THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF SOUTH DAKOTA

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IN THE MATTER OF THE APPLICATION OF) EL07-002
BASIN ELECTRIC POWER COOPERATIVE, INC.,)
FOR AN ENERGY CONVERSION FACILITY PERMIT)
FOR THE CONSTRUCTION OF THE GROTON)
GENERATION STATION UNIT 2 PROJECT NEAR)
GROTON, SOUTH DAKOTA.)

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PUBLIC INPUT HEARING
TRANSCRIPT OF PROCEEDINGS

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Coco's Restaurant
Groton, South Dakota
February 5, 2007

COMMISSION STAFF:
DUSTY JOHNSON
GARY HANSON
STEVE KOLBECK

APPEARANCES:
JOHN J. SMITH, ESQ.
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REPORTED BY:
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CHAIRMAN JOHNSON: A hush has fallen over the crowd. So presumably, it's time to start.

You know, the most exciting part about being on the Public Utilities Commission is that, you know, we do rotate the chairmanship. And that means you get to read a really long script to kick off the meetings. There's a bunch of legalese that we need to do, so...

But before I begin, I'll make one more pitch that if you haven't signed in for the sign-up sheet, we would really love to have you do that. I think there's going to be some more coffee coming. And when that comes, feel free to get up and get that.

With that, we will now begin the public input -- I should mention, I'm Commissioner Dusty Johnson. Here tonight as well -- oh, we're going to hold on for a second.

I'll begin by noting that my name is Dusty Johnson. I'm serving as this year's chairman of the Public Utilities Commission. With me, also, tonight are Commissioner Gary Hanson and Commissioner Steve Kolbeck. We also have the commission general counsel, John Smith, as well as PUC staffers Keith Senger and Brian Rounds with us. So if you have any questions afterwards, we will all be around.

We will now begin the public input hearing for Docket No. EL07-002, and that's entitled the matter of the

application of Basin Electric Power Cooperative for an energy conversion facility permit for the construction of the Groton Generation Station Unit 2 Project near Groton. Today's date is February 5, 2007, and the time is approximately 6 o'clock in the p.m., and the place of this hearing is Groton.

This hearing concerns an application for a permit to construct a second 80 to 100 megawatt simple cycle natural gas combustion turbine generator adjacent to the existing Groton Generation Station, which is south of town here. The project is proposed to provide peaking power to serve projected member load growth.

The purpose of this hearing tonight is to provide information to the public about the applicant's proposed project, and also to hear -- and I'd say most importantly to hear public comment regarding the proposed project. Interested persons have the right to present their views and comments regarding the application, and we do sincerely encourage you to do so.

A copy of the application is on file with the Brown County Auditor. The public may also access the application and all other non-confidential documents in the file on the commission's website, and that's at www.puc.sd.gov. And that information can be found under the commission actions tab, and then by clicking commission

dockets, and then 2007 electric dockets, and then you'll just need to scroll down to EL06 -- or rather EL07-002.

Now, the parties to the proceeding at this time are the applicant, as we noted, Basin Electric, as well as the commission. Under South Dakota law, each municipality, county, and governmental agency in the area where the facility is proposed to be constructed or any interested person or entity may be granted party status in this proceeding by making a written application to the commission on or before March 6, 2007. It's about one month from today. We have applications available here this evening if you'd like to apply for party status. I would note that I have one up here as an example, and we also have a pile of them back by the, back with Keith there by the coffee.

For its permit to be approved, the applicant must show that the proposed energy conversion facility will comply with all applicable laws and rules, that the energy conversion facility will not pose a threat of serious injury to the environment or to the social and economic condition of inhabitants or expected inhabitants in the siting area, that the energy conversion facility will not substantially impair the health, safety, or welfare of the inhabitants, and that the energy conversion facility will not unduly interfere with the orderly development of the

region with due consideration having been given to the views of governing bodies of affected local units of government.

I should just note that the phrase energy conversion facility is mostly just a fancy word for power plant or power station. And you all know what's located south of town here at the Groton 1, the Groton 1 unit.

Based on these factors, the commission will decide whether the permit for the project should be granted, denied, or granted upon such terms, conditions or modifications of the construction operation or maintenance of the facilities as the commission finds appropriate.

We will begin the hearing by having the applicant make a presentation to explain its proposed project. Following that presentation, we'll take comments from any interested persons. And we, again, sincerely want to encourage members of the public to present your views.

And, again, everyone, I want to ask that you put your information on the sign-in sheets so we have a record of who attended the meeting.

I'll just make one other note here before we proceed. And that is if, when you do make comments, we would ask that you do stand. We'll get you a microphone so that you can be recorded. I'll also ask that you state your name and then the town or area, the township that you

live in. And we do have a court reporter here this evening. So I would ask that you state your information clearly and, and loud enough to be heard certainly. And if we need you to repeat something, we hope that will be okay so we make sure to get your comments on the record.

Dick Shaffer will be the spokesman here tonight for Basin Electric.

Mr. Shaffer, at this time, if it's all right with you, we'd ask you to introduce the others you brought with you this evening. And then at that time, you can begin your presentation.

MR. SHAFFER: Thank you, commissioner.

As they say, I'm Dick Shaffer. I'm the Basin Electric project coordinator for the Groton Generation Station. And with me tonight, the Basin Electric employees. I have Russ Mather, Casey Jacobsen, Daryl Hill, Curt Pearson, Jim Berg and Tony Skonhovd. Tony is actually the operations and maintenance supervisor at the Groton Generation Station. Many of you probably know him.

Also from, as local counsel from Lynn, Jackson, Shultz and Lebrun, we have -- sorry.

MR. STUCK: Haven Stuck.

MR. SHAFFER: Haven Stuck. I had Hable written down. Haven Stuck. And Chris Howell from Burns &

McDonnell Engineers has done some work on noise analysis for us. And then Tetra Tech, Bob Farnes and Bob Hammer who did the environmental assessment and helped us put the permit together and so forth. So...

We also have several people here from some of our cooperatives and so forth. I won't introduce everybody.

This slide may be familiar to many of you as a photo of Groton Unit 1 taken last summer from the highway.

During the next several minutes, I'll give you an overview of Basin's request to the South Dakota PUC for a permit to construct and operate a second GE LMS100 combustion turbine at the same site to be located just south of the existing unit. The unit will be capable of providing electric power for approximately 100,000 single-family homes.

Like Unit 1, the second unit will be fueled by natural gas from the Northern Border Pipeline that passes through Spink County. The ten-inch pipeline that Basin Electric built for Unit 1 is sufficient for the second unit. So additional pipeline construction will not be required.

This unit will be typically used as a peaking unit running during Basin's peak load demand, which is usually on weekdays during the summer and winter periods of extreme temperatures such as today. I believe it's been

running all day today.

The station will also serve as a backup to our other base load generation units and provide relief to the area when transmission constraints are in place. The total run time on the unit is expected to be around ten percent.

Before I go into the project, I'll tell you a little bit about Basin Electric. Basin Electric is a regional consumer-owned wholesale power supply, commonly called a G&T cooperative. G&T stands for generation and transmission. In other words, we produce and deliver electric power to our member cooperatives. Basin provides cost-effective wholesale electricity to 120 member rural electric systems in nine states.

Basin Electric's capacity last summer was derived from these sources. As you can see, the bulk of it was from our base-loaded large coal fire generation units in the, North Dakota and Wyoming.

This slide shows Basin's existing generation units with, starting out with the Antelope Valley Station in Beulah, North Dakota. Two 460-megawatt units.

The Leland Olds Station in Stanton, North Dakota, which is our oldest, oldest unit. There's a 220 and a 440.

Laramie River Station in Wheatland, Wyoming, which is three 550's.

And then in Vermillion, South Dakota, we have an

oil-fired peaker called Spirit Mound. There's actually, I believe, two units there.

We have several smaller gas turbines in northeast Wyoming on the coal bed methane area.

And then we, we own the Dakota Gasification Company, which converts lignite coal to synthetic natural gas. And it's located adjacent to the Antelope Valley Station. It actually delivers its gas to the Northern Border Pipeline, which runs kind of diagonally through North and South Dakota. And the Groton Generation Station actually takes its gas from that same gas line. So, in effect, we're burning some of the same gas we're manufacturing.

And then as of July, we've got the Groton Generation Station.

Not pictured on the previous slide are several stations where the combined capacity of 22 megawatts still are constructed along the Northern Border Pipeline that operate totally from waste heat generated by natural gas pipeline booster compressors.

And then we have some wind, wind energy. That's North and South Dakota.

Our system load is derived through its member cooperatives from several types of customers, including residential, both urban and rural, agricultural, commercial

and industrial.

As I stated earlier, Basin is a G&T cooperative with the goal of providing cost-effective electricity to member systems, including all the electric cooperatives in South Dakota. These member systems belong to a statewide organization called the South Dakota Rural Electric Association, which is directed by Audry Ricketts. She had planned to be here tonight, but was unable to make it.

These cooperatives distribute electricity through I've heard as high as two-and-a-half million. So I'm not exactly sure. Consumers.

Basin doesn't sell directly to rural consumers, but its control and direction starts with them. A ten-member board of directors elected by the system membership directs Basin Electric.

In South Dakota, Basin Electric supplies electric power to two Class A members: Rushmore Electric in Rapid City and East River Electric in Madison. Rushmore and East River, in turn, supply this electric power to their member cooperatives.

As an example, East River, which is directed by Jeff Nelson, supplies Northern Electric Cooperative, which is directed by Jim Moore, and is headquartered just east of Aberdeen at Bath. Northern then provides retail electric power to the customer.

Basin operates as a not-for-profit cooperative. Any electric revenues in excess of cost of service referred to as margins are returned to its members on a patronage basis.

Now, the reason that we are building more generation, this slide shows some of the major growth areas. Basin Electric has recently experienced significant load growth and record peaks in its service area. And this trend is expected to continue. A good share of the growth is due to the expansion of energy-related industries in eastern Montana and Western North Dakota. You've got ethanol, biodiesel, and just, just oil wells in general. Northeastern Wyoming, of course, is the coal bed methane and the coal mining in general.

I'll take a closer look at eastern South Dakota in East River's territory. This green line here represents the 2004 load forecast that was made in 2004. This red line represents the 2007 load forecast. So you can see when you get out here in 2008, 2009, we're starting to exceed our forecast for quite a bit. We're building some base-loaded, some large base-loaded generation, but it's not going to be ready for a few years. So we're trying to supplement it with some peaking capacity. And peaking capacity can always be used.

You can see some of the, some of the forecasts of

loads again there. The energy industry, the agriculture. And then the Sioux Falls area is expanding readily, rapidly.

Other major concerns are with the low water levels in the reservoirs. Hydropower is not as available as it once was. And in the event that Basin or one of the other large generators, coal-fired generators loses a boiler or a generator, we need additional capacity.

And then there's transmission constraints in the area, and sometimes a problem moving it into the region. As an example, the ice storms in Nebraska and so forth have raised havoc with some of our neighbors.

This is just a road map of the area with city of Groton and the site of the Groton Generation Station. See all of the transmission coming in and out of that site. There are actually two substations there. And then we've got about 12 miles of ten-inch gas pipeline that we buried, buried last year, in 2005, actually, coming off a 42-inch Northern Border Pipeline.

Then the, that site was picked because it offers good highway access - it's along Highway 37 - for delivering large equipment. It has good quality water available from Web Water that passes through the site. And then the transmission. It also causes minimum public impact by placing it adjacent to an existing industrial

site. And of course, the, the gas pipeline was designed for two units. So we have available gas there.

This is an aerial paragraph of the quarter section. This would be a half mile by a half mile. And the existing WAPA 115 kV station. Basin is a 345 kV station. Then before Unit 1 was purchased, Basin electric -- or installed, Basin electric purchased the remainder of that quarter section. Except there's an abandoned railroad grade here that we don't own. I think it's a 100-foot strip. But anyway, this is the approximate site of the generation station with Unit 1 on the north, and Unit 2 will be on the south.

This is, again is an aerial with a site plan laid into it with Unit 1 on the north, and then this is the proposed Unit 2. We propose to use the existing pond. We hardly put any water in it at all last year even with the heavy rains and so forth. And we have room. If we need to enlarge it, we can.

This represents a transmission line. We come out of the Unit 1 generator into the WAPA sub. What we plan to do on Unit 2 is just a short section of transmission from the generator step-up transformer take-off structure to a pole here. This breaker that we installed last year in the WAPA sub is adequate for handling both, both units. So we've only got actually a few hundred feet of transmission

line to construct. We are going to have to rebuild this section of line because it's not heavy enough for 200 megawatts.

This is the Web Water pipeline that passes through the site. We've already tapped into that. We don't have to do that again.

And then our road coming into the site. The gas pipeline actually comes up the west side of Highway 37, goes underneath, and then comes down this way.

Oops. Wrong direction. Oh, no. That was right. Well...

Yeah. This is just kind of a nice aerial shot. Did I do that? It's just kind of a nice aerial shot. It shows the road coming in. And we did put six rows of trees all the way along the north side. I guess they're not very big yet.

The pond. The dry cooler. This is the turbine generator building and the water storage vessels.

This was our lay down area during the Unit 1 construction. This is actually going to be the site of the Unit 2 construction. This was taken before construction was complete. You can see some trailers and the temporary fence and so forth.

CHAIRMAN JOHNSON: Mr. Shaffer, as long as you're stopped, maybe you could -- since we've got such a good

view of Unit 1 here, maybe you could describe any substantial differences between Unit 2 and Unit 1.

MR. SHAFFER: Okay. We aren't, we're not going to build another building this large. We are going to put up a, about a 40 x 70 foot metal building to be used as a shop and a warehouse. We're not going to add any additional water storage tanks; although, we are going to add a couple rings to this tank so we can get additional storage volume.

This unit has a synchronous clutch between the turbine and the generator. We will not be installing a synchronous clutch on Unit 2.

And other than that, there's not, not much difference.

CHAIRMAN JOHNSON: Sorry to interrupt again. But could you remind me what that structure to the far right of the screen is?

MR. SHAFFER: This?

CHAIRMAN JOHNSON: Yes.

MR. SHAFFER: This is a large radiator for cooling, cooling the glycol water mixture that we use with the intercooler. I'll go into that in the next slide here a little bit.

So this is a 3D view of the LMS100. This would be the air intake system. This is used for combustion air

and cooling air and so forth.

This would be the low pressure compressor. The air is compressed and goes into this. This is a two-bundle heat exchanger, which gives up its heat to this glycol, which is then cooled in this -- this would be the dry cooler you were asking about. It's a huge radiator.

The cooled air goes back into the high pressure compressor. And this would be the, the super core and the power turbine, and then the clutch and the generator, exhaust stack.

This is a variable bleed valve stack. In case of a trip, there's some valves here that will open to relieve the pressure so it doesn't cause stalling and damage to the turbine.

This is the engine itself -- oops. The engine itself with the compressor, the low pressure, high pressure compressor, the super core. This is actually where the, where the combustion takes place.

And then the five-stage power turbine, which drives the generator. This section rotates at about 8,000, 9,000 rpm. But this section is an aerodynamic coupling between these two sections that, that drives the power turbine. And that drives the generator at 3,600 rpm, which is necessary to maintain 60-cycle electricity.

This was a view of the turbine as it was being

assembled in Texas. It shows the compressor and the -- the high pressure compressor isn't here, I guess. The super core and the power turbine and so forth.

This, I've just got to throw a few slides in here of Unit 1 to show how good it, how neat and clean it looks after they got done building it. This is the gas conditioning skid here, the water storage tanks, and this is that dry cooler you were asking about.

The water usage will be small at approximately 75 gallons per minute when the unit is running. About two-thirds of this water is injected into the turbine's combustor to reduce the formation of nitrous oxide and is discharged from the stack in the form of water vapor. Evaporative cooling is used to reduce the temperature, thus the increase, the density in mass flow of the turbine combustion air during hot weather. The combustion air passes through a wet media and is cooled by the evaporative process that takes place. This process is quite similar to a furnace humidifier. The end result of cooler and denser combustion air is higher power output from the turbine and more megawatts from the generator.

Other usage onsite is a small amount of domestic water. All of the NOx control water is totally evaporated as well as the majority of the evaporative cooling water. What isn't evaporated, it comes only in contact with clean

turbine combustion air so it can be discharged to the storm water run-off pond where it evaporates or percolates into the soil. Any waste other than clean water generated on the site is hauled offsite by a licensed contractor.

Prior to constructing Unit 1, Tetra Tech was hired to measure ambient noise levels. It measured at the north fence line of the 345 kV substation, and then near this, this nearest residence.

GE guarantees a near field noise of, level of a maximum of 85 dBA. That would be three feet from the equipment. Then a far field level of 65 dBA. That's at a 400-foot radius from the noise source. Now, this would represent only Unit 2 running. If Unit 1 also was running, there would be another circle that size kind of centered over Unit 1.

Chris Howell from Burns & McDonnell Engineers, who is here tonight, has recently modeled a site for both Units 1 and 2 using actual data collected while Unit 1 was operating. Based on the distance from the nearest residence, which is about 1,700 feet northwest of Unit 1, the noise level generated by both turbines operating simultaneously will be less than 54 dBA, which falls below the Unit 1 permit requirement of 55 dBA nighttime levels. Actually, we don't expect the sound level to be appreciably different with two units running versus one because of the

extra distance between the, this extra distance between the two units. There's the estimated noise level at 54.

CHAIRMAN JOHNSON: Mr. Shaffer?

MR. SHAFFER: Yes.

CHAIRMAN JOHNSON: Your red box in the upper left-hand corner labeled 33 to 90 decibel survey, 90, can you explain the number on the top end of that?

MR. SHAFFER: This was -- correct me, Rob. This was an LEQ measurement, I believe. And it took into account trucks going by on the highway and so forth. Whereas our permit requirement is an L10 requirement. I don't know. Chris or Tetra Tech care to address that?

MR. HAMMER: Yeah, I believe during the 90s there were --

CHAIRMAN JOHNSON: One second.

MR. HAMMER: I believe that --

MR. SMITH: Introduce yourself, please, too.

MR. HAMMER: This is Bob Hammer with Tetra Tech, and we were involved with the original survey that was done up there.

And as I recall from those conditions, there happened to be a windstorm that came through that night. And there's some vegetation and trees just to the north of the facility. And the higher values were actually associated with a windstorm that had gone through that

evening. So with the rustling trees and vegetation and some of the high wind gusts, we saw values in that range, is what I recall.

MR. HOWELL: Thanks. Chris Howell with Burns & McDonnell.

Additionally, the limit that they're given for the facility is for their specific equipment. It doesn't include the background noise such as trucks driving by. Sorry. The supposed windstorm or trucks or whatever goes through, those aren't included in the values that are in the limits.

MR. SHAFFER: Any other questions there? No?

These are some typical noise levels that you might be familiar with. A typical construction site during hours of construction when construction is taking place, it would be 85 dBA. And a typical highway at 100-foot distance is about 60 dBA.

CHAIRMAN JOHNSON: It's probably worth noting for those in the audience that, that this scale is, what is it? Geometric? Is it logarithmic?

MR. SHAFFER: Logarithmic.

CHAIRMAN JOHNSON: Logarithmic. Great. So the value of 70 is what? Is that twice the watt, ten times the, ten times the watt of 60?

MR. HOWELL: Chris Howell from Burns & McDonnell

again.

The 10 dB increase in sound, it's basically a doubling of the sound.

CHAIRMAN JOHNSON: A doubling. All right. Okay.

MR. HOWELL: Yes. A noticeably different level would be 3 to 5 dB.

MR. SHAFFER: Construction manpower we estimate would be the same as Unit 1, 105 to 145 workers onsite. And 40 to 60 percent may be hired locally.

Long-term employment, Unit 1 now employs two full-time positions. And we anticipate that a second unit will require at least one, if not two, additional full-time employees.

When Unit 1 was permitted, in order to forego a prevention of significant deterioration, or a PSD review and permit, and because this is a peaking facility with limited operating hours, Basin Electric requested that operational limitations be placed on the facility. This was granted, and the station was thereby limited to nitrogen oxide and carbon monoxide emissions of 238 tons per 12-month rolling period.

Per the draft air permit for Unit 2, which was recently issued by the South Dakota DENR, this total site emission limitation will still apply after the second unit is constructed. In other words, adding a second unit will

not increase total allowable emissions from the site. A thorough environmental assessment was conducted by Tetra Tech, and is included in the PUC permit application.

CHAIRMAN JOHNSON: And it's probably worth noting for the folks in the audience that the South Dakota DENR is the Department of Environment and Natural Resources. And again, if you use other acronyms, maybe spell those out. Thanks.

MR. SHAFFER: The proposed, proposed schedule is to start construction as early this next summer as we can, assuming we get a permit. And the first fire, probably next, the spring of 2008. And then commercial operation in June of 2008. If you remember June of 2006, the last, the last week of June and into July got extremely hot. And we definitely want to be ready for that, that hot weather.

That, that concludes my presentation. I'd be happy to answer, answer any other questions that anyone might have.

CHAIRMAN JOHNSON: While some of you are thinking about any questions you might have, we'll see if the commissioners have questions.

And again, if you do have questions out in the audience, just indicate that you do so. And Keith Senger with the mic there will pop up, and we'll get your name and get your question.

And we'll start with questions. If you have comments, we will definitely take those in a minute as well. But let's start with questions.

Any commissioner questions? Go ahead.

COMMISSIONER KOLBECK: Yes. This is Commissioner Kolbeck. I had one. You were talking about the simple stack. You said water vapor, excuse me, comes out of the stacks. Is that all, or is there anything in addition that comes out of your stacks?

MR. SHAFFER: There's nitrous oxides, carbon monoxide. The unit does have a CO removal catalyst in between the turbine and the stack. So it converts a lot of the CO to carbon dioxide.

And we're, we actually are limited as to how many, the parts per million of both nitrous oxide and carbon monoxide that we can emit. The stack has a continuous emissions monitor on it. And we have to, you know, meet our permit requirements.

COMMISSIONER KOLBECK: The other question I had, the announcement this last weekend for Sioux Falls and Sanford Health and things like that, is that, do you think that will affect your load forecast or has anyone mentioned that? I realize that you don't actually take care of Sioux Falls, but Sioux Falls metropolitan is one of the reasons that this will be going in. Are there other

projects down the road that you're thinking of?

MR. SHAFFER: We're actually thinking of additional peaking plant installations. Not necessarily in the Sioux Falls area. We like to stay along the Northern Border Pipeline if we can because we can get firm gas contracts. We don't need, we don't need oil backup.

As far as what's going on in Sioux Falls, I'll have to defer that to anyone in the audience that knows more about it than I do. I...

COMMISSIONER KOLBECK: And that's, it's probably a tough question right now. It's just an announcement that Sioux Falls is expected to grow tremendously with the medical community. But...

MR. SHAFFER: Well, that was up, that one slide that I showed indicated about those --

COMMISSIONER KOLBECK: Yeah.

MR. SHAFFER: -- 200 megawatts for the Sioux Falls area. So I'm not sure if that was included in that 200 or not.

COMMISSIONER KOLBECK: Okay. Thank you.

MR. SHAFFER: You're welcome.

VICE-CHAIR HANSON: Thank you for the presentation. My name is Gary Hanson. I have just a few questions that would center around environmental questions. So if you want Chris or someone else to answer them, I'd

appreciate it.

The first deals with the, the piggy-backing on the question that was asked by Commissioner Johnson. In the information that was shown, there was a, the dBA's of approximately, and I'm guessing it was three feet away from the facility, existing facility that showed 40 to 60 dBA, and the other one that showed 33 to 90. Were those taken at different times? I understand the explanation that it was a strong wind that was, that you believe was creating the, the higher dBA for the higher number. However, assuming that it's the same night in the same windstorm, would that not have affected the other numbers? And that's why I'm curious why we have a high reading at 90 that's actually higher than the reading that was closest to the equipment. Were these surveys taken at the same time?

MR. HOWELL: This is Chris Howell again.

Those surveys were actually taken before the units were built. So that was just an ambient background noise that was measured.

Just about anything causes noise. So a truck driving by, you know, somebody slams a car door shut, something like that is going to make an impulsive noise, which drives the overall sound level up.

VICE-CHAIR HANSON: That's interesting. We might check and see what my two-year-old grandchildren, what the

level of the dBA is.

MR. HOWELL: My 18-year-old -- my 18-month-old is under as well. Sorry.

MR. SHAFFER: Those numbers that you were referring to were actually, that was a study that was done before the Unit 1 was -- the permit was even submitted to you guys, or to the commission.

VICE-CHAIR HANSON: I see. So what is the dBA then? As I was watching, apparently I was confused. What's the -- not the ambient, but what's the dBA close to the equipment?

MR. SHAFFER: The guarantee is 85 dBA at three foot -- or three meters from the equipment and five foot above the ground.

VICE-CHAIR HANSON: Right. And you showed that -- when you showed that 85 dBA, it was at the location of the second generation facility. Do you have a reading then on the present one, and what is that?

MR. SHAFFER: We, we did verify that the, GE met its guarantee, and that the noise was 85 or less. The average noise was 85 or less.

VICE-CHAIR HANSON: And do you have an operating dBA for the first facility at the property's perimeter to the north?

MR. SHAFFER: Yes.

VICE-CHAIR HANSON: If it's less than 85, is that less than 85 next to the equipment, or is that at the property boundary?

MR. SHAFFER: At the property boundary, it's below 50, what we measured.

VICE-CHAIR HANSON: Okay.

MR. SHAFFER: For Unit 1.

VICE-CHAIR HANSON: Thank you very much. I appreciate that. I appreciate you sticking with me through that so that I can understand it better. Thank you.

MR. SHAFFER: It's confusing.

VICE-CHAIR HANSON: On the water storage, I understand this is not a coal-fired, doesn't -- it operates on the same principle, but it's certainly not anywhere near a, similarly to a coal gasification. However, coal uses a lot of water and, for cooling purposes. I assume you need water for cooling purposes as well. You're not expanding the storage area for water. Is that water ground water onsite that -- surface water, rather, that drainage to that site, or is that water that's being used for cooling purposes?

MR. SHAFFER: The water in the pond? Is that what you're --

VICE-CHAIR HANSON: Yes.

MR. SHAFFER: -- referring to? Most of that is

storm water run-off water.

VICE-CHAIR HANSON: Okay.

MR. SHAFFER: The only water that we put in, in it is the evaporative cooler does discharge some water. But like I, I said, it's water that's just come in contact with the combustion air. It's like your furnace. I don't know. Do you have a humidifier in your furnace --

VICE-CHAIR HANSON: Certainly.

MR. SHAFFER: -- at home? There's a little bit of water that trickles into the floor drain.

VICE-CHAIR HANSON: Right.

MR. SHAFFER: It's the same, the same principle. That's how an evaporative cooler works.

VICE-CHAIR HANSON: Thank you.

MR. SHAFFER: You're welcome.

VICE-CHAIR HANSON: Are there any environmental challenges that exist with two facilities as opposed to one where you're having to do, having to take certain steps in order to meet environmental challenges that you would not with just one facility, with just one generating facility?

MR. SHAFFER: I can't think of any.

VICE-CHAIR HANSON: Okay.

MR. SHAFFER: We are, you know, like Unit 1, we figured we were restricted to a maximum operating period, and these are real rough numbers, of about 25 percent of

the year. Now, with two units, if we run them both, whenever one runs, the other one runs, we'll be restricted to about half that time to meet our total emissions allowance.

VICE-CHAIR HANSON: Thank you.

Thank you, Mr. Chairman.

CHAIRMAN JOHNSON: Did you say whenever one unit runs, the other will run? Or did I --

MR. SHAFFER: No. I was just using that as an example.

CHAIRMAN JOHNSON: Okay. Gotcha. Focusing on Groton Unit 1 for a minute, do you, do you have, can you give us an idea of how often it ran at night? Was that a typical occurrence? And presumably -- I'm sorry. Go ahead.

MR. SKONHOVD: Typically the peaks for --

CHAIRMAN JOHNSON: Oh. Hold on just a second. If we could get your name and have you speak into the mic, that would be great.

MR. SKONHOVD: My name is Tony Skonhovd, and I'm the operation and maintenance supervisor out at the Groton station.

Typically your peaks are early in the mornings and through the evening hours from 4:30 until roughly 7:30, 8 o'clock. We have run into the evening hours. We're

doing that right now mainly because of the ambient conditions, the cold weather. But typically, the peaks are usually when people get up in the morning, start firing their furnaces, the heating and everything from typically around 7 until 10 o'clock. And then again it starts at 4:30 until 8 in the afternoon -- or 8 in the evening.

CHAIRMAN JOHNSON: Well, I'm asking because of noise. I mean, and during the day, you know, noise doesn't seem to bother people at facilities like this. But sometimes at night, that's when it starts to be bothersome.

How often are we talking? Are we talking only when it gets real cold, so we're talking somewhere between, you know, two days and 15 days a year? Or give me a ballpark so I can get a feel for --

MR. SKONHOVD: That's a, that's a tough question because you never know what the ambients are going to be or --

CHAIRMAN JOHNSON: Sure.

MR. SKONHOVD: -- or the health of the system. For example, like Dick said, if a coal-fired unit goes down, the chances of these units running are higher. But, you know, the reliability of those units have been very high, but those things can happen.

MR. SHAFFER: This unit has only been commercial since July 1st. And I can only recall about three times

where it's run past 9 o'clock in the evening.

MR. SKONHOVD: We've got a total of about 500 hours of operation since we went commercial, which was the July 1st.

CHAIRMAN JOHNSON: Can you -- and noise was something we focused on a great deal during the siting process for the Groton Unit 1 as well. Can you give me an idea of how many complaints you all have received with regard to noise with Unit 1?

MR. SKONHOVD: I haven't received any complaints as far as noise.

MR. SHAFFER: The only complaint that I received, it wasn't noise at all. It was during construction when we had, had a lot of lights on at night. There was a complaint about the light at night. And based on that complaint, we started turning lights off at night. And now when we're operating, we have very few lights on just to conserve energy.

CHAIRMAN JOHNSON: Have there been any complaints about lighting since construction ended?

MR. SHAFFER: Not -- no. There have not been that I have heard.

CHAIRMAN JOHNSON: If you could go back to the map that showed the decibel levels, I would appreciate that.

MR. SHAFFER: There we go.

CHAIRMAN JOHNSON: You mentioned the nearest residence was 1,700 feet. I know when we were doing the siting process for Unit 1, that that was the residence at the northeastern -- or yeah, rather the northwestern portion of that map.

MR. SHAFFER: Yes.

CHAIRMAN JOHNSON: Is that residence occupied, do we know, at this time?

MR. SHAFFER: I believe it is.

CHAIRMAN JOHNSON: Okay.

MR. SHAFFER: And that's where our permit for Unit 1 allows 55 dBA nighttime and 60 daytime. So...

CHAIRMAN JOHNSON: I'm sorry. Could you say that again?

MR. SHAFFER: I say our Unit 1 permit allows a maximum of 55 dBA nighttime and 60 dBA daytime. And based on our testing with the unit running at full load, we are significantly under that. And we're saying that with the second unit, there's not going to be any appreciable change to that noise level.

CHAIRMAN JOHNSON: And that's what modeling has indicated?

MR. SHAFFER: Yes.

CHAIRMAN JOHNSON: You know, the statute calls

not just for us to consider the effect on current inhabitants, but also future inhabitants. This will be something the local review committee will examine, I'm sure. But can you give me any idea of any concerns you've got as far as area, you know, possible locations in the area where there might be subdivisions that might be popping up or other new residential locations?

MR. SHAFFER: Well, the west side of the highway at this time is just a CRP field. Somebody, I think somebody purchased it for hunting rights. And on all other sides, it's ag land: Soybeans and corn and so forth. Other than that, that residence, there's a residence about two miles to the southeast. The Niermans.

And you said you lived -- I'm not sure where you live.

MR. BAHR: I just live northwest --

CHAIRMAN JOHNSON: If you could hold, and we'll get you the mic here.

MR. SMITH: Introduce yourself, please.

MR. BAHR: My name is Arnold Bahr. I just live about less than a mile to the northwest. I'm the second closest. I haven't heard anything, any noise over to my place or...

I've seen when it was running at one time, and I stopped on the highway and got out of the car, and I could

just hear a low, a low hum. But the noise don't seem to be any, any problem as far as I can tell.

CHAIRMAN JOHNSON: That is great to know.

MR. SHAFFER: As far as, I don't foresee any housing developments in that area. It is five miles from Groton, and it's pretty much all agricultural land.

CHAIRMAN JOHNSON: Well, I know that it was rather, rather optimistic of me to ask, but I wanted to do so in any case.

MR. SHAFFER: You wanted to drill me, huh?

CHAIRMAN JOHNSON: Yeah. In fact, if we've got some good hunting to the west there, if I could get the name of the land owner and their phone number and a hatch count, that would be great.

MR. SHAFFER: He's got some expensive signs, I noticed.

CHAIRMAN JOHNSON: Okay. You know, I've heard experts jokingly say that the, you know, that on a natural gas turbine that the, you know, the output may be variable, but the fuel isn't. You know, I mean, it kind of either runs full bore or not. Is noise variable based on whether she's running full bore or half that?

MR. SHAFFER: Burns & McDonnell when they were up last summer doing the testing, we tested it at various loads. And there was no, no real difference.

CHAIRMAN JOHNSON: Okay. With regard to construction, again, I think we can view the Big Stone 1 experience and that it might be helpful for an idea of what -- or not Big Stone 1, but rather the Groton 1 might give us an idea of what Groton 2 might bring. What -- other than the lights, what kind of complaints did you all get about the construction?

MR. SHAFFER: I don't, I don't recall any complaints. We were a little bit concerned about safety on the highway when the pipeline was being constructed, but we dealt with that. And we don't have to do that again.

We are going to add, this spring we've contracted already to plant some more trees on the south side. And that's the side that affects the one person that did comment about the lights from the site. So our intention is to plant more trees there and provide a barrier.

CHAIRMAN JOHNSON: I'm not going to, I'm certainly not going to hold you, you know, to this because I understand you want more time to evaluate and study. But, you know, if we presume for a moment that the noise levels exceeded the permitted acceptable levels, what are some possible mitigation efforts that could be taken by the applicants? I mean, are trees, vegetation, is that, are those generally helpful in this sort of a situation?

MR. SHAFFER: Trees, trees can be helpful.

Typically you need a solider barrier. I'm not sure. We've got some pretty good noise experts here. Maybe they can address that better than I can.

MR. HOWELL: There's quite a few different things you can do. Preferable ones are, you know, putting in trees. If you were to physically build a berm, like a dirt berm or a wall or something like that, those can be rather costly and they have to be extremely tall to make much of a difference. The trees help. They do need to be fairly thick overall.

There's multiple retrofit-type activities you can do to the actual equipment such as shrouding them, building actual walls next to the equipment, things like that. Making sure they're properly tuned. Sometimes things happen during construction where it's just not tuned properly.

Obviously, you'd want to make sure that it was meeting all of the guarantees, first of all, from the manufacturer. Because if they're not meeting those guarantees, then the manufacturer needs to do something.

But there are a number of different things you can do to, to mitigate the sound levels.

MR. SHAFFER: On Unit 1 prior to the Basin Electric accepting the unit, General Electric did add some, made some changes to their insulation and their

enclosures to reduce noise so that they could meet that 85. So there are things that can be done there also.

CHAIRMAN JOHNSON: Thanks.

Unless Mr. Smith or other commissioners have other questions.

Go ahead, Commissioner Kolbeck.

COMMISSIONER KOLBECK: I just have one more question for you. What is the, the one on Groton 2, what is the possibility of a Groton 3 or a Groton 4, or that we'll be here in another year or a year after that? Is there any possibility or, as far as future down the road?

MR. SHAFFER: Well, I can't speak for marketing. I won't say that there wouldn't be a request further down the road. We would have to install additional gas capacity.

COMMISSIONER KOLBECK: Okay. That was my question, I -- that was part of my question is how big could this become, you know, in years to come.

If you increased gas capacity, could there be ten of them, five of them, four of them?

MR. SHAFFER: I don't think we have the space for that.

COMMISSIONER KOLBECK: Okay.

MR. SHAFFER: Personally, I don't think there would ever be another one. Most of our space is to the

north. And then we're getting too close to that residence. And there's no way we would ever -- he wouldn't let us build there.

COMMISSIONER KOLBECK: Okay. Thank you.

CHAIRMAN JOHNSON: Unless Mr. Smith or the commissioners have any additional questions, at this time we would look to the audience to see first if there were any questions.

If there aren't any questions, we'd be really interested in hearing any comments from you all. If you do think of a question even though we're in comment period, please feel free to ask questions as well. But I'll open it up for comments at this time.

Again, if you could mention, Jim, your name, and...

MR. MOORE: My name is Jim Moore. I'm the general manager of Northern Electric Cooperative in Bath, South Dakota. We're a rural distribution co-op with East River.

A couple people with me tonight. I have Mike Kelly, my operations manager. And I also have Wayne Wright. Not only is he one of my board members, but he's the president, he's also the president of East River Electric.

And a little bit about electric co-ops before I

say something. We serve more than 90 percent of South Dakota's geographic area, and directly serve 110,000 homes, farms and businesses in the state. We're the only utility in the state that serves every, that serves customers in each of the state's 66 counties.

And I also have a letter here from Audry Ricketts. She is the executive manager of SDREA. I would like to enter that. It's just a general letter supporting Basin Electric and their efforts in building Unit 2 here.

CHAIRMAN JOHNSON: And if -- we will certainly enter that into the record, Jim. I'd be happy to do that.

MR. MOORE: Okay. Just give it to you or --

MR. SMITH: Hand it to the reporter.

MR. MOORE: Okay. We would like to see this unit. Last year in July when the temperatures hit 100 and some degrees, it came on. We have a little over 6,000 customers we serve. We also have an ethanol plant, we have a 3M plant that are 5 megawatts a piece. That it would be very helpful for us to have this plant here. It really helped, the first one. And if we can have backup with Unit 2.

Basin is also -- he talked, Dick talked about the heat recovery unit. There's one over at Ipswich, which also provides power to us, which really helps us out during

the, during the summer and winter.

These past two months when you were talking about when are the peaks, East River peaked last month. It was approximately 8 o'clock in the morning. This month already in February, we peaked at about 7:30 in the morning. So we're looking at mornings right now with the cold weather, people getting up and getting ready to go to work.

We have sold in the last three months approximately five million kilowatts each month just in off-peak kilowatts, which is something that would help us out also in our heating programs and other things we do. And in the summer we do one with air-conditioning.

A little bit, what you asked about Sioux Falls, Mr. Kolbeck. You talked about if that new health center is going to add to it. Probably not so much the rural electric as a business. But all the housing and everything growing around Sioux Falls, that's all being picked up by co-op.

And there's also -- I don't know if you guys have got it yet, but over by Sherman, I believe it is, there's a new ethanol plant that's going to go up pretty soon. And that's going to be one of those issues you'll have to replace, you'll have to find, too, as far as territory.

But we would like to see this. It's been very good for us working with Basin on Unit 1. We supplied the

power to the construction site. We -- not only does it help supply power, but we're also upgrading our lines to our consumers along the way and the outlying areas. So it's been very good for us. We'd like to see this come through. Thank you.

CHAIRMAN JOHNSON: Thank you very much. Other questions or comments?

MR. HANSON: My name is Rod Hanson, and I have a small restaurant south of the Groton Generation Station about three miles. And to give you an idea of the quality of at least what I've experienced with these guys, the ditch that they went through with the pipeline, from the, from the origin all the way to the station is actually in better condition now than it was before they started, before they laid the pipeline.

In addition to that, the Nierman property to the east, I don't know how far that is, but I've spent some time out to the Niermans hunting and just goofing off with Chad Nierman, and I've never, I've never heard this thing running. So if -- I just thought I should comment on that.

And the impact, although short term, is, is very, very good for the community.

CHAIRMAN JOHNSON: Are all the out-of-town construction workers behaving themselves when they're at your restaurant?

MR. HANSON: I ran around, did a lot of digital work just about in every state. And we ran across a lot of, just about everything you can imagine. And I can't believe these guys are as well-behaved as they are. It's pretty impressive, I guess.

CHAIRMAN JOHNSON: Thank you for commenting. We really appreciate, you know, hearing, you know, your personal comments about the noise. That means a lot.

I should also mention, and I suspect most of you know this, but there's also a local review committee that is appointed as part of this process. We know that all wisdom does not reside in Pierre. And so we, as part of the statutes indicate, that the commission should appoint a local review committee of people made up of folks from this area from the different subdivisions of government. We did that with Groton 1, doing that with Groton 2. And we place a tremendous amount of weight on that report and what the local review committee indicates should be done. And so again, we would thank in advance for all of the work that the folks from this area will do.

Other questions and comments? Other questions and comments?

I would also note that if you, if you didn't get your chance, if you didn't get an opportunity to say what you wanted to say tonight or if something after the fact

occurs to you, the record is open. And certainly we would be willing to take your written comments at the commission. And we would be happy to have those be a part of the record of this proceeding.

Other questions or comments?

At this time I would look to our general counsel, Mr. Smith, to see if there is any other business we need to transact tonight.

MR. SMITH: I don't think so. I think we're done if there are no comments.

CHAIRMAN JOHNSON: That's why he gets paid the big bucks right there, folks. He's a good babysitter for us. So...

Well, I'd ask one more time if there are any questions or comments?

And if there aren't, on behalf of Commissioner Kolbeck and Commissioner Hanson and the staff at the commission, we would really like to thank you for taking the time to come out tonight. It's not warm and it's not pleasant out. So thank you for being a part of this proceeding.

(Whereupon, the proceedings were adjourned at 7:01 p.m.)

(Whereupon, Exhibit 1 was marked for identification.)

STATE OF SOUTH DAKOTA)
:SS CERTIFICATE
COUNTY OF BROWN)

I, Kristi A. Kost, Notary Public and Court Reporter in the above-named County and State, do certify that I reported in stenotype the proceedings of the foregoing matter; that I thereafter transcribed said stenotype notes into typewriting; that the foregoing pages, 1-43, inclusive, are a true, full and correct transcription of my stenotype notes.

IN TESTIMONY WHEREOF, I hereto set my hand and official seal this 13th day of February, 2007.

Kristi A. Kost
Court Reporter
My Commission Expires:
February 21, 2007