioning load, whatever is the greatest is what we work with. We determine the load and go out and drill us a little field that is capable of giving us that many BTU's. Then the system is designed in the building. Heat travels from hot to cold. When we

want heat we circulate a water solution through a series of pipes. When we design the field we put in a predetermined amount of pipes to obtain the BTU's that we want. We circulate the solution through the pipes at a predetermined speed. This loopfield is all fused together. There is no mechanical joints under the ground. It's all an open cell pipe. If it's not dug into or destroyed by man it will last forever. It's embedded in the ground, the hole is drilled, we insert the pipe, and then we grout the hole shut with a special type of grout that lets us obtain or reject the heat. We also work a lot with the health departments with the state because we have to take care of the pollution. We can't have any pollution. The idea is that once it is put in you can't dig into it. You can still use the land for landscaping, parking lots, whatever you want to do on top of it. Once it is installed it is filled with a solution. The antifreeze is put into the system is not to keep the system. It is a refrigeration system. The easiest way for you to understand this is everyone has a heat pump in their house. You put a pitcher of water in the refrigeration. The refrigeration senses that the reason you did it was to cool it off. The refrigeration system starts up. The heat is extracted from the water in to the evaporator that is in the walls of the refrigerator. It is taken to the condenser. We want that heat to heat the building. We create the loopfield big enough to give us enough BTU's to heat the building. When it comes to air conditioning, all we do is reverse the cycle and take the heat out of the building and reject it into the ground. Heat travels from hot to cold. In the winter we send the water in the ground to warm it up then take the heat away from it. That is basically the way the system works. The thing about geothermal is it is costly because it has a higher first cost. Inside the building the machinery and everything that takes inside the building is basically the same whether it is geothermal or conventional. The difference in geothermal is the loopfield. The loopfield is the heart of the system but it has to be installed in its entirety immediately so you get a higher first cost. The payback is so fast and that is what makes it attractive to people.

The easiest way to tell you is if you lay down a dollar to create heat. Any type of heat that you create, 70% of that dollar goes to create it with fuel, wood, or whatever you might use. 30% of the dollar goes to get it where you want it. You don't have to create anything. The sun shines on the earth and fills the tank. Probably one of the biggest things in geothermal is the simple fact that it is pollution free. It's renewable and everybody's got it. It will always be there. Once you overcome the first loss, if you are going to build a building you go out and I'll give you a bid for my complete system. When you pay me all you have to pay is the light bill to run your equipment. Go to the gas man and tell them that all you want to pay is the electric bill and you keep the gas tank full. I could put 10 systems in for you for what one of his systems would cost. A lot of people are concerned with a payback. It's a big thing but you have to look at it this way. If you were going to build this building a speculation and intended to sell it, It had a 15 year payback and you wanted to sell it in 10 years you would be concerned because you wouldn't be getting your money back. You are going to build this building and say it has a 15 or 20 year payback. That building is still going to be there 120 years from now so still have 100 years to profit from the ability to get the heat in a cheap way. We've got many systems in. I can give you some examples. We just did the Circle of Nations in Wahpeton. We did 9 buildings and a dorm. The whole campus is geothermal. Their annual savings is about $125,000 a year. We've did many big churches and schools. The second biggest job we ever did was in Wahpeton, ND at their middle school. It had a 5.2 year payback. It's 19 years old today. Ottertail kept track of it to the last dollar. Basically it is a 58,000 square foot building. We got a reduced rate because there is a generator there. We pay 2.2 cents a kilo to operate it. It's the same today as it was 19 years ago. Nothing has been changed. We heated the building for 15,400. We saved $39,800. We have done that every year ever since. That building is 70 degrees year round. The article said that in 5.4 years we reached our payback point. Basically

they had 15 years that they didn't have to write out a $40,000 check. That system has saved the Wahpeton school district almost a half million dollars. We do all the maintenance to the system. In the 19 years their maintenance bill has been less than $3,000. A couple of them were to repair pipes and stuff. Another thing is that people don't like heat pumps because they need compressors. One thing about it is it is an evaporative system. You have to design the system so you have enough of the loopfield. That is a real important part. What has been happening through the years is that manufacturers like to sell their equipment. If for some reason or another they have to reduce the cost of the system, they like to take it out of the loopfield and that is not the way to do it. You lower your condensing temperature. It's an evaporative system, the compressor can't pump liquid so consequently it just simply runs out.

Representative Kerzman: Looking through some of the testimony you said it's like a 20-21 year payback. I've never heard of such a long payback? Most of the time it is 7-10 years. Is this a special system? Why is the upfront cost so high?

Charles Falk: I'm with you for the simple fact that it is probably going to be closer to 10-12 years. We have lots of systems in. In a normal house system we very seldom see a 3-4 year payback. Most of the big churches we do are 6-7 year paybacks. I think in my mind that you are going to see a payback a lot sooner than 20 years. Depending on what the conventional system costs, depending on what the difference is between the conventional system and the geothermal system. We figured it out to the point where you are saving about $135,000 a year. You can figure it out from that as to what your payback is once you know the difference between the conventional system and the geothermal system.

Representative Kerzman: Just to answer Representative Ekstrom's question on the ambient temperature. Ours runs between 50-55 pretty constantly. We have no problem pulling 10 degrees out of that.

Representative Nelson: I don't know if you know the answer to this question. About the assumptions that were made regarding their payback, I would like to know what those assumptions were and how they determine that 20 year payback.

Charles Falk: I wasn't in on this, you would probably have to ask Norris or get it from the engineer. We were told that is what they came up with. It seems like an awful long payback to me.

Representative Nelson: We have a little history with the Veteran's Home and this new project. Most of it isn't good as far as cost over runs and stuff. I'm curious because obviously you have been there and done an analysis based on square footage. When we look at the $3.2 million appropriation what confidence level would I have that we are going to meet this. I don't know the last time we met one there.

Marlen Galde: I never really got down as to how they are doing. My expertise are in the loopfield. We do the inside in a lot of cases. In this case I have been only working with the loopfield. The prices that are coming in from the loopfield seem to be right in line.

Representative Nelson: So the amount of wells that is required for the square footage that we are talking is your expertise in that area? And the compressors and distribution inside the building, are you involved with that as well.

Marlen Galde: That is up to the mechanical people.

Charles Falk: It's renewable and pollution free. It's available to everybody and it's always going to be there. The thing about it is that wind power has a lot of subsidies that help to get it. When we first started the power company's wanted it. They gave a little rebate to put it in. Everybody was putting it in like crazy. People like to get something for nothing. Even if it is just a little bit. The government now in the last energy bill has come up with some facts that they are going to give us up to a 30% up to $2,000 per job if it's put in. If you do it in your house you

get a $2,000 federal tax credit. We got their attention. They are starting to do it the right way. I think you are going to see more and more of it as time goes by. The more energy stuff they talk about geothermal is becoming a part of that now.

Marlen Galde: We were asked to come out here to testify by the board for the Veteran's home. We are more than happy to do it even though we did bid the project and we weren't the low bidder on the geothermal side of it. We do believe in the concept and the future of geothermal is a very worthwhile investment as it's going to have long term benefits as far as saving energy. It's very worthwhile whether the payback is 5-6 years. It's still a good long term investment. Thank you for the opportunity.

Mark Johnson: Testimony handout (Attachment B)

Chairman Pollert: I would really like to see that number. If we are going on a 20-22 year payback, then we are going to build a brand new prison on brand new ground. If you remember our discussion, with the prison, after 20 years it pays to build new on new. That's not politically popular but 20-22 years seems like an awful long time for a payback. I think you are going to get a little opposition on that.

Representative Bellew: In your bid for the new building was your heating system included in that?

Mark Johnson: Yes. We have a conventional heating system. To answer your question in regards to your heating system and the costs of the system, this is something that we have worked diligently trying to screw down the architects and the number of oil fields. The situation we run into is initially when they propose the system it came in at about 436 wells. During their research when they are looking at the square footage requirements and how they were going to heat the facility. Then they look at all the makeup air. One of the things when you have a nursing home is that you have so much air being taken out. That is our biggest problem. We

need to be able to heat that air. Because of the cost of having to have the ventilation problems, that is why they had to increase the size of the loopfield. That is why it went to over 700 wells. This is something that we have truly argued with the architects and engineers about wanting the field as small as they can. We have wanted their recommendation based on all the loads that they look at for the entire building. The other piece to this is that we are also basing the costs of this oil field on today's rate. When Ottertail changes their rate for electricity it's going to take that period of time and make it even smaller for us as far as payback period. The other piece that I have not talked about yet is Ottertail is coming out with a rate incentive program. I don't have the details from the rate incentive program because it is going in from 2010. They will be paying off dollars towards that system because it is a renewable energy. It's a rate structure that they are in the process of calculating this time. That too will also play into this. We wanted this thing to be down around 15 years because we have found also that there is a program through the state that if we could have had the system at a 15 year payback. You could have entered into a loan program. It is a program that the state has through legislation. They have everything else but you don't have to come to the legislator for it. It's just an automatic system that you can apply for. We wanted to look at the 15 year payback because that is something that will happen. We have looked at this very hard. We have questioned our engineers and it really truly comes down to the makeup air and losing all that makeup air.

Representative Ekstrom: The federal government is working on an economic stimulus plan. I believe there is some money in there for energy conservation projects. I know that the money is not here and it is not finalized. Could you have someone do some research on that to see where that might be standing and whether or not we might be able to get the money for this project out of there?

Mark Johnson: We have posed the question to the ND delegation. This is something we will continue to research and hopefully we can get some more dollars from them. It goes back to timing. One of the things is that it's not like we are going to shelf it and not look at how we can pay for the system faster. We are going to continue to be very good Stewarts and find other programs that we can get money from. I don't know what we are going to pay back on the system. Hopefully that is going to be some substantial savings that we are going to see. There is a $75,000 grant from the state of ND from the Commerce Department. We do have that question at the delegation level. I think some of the things with the new president, I heard one of his speeches during the campaign and he talked about renewable energy. He talked about geothermal. I'm sure that this might be one of his big things that he is going to be looking at.

Representative Kreidt: A couple of questions if I may, Representative Bellew kind of led into it a bit but in your original building plans the heating system that was planned for that building, wouldn't that be an offset on putting in your geothermal if you had boilers and all of that. That is a cost. There would be an offset to this. Is that correct?

Mark Johnson: If I'm following your question, yes I believe.

Representative Kreidt: So you never did the numbers to see?

Mark Johnson: This is the additional cost.

Representative Kreidt: So you are offsetting your boilers and all of that?

Mark Johnson: Yes.

Representative Kreidt: The gentleman alluded to the fact that it was 70 degree heat for cooling and heating. Is there an additional expense? We all know that in nursing facilities 70 degrees isn't going to cut it. More like 78 or 80 is what a typical resident likes the temp set in with their room or in the hallways. Is there an additional cost or how do you accomplish getting the temperature like that out of the geothermal?

Mark Johnson: First of all I'm not an engineer. I'm going to tell you what I understand about geothermal. It's already heated because the earth is at 47 degrees. You are heating that other piece up. You are heating that additional for your intake air and all that other stuff. You are going to have some additional costs to take that up 10 degrees. When they looked at calculating out the payback that is some things that the engineers looked at. We weren't just looking at a 70 degree building.

Representative Kreidt: In a traditional nursing facility you have alternative sources. If gas goes down you probably switch over to diesel or electric because you have to have continuous heat in the facility. Is there a possibility of breakdown here or do you have an alternative source? If a compressor goes out in the area do you have extra compressors on hand that you can quickly install so you don't wind up having the temperature in some rooms cold.

Mark Johnson: The way that they looked at designing the building to my knowledge is that they actually isolated this into three different zones. One area is going to be heated by different wells. You are always going to have heat within that building. We certainly have the backup and I think we are looking at electric.

Chairman Pollert: So the geothermal is on top of the regular heating system. It's not a substitute.

Representative Kerzman: The system that I am familiar with, you can put supplemental heat on top of that if you need to. I doubt if you need to because what you do is put it in the zones and use a backup compressor and a backup pump so you can always switch from zones to zones. The only thing you would probably need is a stand by generator. If the electric power went down you wouldn't be able to operate the pumps and fans and blowers.

Chairman Pollert: I didn't know on the building project if you look at whatever a conventional heating system is versus the geothermal. If you see where I'm going, did you look at that so we

had that comparison? Are you just requesting the geothermal with the building system so that is just going to be systems. You don't even want us to consider the conventional heating system.

Mark Johnson: Right now we would like to see the geothermal system. We did have comparison numbers that were pulled from the architects from our engineers. They basically talked about the cost savings that we could look at for the size of the building.

Chairman Pollert: I don't want to get negative here but last session we had a lot of architects in here and we were led down a road that was pretty ugly. It's still ugly today, I want to support the project. I don't want to make bad decisions like we did. We really should have been more conservative how we were doing the project. If we would have been more conservative and some people not worrying about photo opportunities we would have had a good system lined up. I hate to be rude but that's the truth. I just want to make sure we make a good decision on this. If we go two years from now this is going to really get ugly and it's bad enough already. I just want to make sure we make the right decisions. I'm not saying that is your fault because you went with the decisions you had at the time. I just want to make sure we make the right decisions this time.

Mark Johnson: Through this whole process we have not tried to steer anybody down any wrong roads. I think that if anything this has been a never ending story. Unfortunately it seems like when we have gone so far another door closed and then we had to reroute and kind of go another direction. This has been truly an extremely difficult process for all of us. I didn't plan to have a safety code violation in October that threatened to close our building.

Chairman Pollert: If you remember this section supported you 100% and when we went in front of the Department of Health.

Mark Johnson: There is a lot of things that have happened. As we looked at the process and then having the direction by the VA to change directions and meeting all the VA requirements, trying to get additional funding, coming in front of your committee, I think we have learned a lot. We know that we have come in and asked for additional dollars. It is the process that has been frustrating.

Chairman Pollert: I understand that. It has been very frustrating for everybody involved. Do you know the Senate bill that this is in?

Mark Johnson: Right now our budget number is 2007. 2025 is the Senate bill that looks at doing the building. I know that there has been discussion that they are looking at also incorporating SB 2075 into SB 2025. We will be meeting with that committee after this meeting. There has been discussion that they have talked about moving both this bill into that as well.

Chairman Pollert: I have had discussions with Representative Metcalf and the chairman of House Appropriations. I think that is important to just so when you come forward to the house side we are probably going to be asking a lot of questions again.

Representative Kreidt: In a way this pertains to this bill. I know you are rebidding the project. It was supposed to open at the end of this month, has it happened?

Mark Johnson: We had the bid as of yesterday and actually the numbers had came in. We saved approximately a little over $2.5 million. There was another issue that we had with one of the bills. When you look at the bill it is going to have a decrease of about $4 million.

Representative Kreidt: You had asked for another $12 million to cover the additional costs? So that would be a deduct off of that $12 so you would be looking at another $8 million? Is that the way it is going to shake out?

Mark Johnson: That was without the geothermal in it and also the other stuff. When you combine everything it is pretty close. It is going to be right around a little over $12 million with

everything back into the bill. If you truly look at 20-25 it would be a decrease of about $4 million.

Representative Nelson: Explain to me the situation. The gentleman said that they weren't the low bidder .Has this project been bid already? The geothermal part? In that bid was that the wells and bringing it into the building or is that the total system?

Mark Johnson: What we are looking at this time is we saw a little over $200,000 decrease in the bids that we received for the geothermal well. That went down to right around $3 million.

Representative Nelson: That is with the compressors and the whole loop system?

Mark Johnson: Yes.

Representative Nelson: I feel this burn on the building project. The only reason I am even considering this is because I believe in geothermal as a long term solution to not only energy demand but from a conservation standpoint I think it makes a lot of sense. I have a question for you. Would this appropriation be a onetime spending item?

Chairman Pollert: There has been discussions of the chief sponsor of the bill to try to get this bill moved in to the Senate which Mark had adhered to. It is not my objection today to vote yes or no on this bill until we get conformation. We will not act on this bill for at least a week or so until we know whether this has been incorporated into the Senate bill on the other side. I personally would like to see it all in one package when it comes over. That has been my discussion to Representative Metcalf. If it's going to be one time funding that discussion is going to have to go on. I don't know if that has been.

Legislative Council: The one time funding is in the deficiency bill. That is one time.

Chairman Pollert: Is it considered one time in the deficiency bill? That is on the Senate side right?

Legislative Council: Yes its SB 2025.

Representative Metcalf: I really feel that this is probably the only way to go if we are going to make any changes here. If I were going to say anything at all about some of your concerns the changes that have occurred over the last two years of this bill being considered, every time we turn around the federal government has a change. The cost of construction has gone ridiculously high. I think Mark Johnson has put out some information showing that the cost per square foot on this particular building with the geothermal is very little. I think the last I looked at it was about $4 a square foot higher than most comparable construction facilities which is really very little when you think about it. There is a lot of things, and I don't think with any stretch of the imagination we should put the blame on what has happened on to the Veteran's home or the administrators. They have done everything they possibly can to meet the requirements like I'm talking about. The federal government has come out and basically required the architect to redesign the bill because in their wisdom they have come out with a new method of providing housing for veterans that they want to put across the whole nation. It just so happened that we were building at the time that they wanted to do this and said ok if you want our funding this is what we want from you. The architects had to go and completely design another building. Nobody here realized that any of that was coming so I would hope we could consider those.

Chairman Pollert: One of the questions would be that we did talk about trying to get this bill put in on the Senate side. We are not going to act on this bill today to see if it happens or not, is that correct?

Representative Metcalf: That is absolutely correct. We have verified that with the Senate and they are attempting to go that way.

Representative Nelson: Although it may appear that my displeasure is directed at the Veteran's Home it's not. I just feel burned by the whole process. Had we known last session

what we know today, I would have been on board with building the new Veteran's Home with 100% state funds rather than getting the federal government involved in this. From this day forward not only do we have cost overruns we have a budget that has 25 additional FTE's. We have got the state of ND to be paying for in addition to the staff that is currently employed there for the rest of eternity. That is going to come out of the general fund budget that we didn't consider that last session. We didn't have any of this information. I know it's not your fault but the dollar figure doesn't change.

Mark Johnson: Just to talk a little about the piece when you talk about the 25 FTE's. One thing you have to understand is we are a 24 hour operation. We have to staff 24 hours. We are increasing the nursing home size 14 beds. You have to meet that patient mix as well. In the square footage that we are looking at. That answers that piece. Another piece that we look at is when we start looking at the deadlines and I know when we come over to your committee we will be asking to help push this bill forward, we have about $14.4 million at stake that we are getting from the federal government. If the state would have done the project and they wouldn't have met some of the VA requirements we would not get the perdium. Right now the perdium that we receive from the VA pays for 1/3 of the residents care now. I think last session our bill was about $12 million. Out of that $12 million, $4 million is given to us by the VA for a biennium. You have to look at the funding piece because it is a huge piece for us as well. As Chairman Pollert had talked about, the VA came out with a new initiative and I believe it came out in May right after we were given the permission to do the bill. That initiative is what we are actually designing the building to do. It's the greenhouse concept and that is how the building has been designed.

Chairman Pollert: Can you please bring a report on what we talked about next time we meet?

Mark Johnson: Yes.

Chairman Pollert: We do want to support it. We are probably a little more cautious than what we were. I understand that the federal government was a lot of problems and I understand that.

Mark Johnson: One of the things that I want to say to relieve you as legislators. The building has been bid. Once we accept those bids our contractors are going to have to live up to those bids. Really where we go from here is once the dollars are funded we will award contracts. Right now we are in the period that the contractors all have to hold their bids for 60 days. I know Duane is our construction person and he is on the board. He can give you a lot more information about that.

Chairman Pollert: You said there are some deadlines here? Do you know what they are?

Mark Johnson: Right now we are in the VA 180 day extension period. That extension ends about the 15th of March. We have to have everything in the bill signed by about March 1 and that is what our goal is. The reason for that is we have a lot of paper work that we have to get to the VA. There are a whole bunch of acts that we have to cover.

Chairman Pollert: I'm just looking because recess is the 23 and 24th for crossover and you are saying we are supposed to have this acted on by Sunday the 1st?

Mark Johnson: It would be nice to have it even earlier if we could. The issue we have is that we have $14 million at stake.

Chairman Pollert: I understand that. We aren't going to get everybody to get here during cross over just so you know. I don't know if we are going to have time during cross over to have time.

Duane Ternes: I am a retired general contractor serving on the board. I apologize for being here. This is not a good opportunity. I have met some of you when I didn't want to meet you but it's all good. I am trying to clear up the question that keeps coming up. I will start with the

contract. The contract of bid letting is the base bid including the geothermal. Norres and I along with others wanted the geothermal. We insisted that the base bid is in there. The geothermal is in there. The alternate was to take it out. The number you see for the geothermal was a deduct alternate that we have taken away from it because we are trying to show you that we are trying to get you the lowest price we can to build this building. Not always the right way. We could have taken out 2X4 tile and put in cheap tile. We chose not to do so. If it would have been our choice we would not have had an alternate deduct for the year. You wouldn't have seen this in front of you. You would have seen the first number and it would have been $2.5-3 million more. The architect is somewhat unfamiliar with geothermal. That is where it ended up. As you see it, the base bid, does have the typical conventional system. It's in there complete. Again if we would go to the geothermal it is 100% complete all the way through. There is nothing hidden.

Chairman Pollert: We do appreciate when you come forward. Generally we learn something.

Duane Ternes: The payback system is the only thing that we have to talk about and that is kind of misleading. We are all talking about the payback system in this 20 year period. We rebid it and it came down. The numbers that you are going to see later is going to be a little better. We could probably get it underneath that 20 years for sure. That is unfair. The conventional system to do a nursing home/veteran's home has more to it than a regular system. The payback system to this is not the same as a conventional system. It is being very unfair to this system. This system is probably 7-10 years as was stated. I do own some buildings that I have that in and I paid $450,000 more on a $2.5 million building. I'm sure glad I did it. I'm only going to own it for 10 years. I'm still glad I did.

Chairman Pollert: Someone is going to carry this bill to the floor. He has got to be able to answer the questions on the floor because there are other people that have a lot of questions. We want to be prepared so we know where we are at.

Duane Ternes: We have found things that we have taken out of it and certain things and got the numbers down along with just the fact that we had bided at the very peak and now the numbers have gone down since then. Contractors are a little hungrier. We picked up enough to pay for this. I appreciate it.

Representative Nelson: What was the original conventional source of heat?

Duane Ternes: The conventional system I believe is still oil or maybe electric. The generator that we have to use may still have to fired up with oil. There is something there about oil.

Representative Nelson: It's not a big deal I was just curious as to what the comparison was done with.

Norris Braaten: I want to make one statement to explain what happened in the 2007 session to today. We had to ask them to come make the explanation to the Senate Appropriation committee. We have that in writing. Would it help if we assisted you in copies of that?

Chairman Pollert: Closed hearing on HB 1267. No action taken today.

2009 HOUSE STANDING COMMITTEE MINUTES

Bill/Resolution No. HB 1267

House Appropriations Committee
Human Resources Division

☐ Check here for Conference Committee

Hearing Date: 2/9/09

Recorder Job Number: 8969

Committee Clerk Signature

Minutes:

Chairman Pollert: Called the meeting to order and took roll. We have already heard the testimony on HB 1267. I will start asking anybody for discussion.

Representative Metcalf: We have been discussing this bill with the people who know about and have some input into it. Basically I have one question. How much do you want me to go into this before we come up to the actual motion?

Chairman Pollert: I think it would be appreciated if you would give us a little bit of background. I know you have had numerous discussions about it. You can give a little update and what your plan would be if you want to before the motion.

Representative Metcalf: In my opinion this is not a side by side operation. It is something that we are trying to accomplish for our veteran's. The only thing I want to talk about is the geothermal part of this bill. That is the bill. Right now the cost of the geothermal has been reduced because of the rebidding they accomplished here about two weeks ago. The cost is $3,039,414. That is the cost of the geothermal only. If for some reason, the geothermal is not left out, there is nothing that is added on. I have been told this by several people. There is an electric heating system that is scheduled to be going in there. It will go in with the geothermal. That will give them two heating systems. The cost will not change except for the reduction of

the main cost of construction by $3 million. The cost of construction, basically the way it stands is $32,805,000. That has been reduced about $4 million.

Chairman Pollert: So when you talk about the $32 million that is without the geothermal figure or with?

Representative Metcalf: That is without the geothermal. With the geothermal it is $35,845,000.

Chairman Pollert: Do you have what we appropriated last session? As long as you have it for the full appropriations committee.

Representative Metcalf: What we appropriated last session was $6,483,226. That was state appropriation from the general fund. The federal fund was $12,040,278. In addition to that we have a bonding. This has to carry through because of the federal government basically won't accept the fact that we need 150 beds. They have us allocated at 121 beds. We have to bill the other 29 beds with general funds. The intention to do that is to bond for that because then it can be paid out of the nursing home operation.

Representative Wieland: The estimated amount of bonding will be?

Representative Metcalf: The amount of bonding will be $2,575,152.

Chairman Pollert: Can you give me the general funds again?

Representative Metcalf: $6,483,226. That was for the 07-09 period. The total general fund at this particular time with the geothermal is $18,585,765. That includes the building itself, the outside landscaping, and the geothermal. You add to that from the federal government, $14,684,182 which is federal. The bonding figure I gave you before. Those three figures will give you $35,845,099.

Chairman Pollert: Can you give me that total general funds needed to $18 million again?

Representative Metcalf: The total general fund which includes the funds from last session is $18,585,765.

Chairman Pollert: So SB 2025 is the deficiency appropriation that will be coming over to the house shortly, what is your idea on SB 2025?

Representative Metcalf: The intent to get this building structured and built is to take SB 2025 and take the money that we have requested for the solar geothermal of $3,039,414 and add that into SB 2025 so it will all be on one bill. The intention there is also to add in the $1,118,000 for the landscaping.

Chairman Pollert: The landscaping and exterior is in a separate bill?

Representative Metcalf: Yes it is in SB 2075. However, the last I heard was the Senate was thinking of cancelling that bill and throwing it all into 2025. I don't know if they accomplished that or not.

Chairman Pollert: What I understand is SB 2075 is not necessary as far as deadlines for anything in case the senate passes it over to us. SB 2025 with the geothermal, both of them have deadlines.

Representative Metcalf: Yes.

Chairman Pollert: The deadline is March1 to be signed by the Governor and the geothermal has to be signed by the 15th or so, are those dates correct?

Representative Metcalf: I would probably have to check on that. To me, they would both have to be done at the same time.

Chairman Pollert: That wouldn't matter because it is going to be thrown into that. What is your plan with HB 1267 and how it would be thrown into SB 2025?

Representative Metcalf: My plan with HB 1267 would be to kill it with the idea that the costs of this construction of the geothermal will be added to the construction of the 2025 which is the construction of the main building. I guess that is my thought on that and I have a good feeling. If we decided to kill it, it will go to conference committee. We will take this to the conference committee and fight to take the geothermal added into there.

Chairman Pollert: You are thinking of bringing forward a do not pass motion. When SB 2025 comes over here, then your intentions to take HB 1267 to $3,035,000 and have that as an amendment to full appropriations to add on the 2025. The senate either agrees or goes to conference committee.

Representative Nelson: Do you remember what the emergency appropriation that was added to the general fund expenditure that we passed last session? There was an emergency appropriation this summer.

Lori Laschkewitsch: That's not from the general fund. There was just $190,000 from the emergency commission fund which will go back to the emergency commission because it won't be used by the end of the biennium.

Representative Nelson: As far as understanding the general fund appropriation of 07-09, the $6,483,000 will need the additional $12 million is what will be needed to meet our obligations?

Lori Laschkewitsch: That is correct. The $6.4 million is from the Oil Trust Fund.

Representative Wieland: Just so I have the numbers, as I understand it now the federal dollars that are going into this project have been increased by some $2.6 million. It is now going to be $14,684,182. We are going to bond for 29 beds at $2,575,152. The states share will be $18,585,765 which will include the geothermal?

Representative Metcalf: That is correct.

Representative Kreidt: The federal and general fund and the bond includes the geothermal now?

Representative Metcalf: The geothermal is included in a figure of $35,845,000.

Chairman Pollert: That is if the exterior bill from the Senate will be added to 2025. SB 2025 has not been acted on by the Senate yet as of this morning. Is there any other discussion? Anyone want to make a motion?

Representative Metcalf: I would move to defeat HB 1267. The intention is to take the funding that is necessary to complete HB 1267 and add it to SB 2025 for the final construction of the Veteran's Home.

Representative Wieland: I Second that.

Chairman Pollert: Is there any discussion? Representative Metcalf have you had any other discussions with the other sponsors so they know what we are trying to accomplish here?

Representative Metcalf: Yes I have talked to Senator Dever. He is well aware of that but I haven't talked to any other individuals.

Chairman Pollert: Any other discussion? We will take the roll. HB 1267 does not pass with a motion of 8-0-0.

2009 HOUSE STANDING COMMITTEE MINUTES

Bill No. HB 1267

House Appropriations Committee

☐ Check here for Conference Committee

Hearing Date: February 11, 2009

Recorder Job Number: 9279

Committee Clerk Signature

Minutes:

Chm. Svedjan took up HB 1267.

Rep. Metcalf will be carrying the bill. **Rep. Metcalf motioned for a Do Not Pass. Seconded by Rep. Pollert.**

Rep. Metcalf: Fighting on the other side of the chambers whether the geo thermal heat system for veterans home. We felt if we had it in one bill. The construction of the home itself; and then the heating system and add some other things. I would like to have this added in. We will put it in SB 2025. Any questions regarding the geo thermal?

Svedjan: It will be folded into the budget or into the other bill?

Rep. Metcalf: The other bill that has to do with the construction of the home.

Pollert: I think 2025 was passed from the other side. We have to act on 2025 before crossover. Geothermal will be added to SB 2025.

Pollert: It has to be signed by the Governor by March 1.

Svedjan: You're tracking the bill.

Pollert: Yes, but I will need some help to get it over so we can get scheduled.

Svedjan: If this happens before crossover I need to know.

Vote: 23 Yes 0 No 2 Absent Carrier: Rep. Metcalf

Hearing closed.

Date: 2/9/09
Roll Call Vote #:

2009 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1267

House Appropriations Human Resources Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number

Action Taken do not pass HB 1267

Motion Made By Rep. Metcalf Seconded By Rep. Wieland

Representatives	Yes	No	Representatives	Yes	No
Chairman Pollert	X		Representative Ekstrom	X	
Vice Chairman Bellew	X		Representative Kerzman	X	
Representative Kreidt	X		Representative Metcalf	X	
Representative Nelson	X				
Representative Wieland	X				

Total (Yes) 8 No 0

Absent 0

Floor Assignment Rep. Metcalf to full approp.

If the vote is on an amendment, briefly indicate intent:

Date: 2/11/09
Roll Call Vote #: 1

2009 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 1267

Full House Appropriations Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number —

Action Taken Do Not Pass

Motion Made By Metcalf Seconded By Pollert

Representatives	Yes	No	Representatives	Yes	No
Chairman Svedjan	✓				
Vice Chairman Kempenich	✓				
Rep. Skarphol	✓		Rep. Kroeber	✓	
Rep. Wald	✓		Rep. Onstad	✓	
Rep. Hawken	✓		Rep. Williams	✓	
Rep. Klein	✓				
Rep. Martinson	✓				
Rep. Delzer	✓		Rep. Glassheim	✓	
Rep. Thoreson	✓		Rep. Kaldor	—	
Rep. Berg	—		Rep. Meyer	✓	
Rep. Dosch	✓				
Rep. Pollert	✓		Rep. Ekstrom	✓	
Rep. Bellew	✓		Rep. Kerzman	✓	
Rep. Kreidt	✓		Rep. Metcalf	✓	
Rep. Nelson	✓				
Rep. Wieland	✓				

Total (Yes) 23 No 0

Absent 2

Floor Assignment Metcalf

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1267: Appropriations Committee (Rep. Svedjan, Chairman) recommends **DO NOT PASS** (23 YEAS, 0 NAYS, 2 ABSENT AND NOT VOTING). HB 1267 was placed on the Eleventh order on the calendar.

2009 TESTIMONY

HB 1267

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HUMAN RESOURCES COMMITTEE HEARING
THURSDAY, JANUARY 27, 2009
HOUSE BILL 1267

Chairman Pollert and members of the Human Resource Committee, I am Norris Braaten, Chairman of the Governing Board of the North Dakota Veterans Home and I am testifying in favor of HB#1267.

Our proposed construction for a new 150-bed facility for the NDVH has the option of installing a system that incorporates a renewable source of heat and cooling and we have the opportunity of installing a system that is the most energy-efficient, environmentally clean, and cost effective space conditioning system available according to the Environmental Protection Agency. Its source is totally renewable as it taps into the earth for its energy with a well field and provides heating and cooling and is controlled at each location.

Our board has a keen interest in a complete explanation of the Geothermal System and I am personally acquainted with Mr. Charles P. Falk as he and his brother were pioneers in this field since 1979 in the City of Hankinson. As my residence and business experience have been in the same city, I am aware he has unique qualifications and the knowledge to accurately explain this system. He has prepared the testimony that will be presented by Marlin Golde, a member of the firm. During the testimony you may request additional information or at the conclusion of the testimony Mr. Falk will be available for any questions for explanation of the system. Chairman Pollert and members of this committee, I present Mr. Marlin Golde.

HUMAN RESOURCES COMMITTEE HEARING
THURSDAY, JANUARY 27, 2009
HOUSE BILL 1267

Chairman Pollert and members of the Human Resources Committee, my name is Mark Johnson, Administrator of the North Dakota Veterans Home.

During the last year we conducted research and found that a geo-thermal heating system for the new veterans home will save the State money.

Geo-thermal energy is one of the best natural energies around. The geo-thermal system proposed has many advantages including lower maintenance costs than a conventional system, no outside equipment exposed to weather or vandalism, and the system does not create pollution. No fuel is used to generate the power, which in return, mean the running costs are very low as there are no costs for purchasing, transporting or cleaning up of fuels.

The obvious drawback is that the system has a large up-front cost. Although the up-front costs seem rather large at $3 million, the system is scheduled to pay for itself in 20-21 years. The engineers have projected that the system will save the State approximately a quarter of a million dollars per biennium by using the earth to heat and cool the new building. At a recent meeting with Ottertail Power Company, we were told that the new system will qualify for a renewable energy grant. The program is scheduled to start in 2010, the first year the building will go into operations. We do not know the full impact of Ottertail's program at this time as they are still working it out, but it will give the State an additional payback on the system.

In closing, although the system pay back is 20 years, the long term cost savings are un-measurable. The geo-thermal system will be here for the life of the building, with minimal long term maintenance costs. The State of North Dakota has already proven their desire to be a leader in the nationwide push to go green by using geo-thermal systems in several other facilities, so why not continue the leadership by putting geo-thermal in the veterans home? A geo-thermal system will provide an excellent source of clean, cheap, simple, renewable power.

Thank you for allowing me to speak and I will now take questions.

Respectfully submitted

Mark B. Johnson, Administrator
North Dakota Veterans Home

HUMAN RESOURCES COMMITTEE HEARING
THURSDAY, JANUARY 27, 2009
HOUSE BILL 1267

Falk Groundsource Tech., Inc.
PO Box 277, 502 N. Main
Hankinson ND 58041
701-242-7252
Fax 701-242-7338

Chairman Pollert and Members of the Human Resources Committee,

Introduction to Ground Source Heating and Cooling systems.

One of the most valuable, natural resources known to man.

Our state is very fortunate to have many valuable energy sources, such as our vast amount of coal, oil, and wind energy. But one of the most valuable energy sources has been virtually overlooked until recent years. This resource is known as Geothermal Energy.

The resource is a result of energy created by the sun and stored in the surface of the earth, which is readily available to be used. The energy is obtained from the earth by the installation of a series of specially designed loop fields, which are constructed by drilling holes from 100 to 300 feet into the earth and installing specially designed loops in the drill holes. A predetermined number of loops are installed for every ton of equipment needed to heat or cool a building.

After the ground heat exchanger is completed, a premixed solution of water and food grade propylene glycol is circulated in the system to take the heat from the ground in the heating mode or reject heat to the ground in the cooling mode. The premixed solution is then circulated to the building equipment, which consists of units similar to a refrigerant system. This system removes the heat from the solution and delivers it to the building. In the air conditioning mode, the process is reversed.

Our Geothermal Experience History

We first became involved in geothermal systems and purchased our first machine on August 18, 1979. We were primarily the pioneers in cold climate geothermal systems in the upper Midwest. The original geothermal systems were developed by a physics professor from the University of Ohio and were primarily developed for air conditioning in southern climates. Soon after, patent was sold to a large heating and cooling manufacture by the name of Fredrick. Many systems were produced and installed over the first few years. As a result, they reached a saturation point. At that point some one came up with the idea to reverse the system, create a heating mode, and use it to heat buildings in colder climates. The geothermal system is the most efficient system known to man.

It is commonplace to see efficiencies of 70% over conventional fossil fuel heating systems. All heating sources are measured by a system known as COP (Coefficient of Performance). Electricity is 1 COP. Fossil fuel is around from .70 to .90 COP. Geothermal is 3.5 COP. For every $1.00 invested you will receive $3.50 in return. One of the most common examples is when you are calculating heating costs. You invest a dollar, 70% of that dollar goes to create the heat, 30% goes to distribute the heat. The hardest part choosing to install a geothermal system is the first cost. Inside the building the cost are much the same as a conventional system. The difference in the systems come in creating the heat source known as the loop field, which must be paid for upfront. After the payback is reached the only cost to the owner is the electrical cost to operate the system, which is about 30% of the cost of a conventional system. In today's world of global warming, one of the most important factors, that is never mentioned because it basically has no dollar value, is the fact that it is pollution free, totally renewable, and available to everyone.

In our past experience, we find that the maintenance of the system is very low. If the system is installed properly, the life of the equipment is many years. A pipe

manufacturer and experienced and certified pipe installation contractor, warrants the loop field for 50 years.

At the present time we have about 2000 units in operation in Schools, Churches, Nursing Homes, Assisted Living Facilities, Malls, Residential Homes, large Commercial Buildings, and Shops. One of many examples is a school, Circle of Nations Indian School (Wahpeton, ND). We installed geothermal in the entire campus. It was installed in 2007. The school has saved about $135,000 a year. The Wahpeton Middle School was built 19 years ago and we have not had to replace any of the heat pumps from the time of installtion.

Advantages for the installation of the geothermal system in the new North Dakota Veteran's Home.

The number one advantage is the estimated annual savings of $135,000 per year.

2. Long term cost savings.
3. Low maintenance.
4. Year round climate control.
5. Individual room temperature control.
6. Equipment reliability.
7. Loop Field area may be used as an outdoor activity area or parking lot.
8. Because the energy source is underground and out of sight, it improves the appearance of the property.
9. It is a renewable source of energy.
10. It is pollution free.
11. It is a more stable source of energy (ground remains a constant yearly temperature below 8')
12. No annual boiler inspections.
13. No on going boiler treatment.
14. You do not need a licensed boiler operator.
15. No fire in building.

16. Takes less floor space.
17. 60-70% savings over fossil fuels.
18. Price of electricity to run equipment is much more stable than fluctuating fossil fuel prices.
19. Better temperature control in building due to the ability of some units to be heating and some to be cooling simultaneously.
20. No heat leaves the building. Heat is moved around the building through the interior water loop. This creates the most comfort and stability and best efficiency.

Disadvantages.

1. System has higher initially cost because loop field must be paid for at the time of installation (total energy cost for life of system), although payback is achieved in a short period due to tremendous savings.

Do to the many long-term advantages and low cost operations the geothermal system would be an excellent choice for the new North Dakota Veteran's home.

If any additional information is required please contact our office at 701-242-7252. Much data is available at this time as to the performance to the systems if needed.

Thank you for your consideration.

Charles P. Falk
Falk Ground Source Technologies, Inc.