

THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA

RECEIVED

SEP 21 2005

===== SOUTH DAKOTA PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION BY
OTTER TAIL POWER COMPANY ON BEHALF OF
BIG STONE II CO-OWNERS FOR AN ENERGY
CONVERSION FACILITY PERMIT FOR THE
CONSTRUCTION OF THE BIG STONE II PROJECT

EL05-022

===== Transcript of Proceedings
September 13, 2005
=====

BEFORE THE PUBLIC UTILITIES COMMISSION,

GARY HANSON, CHAIRMAN
BOB SAHR, VICE CHAIRMAN
DUSTY JOHNSON, COMMISSIONER

ORIGINAL

COMMISSION STAFF

John Smith
Karen Cremer
Greg Rislov
Michele Farris
Steve Wegman
Pam Bonrud

Appointments
EXHIBIT NO. 73
C. BACHAND

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Attorneys at Law, P.O. Box 5015,
Sioux Falls, South Dakota 57117,
appearing on behalf of Big Stone II;

BRUCE GERHARDSON,
OTTER TAIL CORPORATION,
Associate General Counsel, P.O. Box 496,
Fergus Falls, Minnesota 56538-0496,
appearing on behalf of Big Stone II.

Reported By Cheri McComsey Wittler, RPR, CRR

PRECISION REPORTING
L I M I T E D

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3
1 CHAIRMAN HANSON: My name is
2 Gary Hanson. I'm a Commissioner with the PUC.
3 With me this evening, Bob Sahr and Dusty Johnson,
4 Commissioners as well. We're going to ask you --
5 we're having a little challenge with the microphone
6 here. I was going to ask you to use it, but that
7 won't help us at all.
8 Please use your outside voice when you are
9 chatting with us this evening. Make sure everyone
10 can hear. We do have a court reporter. This is an
11 official hearing. So she needs to be able to
12 transcribe everything. In order to do that, she
13 needs to be able to hear you. We do encourage you
14 to address the Commission. We want you to have an
15 opportunity to speak this evening. When you do so,
16 please identify yourself, and if you are with an
17 organization and you're representing that
18 organization, please identify that organization.
19 Otherwise, when we're reading transcripts we won't
20 know who was speaking.
21 There is a sign-up sheet in the back. The
22 purpose of that is so that we can send information
23 to you if it's appropriate. So we would like you
24 to sign the sign-up sheet. Put your name and
25 address on that. That will be greatly appreciated.

2
1 TRANSCRIPT OF PROCEEDINGS, held in the
2 above-entitled matter, at the Lantern Inn,
3 Milbank, South Dakota, on the 13th day of September
4 2005, commencing at 7 o'clock p.m.
5 -----
6 I N D E X
7
8 Exhibit Nos. M O R
9 1A - Big Stone II CD 54 54 54
10 1B - Big Stone II paper
11 presentation 54 54 54
12 2 - Sokolski comments 80 80 80
13 3A - Stueve comments 104 104 104
14 3B - Stueve comments 104 104 104
15 3C - Stueve comments 104 104 104
16
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4
1 I was going to use the microphone and sit over
2 there to read this. I'll read it from this spot so
3 you can hear a little bit easier.
4 This is a public hearing for a proposed energy
5 conversion facility. The meeting will come to
6 order for the public input hearing in Docket
7 No. EL05-022, entitled In the Matter of the
8 Application by Otter Tail Power Company on Behalf
9 of Big Stone II Co-owners for an Energy Conversion
10 Facility Permit for the Construction of the Big
11 Stone II Project.
12 The date is September 13, 2005. The time is
13 7 p.m. The place of this hearing is Milbank,
14 South Dakota. This hearing concerns an application
15 for a permit for an energy conversion facility
16 submitted by Otter Tail Power Company to the
17 Public Utilities Commission on July 22, 2005. For
18 those of you who are not familiar with the
19 technology, an energy conversion facility simply
20 means an electric generating facility. The energy
21 conversion facility proposed in the application is
22 a rated 600 megawatt coal fire electric generated
23 facility and associated facilities which the
24 project owners have named Big Stone II.
25 If approved, the proposed new generating

1 facilities will be located on an industrial site
 2 adjacent to the existing Big Stone Plant Unit 1 in
 3 Grant County, South Dakota near the town of
 4 Big Stone City. Otter Tail Power Company is the
 5 name for the utility division of Otter Tail
 6 Corporation, an investor-owned corporation
 7 headquartered in Fergus Falls, Minnesota.
 8 Otter Tail submitted the application on behalf of
 9 itself and its project co-owners who are Central
 10 Minnesota Municipal Power Agency, Great River
 11 Energy, Heartland Consumers Power District,
 12 Montana-Dakota Utilities Company, which is a
 13 division of MDU Resources Group, Incorporated,
 14 Southern Minnesota Municipal Power Agency, and
 15 Western Minnesota Municipal Power Agency.

16 The purpose of this hearing is to provide
 17 information to the public about Otter Tail's
 18 proposed project and to hear public comments
 19 regarding the proposed project. Interested persons
 20 have the right to present their views and comments
 21 regarding the application. And we encourage you to
 22 please do so.

23 A copy of the application is on file with the
 24 Grant County Auditor. The public may also access
 25 the application and all other nonconfidential

1 documents in the file on the Commission's website
 2 at www.puc.sd.gov under Commission Actions,
 3 Commission Dockets, 2005 Electric Dockets, and
 4 scroll down to EL05-022.

5 The parties to this proceeding at this time
 6 are Otter Tail and the Commission. Under
 7 South Dakota Law each municipality, county, and
 8 governmental agency in the area where the facility
 9 is proposed to be constructed, any nonprofit
 10 organization formed in whole or in part to promote
 11 conservation or natural beauty, to protect the
 12 environment, personal health or other biological
 13 values, to preserve historical sites, to promote
 14 consumer interests, to represent commercial and
 15 industrial groups, or to promote the orderly
 16 development of the area in which the facility is to
 17 be constructed, or any interested person may be
 18 granted party status in this proceeding by making a
 19 written application to the Commission on or before
 20 September 19, 2005.

21 We have applications available here this
 22 evening if you'd like to apply for party status.
 23 As of this time the only person or organization
 24 that has applied for intervener party status is
 25 Clean Water Action. Thank you very much for

1 allowing me to get through the formality that is
 2 required at the beginning of the hearing.

3 Mr. Welk, I understand you're the attorney
 4 representing Otter Tail Power Company. I'll allow
 5 you to certainly go first since it is your docketed
 6 item, and please introduce the members of your
 7 organization. Thank you.

8 MR. WELK: Thank you, Mr. Chairman,
 9 Commissioners, members of the public. My name is
 10 Tom Welk. I'm one of the attorneys for the
 11 project. With me, other attorneys are Chris Madsen
 12 from my law firm to the right and Bruce Gerhardson,
 13 who is the Associate General Counsel. You can tell
 14 us by our ties as the attorneys.

15 We have a number of witnesses tonight that we
 16 would like to utilize to present the project to the
 17 Commission and to the members of the public. We
 18 have it's approximately about -- if the timing is
 19 correct, about 50 to 60 minutes. It's a
 20 Power Point presentation. It will be divided
 21 through several witnesses.

22 Mark Rolfes, the project manager, is going to
 23 give us a background on the history of the project,
 24 the technologies we're considering, the site, why
 25 it was selected here. Then we're going to have

1 Stacie Hebert talk about the demand and why this
 2 facility is going to need to be there.
 3 Bill Swanson is going to talk about the facilities
 4 and what it's going to look like. Terry Graumann
 5 is going to talk about the emission control
 6 technologies. And John Lee, the consulting
 7 engineer, is going to go through the review of what
 8 the environmental community impacts have been and
 9 also what the community service is that might be
 10 affected.

11 We have these in various segments that we're
 12 going to have presented. We also have a couple of
 13 other engineers, Todd Sundbom from Burns &
 14 McDonnell, and Andrew Skogeland (phonetic).
 15 They're available here also for questions for
 16 members of the Commission or the staff or anyone,
 17 if there are some technical questions.

18 I don't know, Mr. Chairman, how you want to
 19 proceed, whether we want to hold the questions
 20 until the end, but that's just to kind of give you
 21 an overview of what we've got to present.

22 CHAIRMAN HANSON: Thank you,
 23 Mr. Welk. Generally what takes place is that we
 24 allow you to make your entire presentation, and
 25 then we can make comment afterwards. That way we

1 aren't asking questions that you will be covering.
 2 So we'd appreciate it if you go ahead with your
 3 presentation and then we will have questions and
 4 then we'll go to public comment.

5 MR. WELK: Okay. Thank you,
 6 Mr. Chairman. I'd call Mark Rolfes, and I'd ask
 7 each witness as they get up just to give a couple
 8 of minutes or half a minute on who they are and
 9 their background so the Commissioners and public
 10 know who they are.

11 MR. ROLFES: Commissioners, I'm
 12 Mark Rolfes, as Mr. Welk said. I'm a registered
 13 engineer in the State of South Dakota and
 14 Minnesota. I've been in the power generation
 15 business for 28 years, half of that time as the
 16 manager of the existing Big Stone I facility.

17 I really want to express my appreciation for
 18 the chance to address you tonight to tell you about
 19 the Big Stone II project. We feel we have an
 20 extremely good project that's going to be good for
 21 our customers, good for the communities that we
 22 serve, and very good for the environment.

23 With that, I'd like to just very briefly touch
 24 on the history of the Big Stone II project. The
 25 existing Big Stone I facility has been in operation

1 since 1975, and it's also a co-owned facility by
 2 three investor-owned utilities.

3 In 1995 Otter Tail began the study of its
 4 options for future generation resources, and in
 5 that study we came to the conclusion that
 6 Big Stone II was our best option for baseload
 7 resources and we've continued studies throughout
 8 the years until late in 2003 we knew that
 9 Otter Tail Power Company had need for baseload
 10 resources and we began the process of trying to see
 11 if there was the critical mass, so to speak, to do
 12 a baseload facilities.

13 Seven utility companies have come together to
 14 propose the Big Stone II project. And as the
 15 Petition said, they're Otter Tail Power Company,
 16 Heartland Consumers Power District, Montana-Dakota
 17 Utilities Company, Southern Minnesota Municipal
 18 Power Agency, Missouri River Energy Services, Great
 19 River Energy, and Central Minnesota Municipal Power
 20 Agency.

21 I'd like to point out that Otter Tail Power
 22 Company and MDU are investor-owned utilities.
 23 Heartland Southern Minnesota, Missouri River, and
 24 CMMPA are municipal associations, and Great River
 25 Energy is a generation transmission cooperative.

1 So this project is bringing together the three
 2 different types of utilities to get a better
 3 project. We've got investor-owned, municipals, and
 4 cooperatives working together to make a better
 5 project.

6 Now this is a baseload resource that we are
 7 proposing. It's not the only resource in these
 8 companies' energy mix, but this project we began by
 9 looking at the potential sources of energy for this
 10 baseload project. We considered wind, but wind is
 11 not suitable for a baseload resource. We need
 12 something that is there 24 hours a day, seven days
 13 a week.

14 We looked at the next three: Supercritical,
 15 atmospheric circulating fluidized bed, and
 16 integrated gasification combined cycle, which are
 17 really coal-based technologies. Of those,
 18 integrated gasification is heard -- you hear a lot
 19 in the media today, is not a commercially available
 20 technology. It's in the demonstration phase. So
 21 we ruled that out as we were not in an experimental
 22 mode. We needed commercially available technology.

23 The final one is combined cycle gas turbine.
 24 I think everyone's aware of what's happening to
 25 natural gas prices today and the question on the

1 pricing and availability, we felt that was not a
 2 good option. So that brought us back to the two
 3 coal options, the advanced -- the atmospheric
 4 circulating fluidized bed, and the pulverized coal
 5 supercritical boiler. Because of the fuel we're
 6 considering burning, Powder River Basin fuel, we
 7 felt the supercritical pulverized boiler is better
 8 as it is more efficient and better suited for the
 9 fuel that we will be burning.

10 All of my comments are very high-level. The
 11 people following will get down into more of the
 12 details.

13 After we had determined the technology, we
 14 needed to have a site for this facility, and as we
 15 did in 1995 and subsequent studies, we started with
 16 an open book and any place that had the right
 17 attributes, you know, of the water and the rail and
 18 transmission and all of the things to make this
 19 project successful were considered. And this study
 20 we looked particularly close at these sites, but
 21 after we considered all of the attributes needed
 22 for a good site for a baseload resource we came to
 23 the conclusion that the existing Big Stone I site
 24 because of its existing infrastructure,
 25 transmission, et cetera, was the best location for

1 this proposed baseload facility.
 2 Now the final thing I'd like to point out,
 3 this is a rough map of the service territories of
 4 MDU, Otter Tail, and Great River, and the dots
 5 representing the communities served by the
 6 municipal associations. You'll see the proposed
 7 location for the Big Stone II is in the center of
 8 this geographical area. The plant will serve the
 9 communities and the farms and such that surround
 10 it.

11 This is an ideal setting for the communities
 12 that need the power. This is not a facility
 13 designed to move power to Chicago or Minneapolis.
 14 It's designed to serve the communities and the
 15 farms that surround the project.

16 With that, I will turn it over to Stacie to
 17 talk about the need for the facility.

18 MS. HEBERT: Commissioners, my name
 19 is Stacie Hebert. I'm with Otter Tail Power
 20 Company. I've been with the utilities for 13 years
 21 working in resource planning for 12 of those years,
 22 and in the last year and a half I've been working
 23 in fuel and freight. I'm a registered mechanical
 24 engineer in the State of Minnesota.

25 Can you hear me okay?

1 The purpose of this portion of the
 2 presentation is to talk about why there is a need
 3 for the Big Stone II facility. What this map
 4 shows, and I want you to focus on the blue states,
 5 it's an area called the MAPP Region. MAPP stands
 6 for the Midcontinent Area Power Pool.

7 It's a region where the utilities have joined
 8 together to enhance reliability, and it is the
 9 region that all of the Big Stone II project
 10 participants are located within. One of the
 11 services that this MAPP organization provides to
 12 the MAPP Region is that it does a survey, and it
 13 looks out 10 years to take a look at where we are
 14 in terms of forecasted demand and energy needs for
 15 the region.

16 And this is one of the charts that's put
 17 together by the MAPP Region. I'll kind of walk you
 18 through what this shows so hopefully it will make a
 19 little more sense.

20 On the left-hand side you've got capacity in
 21 megawatts. The MAPP Region is actually broken up
 22 into two regions. There's MAPP Canada and MAPP
 23 U.S.

24 You've got MAPP U.S. represented in the light
 25 blue bars, and MAPP Canada is represented in the

1 dark blue bars.
 2 On this left-hand access there you'll see zero
 3 megawatts along the centerline. Anything above
 4 zero means that there is surplus capacity, there's
 5 excess capacity. Once you go below that line, you
 6 start to have deficits, meaning there's not enough
 7 capacity to satisfy the projected need for the
 8 MAPP Region.

9 You can see the MAPP U.S. in the light blue is
 10 projected to go deficit starting in 2010 with a
 11 94 megawatt deficit that grows to 819 megawatts in
 12 2011, just under 1,500 megawatts in 2012.

13 You can also notice that the MAPP Canada
 14 portion of the graph in the dark blue doesn't ever
 15 go deficit. It's tempting to say, well, why don't
 16 we just look north to Canada to help satisfy these
 17 resource needs?

18 Well, there's really two problems with that:
 19 Number one, Canada is predominantly a hydroelectric
 20 system. They plan for energy needs which a lot of
 21 times leads to surplus capacity. So there may be
 22 capacity available in Canada, but that may not be
 23 backed up with energy.

24 Secondly, the transmission lines between the
 25 United States and Canada are already fully utilized

1 so if we were to look at bringing down -- if there
 2 was surplus energy and capacity in Canada, if we
 3 wanted to bring it down to the United States, we
 4 would have to add significant amounts of
 5 transmission. So it's not a real viable option for
 6 us to just look north and think that we can solve
 7 our resource needs through Canada.

8 Again, the purpose of this graph is to just
 9 point out that the MAPP Region, those blue states,
 10 are forecasting to be capacity deficit in 2010.

11 CHAIRMAN HANSON: Could you stay up
 12 towards that so you project more towards the --

13 MS. HEBERT: The second chart
 14 actually talks about energy. On the left-hand side
 15 there we show -- this is actually gigawatt hours of
 16 energy. And it looks at that same planning period
 17 of 2005 through 2013, and it shows a growth rate of
 18 approximately 15 percent. We can see a 15 percent
 19 increase in the energy requirements for the region
 20 from 2005 to 2013.

21 The energy is what you're probably used to
 22 seeing on your electricity bill from your utility.
 23 You're billed on a kilowatt hour basis. So this is
 24 projecting gigawatt hours, which is one billion
 25 of -- a gigawatt hour is a billion watt hours.

1 Watt is maybe something if you think in terms of a
 2 light bulb. A 100-watt light bulb running for one
 3 hour would be 100 watt hours. Well, this is
 4 1 billion watt hours, just to put that into
 5 perspective. And this represents all of the
 6 MAPP Region.

7 Mark had mentioned that the seven Big Stone II
 8 co-owners, project participants, are projecting a
 9 need for baseload resources. And I just wanted to
 10 talk a little bit, give you a little bit of
 11 background on what the different types of
 12 generating resources are.

13 Each of the utilities have identified
 14 internally in their own analysis a need for
 15 baseload resources. That doesn't mean that's the
 16 only resource they need, but because of that
 17 baseload resource, that has brought all seven of
 18 the utilities together to pursue a plant that is
 19 larger than they can do on their own so they can
 20 take advantage of some economies of scale.

21 Just walking through each of the types, the
 22 three types of generation, baseload generation and
 23 peaking have their own characteristics. I'll start
 24 talking about the peaking resources. And this is
 25 like an oil-fired combustion turbine, would be an

1 example. It's got typically a low capital cost.
 2 It doesn't cost a lot to build, but it's got a high
 3 fuel cost, a high operating cost.

4 And because of those characteristics, it
 5 generally does not run many hours during the year.
 6 It may run on the very hot days, it may run on the
 7 very cold winter days, or it may run when there's a
 8 system emergency, but generally it's very
 9 short-duration runs, a few hours during the year.

10 It fills an important role. It's a type of
 11 generation that is needed, but it's -- it's not the
 12 type -- it doesn't satisfy the baseload need that
 13 the Big Stone participants are looking for.

14 And I'll jump now to the baseload type of
 15 resource need. That typically -- baseload resource
 16 would have a high capital cost but a low operating
 17 cost. And because of those characteristics, what
 18 you see from a baseload generation resource is that
 19 it operates for the most part at or near its
 20 maximum point every day out of the year. It's
 21 there 24-seven, with the exception of maintenance
 22 periods and those kind of things. It provides not
 23 only capacity, but it also provides a significant
 24 amount of energy.

25 Now I've kind of skipped over this

1 intermediate type of generation. That really falls
 2 between peaking and baseload. As you can see as we
 3 look at the characteristics, it's got an immediate
 4 capital cost, immediate fuel cost, and typical
 5 energy production falls between the peaking and the
 6 baseload.

7 Just to kind of bring it together, we've got
 8 the seven Big Stone II co-owners, each identifying
 9 a baseload resource need. We've got the MAPP
 10 Region, which is forecasting a deficit and
 11 significant energy growth. We can't really look to
 12 the market to satisfy this need. We need to build
 13 a new facility to satisfy this need in the most
 14 economical way for our customers.

15 And I'll turn it over to Bill Swanson.

16 COMMISSIONER JOHNSON: Sorry to
 17 interrupt. What would be the intermediate fuel if
 18 gas is peaking and coal is --

19 MS. HEBERT: Mark gave a number of
 20 examples of baseload; coal-fired resources, natural
 21 gas combined cycle. Sometimes you would see
 22 natural gas combined cycle using an intermediate
 23 mode where it doesn't necessarily run all the time.

24 COMMISSIONER JOHNSON: Thanks.

25 MR. SWANSON: Good evening. My name

1 is Bill Swanson. I'm an employee of Otter Tail
 2 Power Company and registered engineer in the
 3 State of South Dakota. I've been an employee of
 4 Otter Tail Power Company for 11 years, and I'm
 5 lucky enough to work in the engineering department
 6 at the Big Stone Plant my entire career.

7 What I'm going to be talking about is some of
 8 the site-specific work we've done on the project,
 9 kind of laying out the site and the work we've done
 10 in identifying the facility. I'm going to be
 11 flipping to some different maps in the next few
 12 slides, and there's one identifiable thing that you
 13 can see from all of these and that's the cooling
 14 pond.

15 The cooling pond has this T in the center of
 16 it. At the base of that T is where the plant
 17 exists, and the plant is what you can see from
 18 Highway 12 from the area. So when you go to these
 19 different slides when you look and you try to
 20 identify a landmark the cooling pond can be seen in
 21 all of these slides so it helps orient you in all
 22 of these slides.

23 So this is the cooling pond and the plant
 24 area. The plant exists right here. Big Stone City
 25 is in this location. Big Stone Lake on the east

1 side of the plant property. The ethanol plant,
 2 Northern Lights Ethanol Plant, is just to the south
 3 of the plant building. And the rail facility
 4 coming into the site is this red line going through
 5 where we unload our coal.

6 One of the great things about this site is the
 7 opportunity to share in the existing infrastructure
 8 with the Big Stone I plant. The cooling water
 9 intake from Big Stone Lake, the pumping structure,
 10 the pipeline system, none of that has to change to
 11 satisfy the needs of Big Stone II. So we'll be
 12 reusing that facility.

13 Obviously the plant roads are in place to use
 14 to get access to the site as well as the rails will
 15 be the same rail spur to deliver coal to
 16 Big Stone II. The coal unloading facilities, we
 17 have a rotary dumper at the site so that is going
 18 to be remaining the same and handle the existing or
 19 new train loads of coal coming from Big Stone II.
 20 And then the solid waste disposal facility, we do
 21 have an ash disposal site on the property, and that
 22 will serve for both the ash disposal for
 23 Big Stone I and Big Stone II.

24 On the site work that we've done, again, this
 25 is the T in the middle of the pond structure that

1 you saw from the other map. This is the existing
 2 power plant that can be seen from a ways away. The
 3 new plant will be just to the southwest of the
 4 existing plant. So the turbine and the boiler
 5 building will be immediately adjacent to it. The
 6 pollution control system, the baghouse and wet
 7 scrubber will be just to this side.

8 We'll have a cooling tower. That's one
 9 difference from the new plant to the old plant is
 10 rather than the cooling pond, we'll be using a
 11 cooling tower. The cooling tower will be located
 12 down in this area. And this is the cooling tower
 13 blow down pond, and this is also a water source for
 14 the wet scrubber that we're going to be talking
 15 about in some future slides. This is also the coal
 16 storage area, and that area is sufficient enough to
 17 handle both units.

18 Okay. Water is an important part of a
 19 project. It's just as important as the fuel part
 20 of it. And the Big Stone I and Big Stone II site
 21 usage is going to go to about 10,900 acre feet.
 22 It's about twice as much as we're using currently.

23 This is the diagram showing where the pumping
 24 station is at on Big Stone Lake. Water is going to
 25 be pumped now, and it's going to be stored in what

1 we call the evaporation pond and holding pond.
 2 What the Big Stone site is is a zero liquid
 3 discharge facility, which means we don't discharge
 4 water away from our site. It only leaves through
 5 evaporation.

6 We're very proud of that environmental record
 7 that we've been able to maintain, and we want to
 8 continue that with the Big Stone II site. So the
 9 water balance is something we've put a lot of
 10 effort into looking at that and see how we can pump
 11 water from Big Stone Lake when it's available and
 12 maintain the water balance with all the chemistries
 13 on the site.

14 So one of the things that we are going to be
 15 doing is we're going to be building a large water
 16 storage pond so we can pump water up from Big Stone
 17 Lake when it's available. We're going to have a
 18 water storage capacity of about 9,900 acre feet,
 19 and that will also be some of the makeup supplied
 20 to the cooling ponds. From the cooling pond that
 21 will make up the supply to the Big Stone II cooling
 22 tower.

23 COMMISSIONER JOHNSON: Could you say
 24 that last sentence again, sort of walk through.

25 MR. SWANSON: You bet. From the

1 whole site this is the pumping station from
 2 Big Stone Lake. From there it will be pumping
 3 water from the evaporation pond or the holding pond
 4 or the new water storage pond -- this will be a new
 5 facility built from Big Stone II -- and from there
 6 back to the cooling pond. The cooling pond is used
 7 as cooling water for Big Stone I, and it's also the
 8 makeup water for the cooling tower for the Big
 9 Stone II.

10 COMMISSIONER JOHNSON: The makeup
 11 water, can you explain what makeup water is?

12 MR. SWANSON: Sure. There's an
 13 evaporation process. Using the cooling towers
 14 there is always waters that need to be made up into
 15 that process. So that's where that source of water
 16 comes from.

17 VICE CHAIRMAN SAHR: What time of
 18 the year would you be doing most of the pumping on
 19 the lake?

20 MR. SWANSON: Most of the pumping
 21 has been historically in the spring when the runoff
 22 goes into the lake and goes up. The same thing, we
 23 would likely want to take advantage of that period
 24 when the water levels are the highest.

25 VICE CHAIRMAN SAHR: Is there any

1 tangible effect on lake levels?
 2 MR. SWANSON: Minimal effect.
 3 VICE CHAIRMAN SAHR: Thank you.
 4 CHAIRMAN HANSON: I know we said we
 5 would reserve and ask questions, but it's very
 6 appropriate to ask questions as we're going along
 7 obviously. I'm curious as well, do you have your
 8 water rights for the State permit?
 9 MR. SWANSON: For the increased
 10 water usage for --
 11 CHAIRMAN HANSON: 10,902 acre feet.
 12 MR. SWANSON: No. We currently are
 13 using the -- we're under the water appropriations
 14 permit for Big Stone I, which is 8,000 acre feet
 15 per year.
 16 CHAIRMAN HANSON: Thank you.
 17 MR. SWANSON: With that, I'll turn
 18 it over to Terry Graumann.
 19 MR. GRAUMANN: Good evening. My
 20 name is Terry Graumann. I'm the manager of
 21 environmental services for Otter Tail Power
 22 Company. I've been in that position for about
 23 32 years, and all that while I've been located in
 24 Fergus Falls, Minnesota.
 25 The purpose of my presentation this evening is

1 to describe the emission control technology. This
 2 is a schematic of the emission control technologies
 3 for Big Stone II. It does not show the turbine,
 4 does not show the generator. It doesn't show any
 5 of the other ancillary plant equipment.
 6 It shows the boiler, which is located on the
 7 left, and then the stack on the right and then the
 8 emission control technologies are located in
 9 between those two.
 10 Let's start with the boiler, the item in blue.
 11 Mark mentioned the supercritical pulverized boiler
 12 technology, and that's the technology we've chosen
 13 for Big Stone II. The advantage of that technology
 14 is it's 3 to 4 percent more efficient than other
 15 commercially available technologies. And in a
 16 practical sense what that means is that there's
 17 3 to 4 percent less emissions, including
 18 carbon dioxide when using this technology as
 19 compared to other technologies.
 20 The boiler also includes a provision for low
 21 NOx burners, and what those burners are is those
 22 burners are a special design to provide a
 23 combustion atmosphere that would minimize the
 24 amount of combustion nitrogen oxides that are
 25 formed during the combustion process.

1 Additional nitrogen oxide control occurs in
 2 this green section, which is a box essentially.
 3 It's called a selective catalytic reduction system.
 4 And it's much like the catalytic converter in your
 5 car. The flue gas flows through the catalytic
 6 reduction system. This is a box, again, flow with
 7 the catalyst.
 8 But there's one exception, and that is that
 9 ammonia needs to be added to this box in order for
 10 the reaction to occur with the catalyst that
 11 essentially converts the nitrogen oxide emissions
 12 to elemental nitrogen and water.
 13 The flue gas then flows into this device that
 14 we call it an air free heater. And it's simply an
 15 efficiency devise. It's an air-to-air heat
 16 changer, and that device heats the combustion air
 17 as it's going into the boiler.
 18 From the air free heater the flue gas flows
 19 through the fabric filter baghouse. And this is
 20 just again another big box that's filled with a
 21 series of bags, fabric bags. The flue gas flows
 22 through those bags, and the ash collects on the
 23 outside.
 24 Periodically there's a pulse of air. That's
 25 why they call it, although it doesn't show on here,

1 a pulse jet baghouse. A pulse of air that gently
 2 inflates the bags, shedding the ash. And as the
 3 ash is shed, it falls to the hoppers below the
 4 fabric filter baghouse, and from those hoppers then
 5 the ash is conveyed pneumatically to fly ash
 6 storage satellite.
 7 This is an induced draft fan, and that pulls
 8 the flue gas again through the fabric filter into
 9 the wet flue gas desulfurization system. We
 10 commonly call this similarly a scrubber.
 11 And the purpose of this device is to remove
 12 sulfur dioxide from the flue gases. And the way
 13 that it does that is limestone slurry -- limestone
 14 simply mixed with water, finely crushed limestone,
 15 is circulating throughout this tower in a very
 16 turbulent fashion, which creates a good contact
 17 between the flue gas and the limestone.
 18 And in doing so the flue gas is cooled and the
 19 sulfur dioxide then reacts with the limestone in
 20 the flue gas desulfurization system forming, first
 21 of all, a calcium sulfite, and as a part of this
 22 process air is also injected so ultimately the end
 23 product is a calcium sulfate or gypsum.
 24 Mercury control actually occurs in two areas
 25 in this project. Primarily -- first of all,

1 mercury control -- or mercury is collected in
2 particulate form on the bags, and then from there
3 it's collected and moves through with the ash.

4 The other control mechanism is the flue gas
5 desulfurization system or the scrubber. Any
6 oxidized mercury that leaves the system is
7 collected in the flue gas desulfurization system
8 simply because it's soluble in water.

9 Historically dry scrubbers and not wet
10 scrubbers have been used to remove sulfur dioxide
11 when burning subbituminous coal. And this is a
12 different technology.

13 And you remember the fabric filter occurred
14 first and then the scrubber. And in the dry
15 scrubber there is a spray dryer mechanism, much
16 like a milk dryer, if you will. Some of you might
17 be familiar with that. The slurry is put in a
18 liquid form. But the end product is dry, and it's
19 mixed with the fly ash and from there it flows to
20 the fabric filter which occurs after the spray
21 dryer.

22 This is a very common technology. It meets
23 all of the regulatory requirements, and it's still
24 being permitted. Weston 4 out in Wisconsin is
25 using the wet spray dryer. Council Bluffs is using

1 a spray dryer.

2 We've decided to use a wet scrubber. It is
3 more expensive, about 18 percent more expensive,
4 but there are some advantages. The wet scrubber
5 gives us more efficient SO2 removal. And that's
6 very important to the Big Stone II co-owners simply
7 because Big Stone II does not receive any SO2
8 allowances under the -- allowance allocation under
9 EPA's Clean Air Act Amendments of 1990.

10 What that means for us is that as owners we
11 will have to, one, either get allowances from
12 existing units or buy allowances. So it's
13 important for us to have very efficient SO2
14 removal. And in this particular case the wet
15 scrubber will typically give about 95 to 97 percent
16 removal. A spray dryer, likely in the low 90s.

17 The wet scrubber also gives us more efficient
18 mercury removal. In EPA's mercury rule that was
19 published in March of this year they established
20 standards based on the coal type as well as the
21 type of emission control technology that a user was
22 installing. And for a wet scrubber system the
23 emission -- allowable emission rate is half of what
24 it is for a dry scrubber, as compared to a dry
25 scrubber.

1 Finally, the wet scrubber also gives us one
2 additional advantage, and that gives us a salable
3 fly ash. I just mentioned that the dry scrubber
4 mixes the fly ash with the SO2 removal reagents,
5 but in this particular case if we remember from the
6 drawing, the fly ash comes out in the fabric filter
7 first. That fly ash is available for sale. It's
8 commonly used as a replacement for Portland Cement
9 and concrete mixtures and, in fact, the American
10 Coal Ash Association, which is an industry group
11 that tracks coal byproduct utilization in the
12 United States, reported in 2004 that there were
13 14.1 million tons of fly ash that were used in
14 concrete add mixtures.

15 Big Stone during our average conditions is
16 expected to produce about 127,000 tons per year of
17 fly ash. We'd like to get into that market rather
18 than putting it into our ash disposal site.

19 The joint scrubber opens up some
20 possibilities -- or we have a joint scrubber
21 possibility because of the wet scrubber technology
22 that wouldn't be available to us with a dry
23 scrubber. We're able to double the size of the
24 scrubber but with only an increase in cost of
25 60 percent. We're able to share equipment, and

1 other benefits of other redundant components, we're
2 able to, for example -- the main spray tower --
3 there will only be one main spray tower instead of
4 two.

5 As a result of all of this we will have lower
6 per megawatt hour costs associated with the
7 scrubbers, primarily because of capital cost
8 savings and labor savings.

9 The Big Stone co-owners have also committed to
10 add Big Stone II and not to increase nitrogen oxide
11 emissions from the Big Stone Plant site. I
12 described earlier the extraordinary steps that
13 we're taking to reduce nitrogen oxides from the
14 Big Stone II boiler, the low NOx burners, the
15 selective catalytic system.

16 We're also going to be making some operational
17 changes at Big Stone I to lower its NOx emissions.
18 We may need to make some equipment changes, but
19 that will be determined following additional
20 testing at the site. We are not certain of that
21 yet at this time.

22 In summary, our process or our approach, what
23 we'll have is we will have sulfur dioxide, nitrogen
24 oxide, and mercury emissions from both units that
25 are targeted to be less than or equal to Unit 1's

1 emissions in 2004. We expect nitrogen oxide
2 emissions by permit to be about equal to what
3 they've historically had, and we expect mercury
4 emissions to be less than or equal to those
5 emissions as 2004 emissions as well.

6 Here's a graph showing our sulfur dioxide
7 emissions. And let me point out a couple of items
8 on this graph. On the left side that shows the
9 capacity, the megawatt generating capacity, of the
10 Big Stone Plant site for the various years. 1994,
11 2004, for both Big Stone I and II and then another
12 bar that shows Big Stone I and II and the capacity
13 is identified by the green bar.

14 Going back to 1994, the Big Stone Plant site
15 had about 450 megawatts, which it is today. 2004,
16 about the same megawatt capacity. Based on our
17 proposal, in 2011 the site capacity would go to
18 about 1,050 megawatts, and we would hope that that
19 would be maintained into the future as 1,050
20 megawatts.

21 What this graph also shows is SO2 ton
22 emissions. And going back to 1994, notice that
23 dot, we had SO2 emissions at the Big Stone Plant
24 site of about 44,000 tons per year. At that
25 particular time we were burning North Dakota

1 Lignite. Since that time we switched to Western
2 Low Sulfur Subbituminous Coal. And in 2004 our SO2
3 emissions dropped from about 44,000 tons down to
4 roughly 14,400 tons.

5 We expect based on our proposed permit
6 application that the site will have no more than
7 about 13,300 tons once Big Stone II is permitted.

8 But in reality we expect our target
9 operational level to be in the neighborhood of
10 2,000 tons per year. So within this particular
11 time frame we've dropped our SO2 emissions from
12 44,000 tons to about 2,000 tons, which is roughly
13 about a 95 percent reduction, even though our
14 generating capacity went from 450 megawatts to
15 slightly over 1,000 megawatts, 1,050 megawatts.

16 MR. WELK: Cost.

17 MR. ROLFES: Yes. The cost. It
18 comes at a significant cost with these types of
19 reductions, and it's about \$160 million in capital
20 costs.

21 CHAIRMAN HANSON: Are you complete?

22 MR. GRAUMANN: Yes.

23 CHAIRMAN HANSON: Could you tell us
24 again repeat when you -- when the plant began the
25 use of the low sulfur coal.

1 MR. GRAUMANN: It was late 1995
2 actually in the -- about the first of September
3 1995.

4 CHAIRMAN HANSON: And do you have
5 similar information for us regarding carbon
6 dioxide?

7 MR. GRAUMANN: No, I don't. Not
8 with me.

9 CHAIRMAN HANSON: Could you provide
10 us with that along with mercury and nitrogen?

11 MR. GRAUMANN: I can.

12 CHAIRMAN HANSON: Appreciate that.
13 Thank you.

14 COMMISSIONER JOHNSON: 160 million,
15 at what stage in the process -- since '94, from '94
16 until the future target date or --

17 MR. GRAUMANN: The 160 million is
18 essentially for the scrubber and the fabric filter
19 that would evolve as a result of Big Stone II. So
20 that has not been installed yet.

21 COMMISSIONER JOHNSON: So between
22 bar 2 and bar 4 would be the \$160 million
23 investment.

24 MR. GRAUMANN: Yes. Correct.

25 VICE CHAIRMAN SAHR: With the sulfur

1 dioxide, mercury, and NOx that doesn't get
2 scrubbed, where does that go? Where does it end
3 up?

4 MR. GRAUMANN: Anything that
5 passed -- anything that passes through the emission
6 control equipment is exhausted from the stack, but
7 the levels that we can emit those types of
8 materials are all set by permit from the -- that
9 would ultimately be issued by the South Dakota
10 Department of Environment and Natural Resources.

11 We have to make a permit application to them.
12 Not only do we have to meet, for example, like the
13 new source performance standards which establish
14 emission limits for each of these parameters for
15 the NOx, for the SO2, and for mercury, there's a
16 mercury-specific mercury emission limit for new
17 units.

18 The other part of the Clean Air Mercury Rule
19 that was adopted by the administration in March of
20 2005 limits the amount of mercury in terms of
21 pounds that you can emit for various states. Now
22 there's a certain allocation that goes to a state.
23 You've got opportunities to buy allowances to emit
24 more. But it's going to depend upon the efficiency
25 of the control equipment whether or not we have to

1 buy allowances or not.
 2 The level of allowances for the State of
 3 South Dakota is 144 pounds. And we would need to
 4 stay under that level, or else we would need to go
 5 out and buy additional mercury allowances.
 6 VICE CHAIRMAN SAHR: I guess my
 7 question is more along the lines of -- I mean, use
 8 a lay -- I don't know if it would be a lay term,
 9 but what basically is a drop saw?
 10 I mean, with these are they going up in the
 11 atmosphere and coming down in rain, or what's going
 12 on? I mean, what would be the zone of concern
 13 if -- about anything that might be going on through
 14 the stacks with the NOx and mercury and SO2?
 15 MR. GRAUMANN: Most of the
 16 pollutants in terms of the evaluation process have
 17 to be modeled, and some of them would drop out
 18 close to the plant. Others might be farther away
 19 from the plant.
 20 And we need to meet -- at least as far as the
 21 particulate matter, those kinds of things that are
 22 modeled specifically for this plant, we need to
 23 make sure that we meet all of EPA's air quality
 24 standards that are essentially established at the
 25 property line for the pollutants.

1 COMMISSIONER JOHNSON: With regard
 2 to the mercury and Big Stone I, currently, I mean,
 3 how much mercury is going up the stacks now, pounds
 4 per year?
 5 MR. GRAUMANN: In 2004 we reported
 6 189 pounds per year. And we have been up into the
 7 300 pound.
 8 COMMISSIONER JOHNSON: So you're
 9 currently purchasing allocations from other states
 10 then? The difference between 144 and 189 is being
 11 made up with allocations?
 12 MR. GRAUMANN: The requirement to
 13 have mercury allowances goes into effect in 2010 at
 14 144 pounds is a requirement in 2010. In 2018 that
 15 requirement drops to 58 for the State of
 16 South Dakota for their allocation because of the
 17 reduction requirements as a part of the Clean Air
 18 Mercury Rule.
 19 COMMISSIONER JOHNSON: What is the
 20 projected mercury emissions for both plants once
 21 they're both on line?
 22 MR. GRAUMANN: Like I mentioned, our
 23 target level is the 2004 level.
 24 COMMISSIONER JOHNSON: Okay. 189.
 25 MR. GRAUMANN: 189.

1 COMMISSIONER JOHNSON: Okay.
 2 CHAIRMAN HANSON: Thank you.
 3 MR. LEE: Hi. My name is John Lee.
 4 I'm an engineer from Barr Engineering Company.
 5 We're a regional consultant. I have been providing
 6 consulting services to the utility industry for
 7 over 25 years. And over the last
 8 10 years or so I've been focusing on environmental
 9 issues related to power plant siting.
 10 I'm going to review some of the community and
 11 environmental information that we've compiled and
 12 made an assessment of for the siting permit
 13 application.
 14 As far as the environmental impacts, we looked
 15 at eight general categories of potential impacts
 16 from the project. Those are listed up here, and
 17 I'll go through each of them in turn. But in
 18 general we found that the impacts from the project
 19 will be minimal, and that's primarily because of a
 20 lot of things you've heard already, the employment
 21 of state-of-the-art technologies for air emissions
 22 and other equipment related to the power plant and
 23 also because of what Bill Swanson emphasizes, that
 24 we're taking advantage of a lot of the existing
 25 infrastructure at the current plant.

1 As far as the physical environment, we looked
 2 at the land forms and topography, geology, soils,
 3 and economic deposits. Economic deposits refer to
 4 gravel pits and sand pits, those types of resources
 5 and erosion and sedimentation.
 6 Our conclusions from that assessment was that
 7 impacts would be very limited and primarily related
 8 to the new water storage pond that Bill talked
 9 about earlier that will take an area of about
 10 500 acres and require some grading. That will
 11 impact some of the local land forms southwest of
 12 the plant but in a very limited area.
 13 We looked at the hydrology issues. We looked
 14 at surface water drainage. Again, because most of
 15 the activity is taking place in the existing plant
 16 site, existing surface water drainage systems will
 17 be utilized, and they'll be enhanced where
 18 necessary to deal with additional storm water
 19 runoff that may occur.
 20 And also as far as water needs for the plant,
 21 as Bill mentioned, we'll be -- and questions about
 22 the appropriations permit, we will be asking for an
 23 amendment to the water appropriations permit that
 24 currently allows for appropriation of up to
 25 8,000 acre feet a year from Big Stone Lake.

1 The current permit has restrictions on when
 2 that water can be obtained from the lake based on
 3 water levels in the lake. There's a narrow range
 4 that if the lake level drops below a certain range,
 5 we are restricted from taking the water out of the
 6 lake at that time. That's why historically most of
 7 the water's been obtained in the spring of the
 8 year, and that's why we're looking for more water
 9 storage capacity, so we can store the water needs
 10 and still adhere to those water level restrictions
 11 on when water can be obtained.

12 We expect to ask for an amendment to the water
 13 appropriations permit that would allow an increased
 14 appropriation of the lake of up to about 15,000
 15 acre feet. The actual needs of the plant as Bill
 16 mentioned are closer to 10,900 acre feet, but to
 17 allow some flexibility in operation and look at
 18 perhaps long-term drought conditions, we would look
 19 for a little cushion in that appropriations
 20 request.

21 We looked at terrestrial ecosystems. We
 22 looked at vegetation. In general there do not
 23 appear to be special vegetation around the project
 24 site, again, because most of it's in the existing
 25 industrial area and the area around the plant where

1 the new water storage pond will be constructed is
 2 tilled agricultural land. So we don't see any
 3 significant impacts to vegetation in the vicinity
 4 of the plant.

5 We looked at one specific threatened species,
 6 a plant, the Western Prairie Fringed Orchid. There
 7 was a potential that that could be present in this
 8 type of terrain. There was a detailed field
 9 reconnaissance of the plant site where we would be
 10 doing any intrusive activities, and that was
 11 completed this spring and none of those plants were
 12 observed.

13 But we'll continue to look at that as work
 14 continues at the site. But it does not look like
 15 that will be an issue.

16 COMMISSIONER JOHNSON: You said in
 17 the vicinity. Sorry to interrupt. You said in the
 18 vicinity. What was your area of study?

19 MR. LEE: We looked at the areas
 20 where we would be disturbing ground. So primarily
 21 immediately around the plant site and where the new
 22 storage pond, water storage pond will be
 23 constructed, and then in areas near there where
 24 there were existing vegetation communities that
 25 might support that vegetation, that particular

1 plant.

2 So, but it was very thorough, and we did that
 3 in conjunction with folks from the wildlife
 4 agencies.

5 One other threatened species that came up as a
 6 potential issue is the Bald Eagle. The Bald Eagle
 7 is a threatened species. There is -- again, as
 8 Bill mentioned, this is our kind of reference
 9 point, the T and the basin, the plant down here.
 10 This red dot represents location of an eagle's
 11 nest.

12 We identified that and observed it, but as you
 13 can see, it's quite a distance away from where the
 14 new plant work will be done. Again, most of the
 15 activity will be right in this area and then over
 16 to the southwest where the water storage basin will
 17 be. So we don't see any concerns about disturbing
 18 that potential nesting area.

19 COMMISSIONER JOHNSON: Does that
 20 look like a little over a mile?

21 MR. LEE: Yeah. I think this is
 22 from here to here it's a mile; right, Bill?

23 MR. SWANSON: Yep.

24 MR. LEE: So it's about a mile to a
 25 mile and a half from where most activity will be.

1 We also looked at the aquatic ecosystems.
 2 Fisheries are not a big issue. The Whetstone River
 3 runs to the south of this site, but there will be
 4 no impacts to that. As was mentioned earlier, this
 5 is a zero liquid discharge facility so there will
 6 be no direct discharges to that river.

7 The existing intake will be used on the
 8 Big Stone Lake for water appropriation so you won't
 9 see any impacts there with construction.

10 With regards to wetlands -- actually maybe I
 11 can back up briefly here. In this area this is the
 12 new storage pond. There will be approximately
 13 58 acres of wetlands that will be inundated.
 14 They're kind of generally in this low point right
 15 in through here. Those will be inundated with the
 16 construction of that basin.

17 The mitigation of those impacts will be
 18 addressed through the U.S. Army Corps of Engineers'
 19 permitting process. It is likely that we'll be
 20 mitigating that through enhancement or construction
 21 or additional wetlands in the vicinity that would
 22 probably add a ratio of one and a half to one. So
 23 if we're taking out about 60 acres, we would likely
 24 have to enhance 90 acres of wetlands to address
 25 that.

1 That process has -- discussions have begun
 2 already with the Corps of Engineers on that, but
 3 the permit has not been obtained yet.
 4 We don't see any real issues with land use and
 5 land use controls. Again the existing land uses
 6 for electric generation with the exception of the
 7 water storage pond, that will take out some
 8 agricultural land. But we don't see huge impacts
 9 to that.
 10 We did look at noise under this umbrella
 11 category. There was extensive monitoring around
 12 the existing plant and then modeling of what the
 13 incremental noise impacts might be from the new
 14 plant, and the incremental noise impact was modeled
 15 as being insignificant. It would be barely
 16 perceptible to the nearest receptors.
 17 COMMISSIONER JOHNSON: What is
 18 insignificant?
 19 MR. LEE: I think about 3 decibels
 20 or less.
 21 COMMISSIONER JOHNSON: Okay.
 22 MR. LEE: As far as water quality,
 23 we talked about that quite a bit in some of the
 24 other areas. As I mentioned, Whetstone River, we
 25 don't anticipate any impacts to that river.

1 We did look at the pond water quality, the new
 2 water storage pond, what the water quality of that
 3 would be to see if there might be algal blooms or
 4 other issues within that 500-acre storage basin.
 5 Since the source of that is Big Stone, the water
 6 quality in that basin is expected to be very
 7 similar to Big Stone. There may be some algal
 8 blooms but in general the water quality in that
 9 pond is to be expected pretty good and be --
 10 support water fowl and other wildlife.
 11 I mentioned storm water. There will be a
 12 storm water pollution prevention plan that will be
 13 prepared for the construction period and for the
 14 postconstruction period that will address storm
 15 water management on the site.
 16 Terry talked at length on the air quality air
 17 emissions control so I won't repeat that. I'll
 18 just say that, again, state-of-the-art technologies
 19 will minimize air quality impact.
 20 And it's been mentioned a couple of times on
 21 solid waste there will be additional ash generated.
 22 Some of that will be marketed as concrete additive
 23 if possible, and the remainder would be disposed of
 24 in the existing ash disposal facility on site.
 25 There is expected ash generation rates. There's an

1 estimated about 10 years capacity remaining in the
 2 existing permitted facility.
 3 Shifting a little bit to community impacts.
 4 We looked at impacts to the regional community. We
 5 looked at economic impacts, infrastructure impacts,
 6 potential strains on community services, what the
 7 effects might be on population, demographics, and
 8 cultural resources.
 9 The primary study area was a 20-mile radius.
 10 The plant is right in here, and the circle
 11 represents the 20-mile radius around the plant. We
 12 focused our community impacts assessment surveys
 13 with local government officials were the primary
 14 source for this information. And talked to local
 15 folks. And in some areas that we looked at, as
 16 I'll get into, we broadened that area as it may be
 17 appropriate, but in general we focused on impacts
 18 within the 20-mile radius.
 19 The economic impacts, as you can imagine, are
 20 generally positive and the four-year anticipated
 21 construction period there are expected to be peak
 22 at about 1,400 construction jobs in the area. That
 23 will have multiplier effects through other services
 24 throughout the local economy.
 25 The new plant is expected to require an

1 additional 35 full-time employees, long-term
 2 impacts.
 3 COMMISSIONER JOHNSON: I'm sorry,
 4 John. What was that number?
 5 MR. LEE: 35. Impacts to
 6 agriculture are expected to be minimal. As we
 7 mentioned, we will take about an additional
 8 500 acres of land out of agricultural production,
 9 but other than that, the impacts to agricultural
 10 economy are expected to be negligible.
 11 The commercial and industrial sectors will
 12 benefit through servicing the construction process
 13 and the construction workers. Land values are not
 14 expected to be impacted significantly by this
 15 project. Otter Tail Power has already procured
 16 options on most of the parcels that will be
 17 necessary for the work, for the project.
 18 And then, of course, taxes. There will be
 19 sales taxes, real estate taxes that will derive
 20 from the project and go to local and state
 21 government.
 22 This is a graph of the construction labor
 23 requirements. And the time frame here is
 24 48 months, four years from over here to here. And
 25 it's difficult to read the numbers, but this is

1 1,400 construction workers. And that's where, as I
 2 mentioned, the construction is expected to peak at
 3 about two and a half to three years into the
 4 project. But you can see there's a nice
 5 distribution of work ramping up and then gradually
 6 going down as the project progresses.
 7 Concerns about potential infrastructure
 8 impacts are the availability of housing. It
 9 doesn't look like housing will be a major issue.
 10 This is one area where we expanded the study area
 11 to encompass a 60-mile radius assuming that
 12 construction workers are not averse to traveling
 13 60 miles or more than an hour away to get to work
 14 on a temporary construction project. And there are
 15 over 2,200 hotel/motel beds within that 60-mile
 16 radius. There are also several trailer parks and
 17 campgrounds that would allow for temporary housing
 18 for the construction forces.
 19 Energy needs are not expected to be an issue,
 20 nor are sewer and water. Solid waste management
 21 and transportation, all of these things were looked
 22 at, and we didn't see any pinch points where there
 23 may be specific problems related to the influx of
 24 workers primarily.
 25 Similarly with community services, the

1 information that was gathered by calling and
 2 talking to local health facilities, school
 3 districts, and public safety officials to see if
 4 they had any concerns about this project and the
 5 additional strain that it may cause on their
 6 services, and there was a general consensus that
 7 the existing service would not be overtaxed by the
 8 project.
 9 Population and demographics, again, the
 10 long-term impacts would be modest in this area,
 11 although it would create high-paying jobs as we
 12 mentioned earlier, an estimated additional 35
 13 full-time jobs, but not a major change in the
 14 population or demographics of the region.
 15 We also looked at cultural resources,
 16 historical and archaeological potential issues
 17 there. There was a historical architectural survey
 18 completed around the plant and several -- some
 19 historical buildings were identified, but the
 20 assessment was that they would not be adversely
 21 impacted by the project. Specifically, there were
 22 a few historical round barns in the area, but the
 23 judgment of the historian was they would not be
 24 adversely impacted by the project.
 25 And then there also have been some

1 archaeological sites that have been identified in
 2 the area surrounding the plant, but, again, none of
 3 the intrusive activities, the excavation areas or
 4 where any of the construction lay down would be
 5 done encroaches on any of those previously
 6 identified sites. So we don't expect any impacts
 7 in that area.
 8 I'll just summarize, as I mentioned in the
 9 beginning, on the environmental and community
 10 impacts, again, the environmental impacts appear to
 11 be minimal because of the use of existing
 12 infrastructure and the state-of-the-art
 13 technologies. And community impacts are generally
 14 expected to be positive.
 15 VICE CHAIRMAN SAHR: John, I think
 16 one of the really interesting things about this is
 17 the employment prospects and I'll put you on the
 18 spot and maybe if you can't answer it, I'll bet
 19 somebody from one of the utilities here can.
 20 Would the 1,400 construction jobs and the
 21 35 long-term jobs at the plant, what's the typical
 22 wage for those type of jobs?
 23 MR. LEE: I don't know the answer to
 24 that off the top of my head. I think the long-term
 25 jobs maybe someone from the utility can answer

1 that.
 2 MR. WELK: Mark, go ahead.
 3 MR. ROLFES: I guess a couple of
 4 things on the construction jobs to get -- attract
 5 the skilled labor we're looking at 10-hour days at
 6 least 50 hours a week. So not only are there going
 7 to be high-paying jobs, but there's going to be
 8 overtime on top of that.
 9 These are all skilled people we expect to be
 10 paying 25 to \$30 an hour. Plus for the power plant
 11 permanent employees I think our average loaded wage
 12 is -- you know, with benefits and everything is
 13 approximately \$85,000 a year.
 14 VICE CHAIRMAN SAHR: That's
 15 including like insurance benefits?
 16 MR. ROLFES: Yes. That's all
 17 benefits. They're not taking home \$85,000 in their
 18 pocket.
 19 VICE CHAIRMAN SAHR: . Thank you.
 20 MR. LEE: Okay. Mark will talk
 21 about scheduling.
 22 CHAIRMAN HANSON: John, just one
 23 question, if I may, in case I missed it. Did you
 24 say how much F load there would be from the plant?
 25 MR. LEE: There will be no waste

1 discharge from the plant.
 2 MR. ROLFES: I'll try and quickly
 3 wrap up the project and turn it over to you for
 4 questions unless -- the schedule for the project
 5 going forward, we were in the project development
 6 phase early this year and now we've moved into the
 7 permitting phase and that's why we're here, of
 8 course, is to look at permits.

9 And the expectation is that we would complete
 10 the permitting effort by the fall of next year and
 11 by the fourth quarter in 2006 so that construction
 12 contracts could be let. It would be at financial
 13 close at that time. When we have all the permits
 14 we can go to the banks and get our money, so to
 15 speak. So we'd have financial close at the fourth
 16 quarter next year so that we could begin
 17 construction as early as we can in the spring of
 18 2007.

19 It is a four-year construction period. We
 20 would be looking at commercial operation in the --
 21 around April 1, 2011. It's a long process, but
 22 it's a big project.

23 The other bar on here that I didn't talk about
 24 is engineering, and, of course, there's been some
 25 engineering activity for a long time as we did the

1 studies and now the work to support the effort.

2 That concludes our formal presentation.

3 CHAIRMAN HANSON: Questions.

4 MR. WELK: I think to conclude the
 5 presentation I would like to mark in the record as
 6 Exhibit 1A, which is a CD of the Power Point
 7 presentation, and 1B, which are the actual slides
 8 that were used during the presentation, so we can
 9 record what the public and the Commissioners were
 10 able to see tonight.

11 And so I'd ask for that to be admitted as part
 12 of the record.

13 (Exhibits 1A and 1B are marked for identification)

14 CHAIRMAN HANSON: It will be
 15 admitted. Thank you.

16 MR. SMITH: 1A is the exact same
 17 slides that we saw tonight?

18 MR. WELK: Correct. It's an
 19 electronic format.

20 MR. SMITH: Just so you know,
 21 because nothing here was confidential, all of that
 22 will be available on the Commission's website so
 23 you can have access to it, members of the public,
 24 as soon as we get it up and on there.

25 CHAIRMAN HANSON: Any questions at

1 this time from Commission members?

2 VICE CHAIRMAN SAHR: I have a
 3 question for Mark. Mark, I think you guys did a
 4 good job talking about the energy mix choices or
 5 why you picked the plants you did. Can you talk
 6 about the needs to bring in baseload plants?

7 We've kind of gone through a number of years
 8 we haven't been out there building baseload plants
 9 in this region. And also I think probably a lot of
 10 people in the room already understand this, but
 11 just talk a little bit about why it makes sense to
 12 use coal as a fuel source here and touch a little
 13 bit more on that, please.

14 MR. ROLFES: Quickly, Big Stone I is
 15 baseload resource. Big Stone II is intended to be
 16 baseload resource. Baseload, like Stacie talked
 17 about and I did, that's the power that's there
 18 24 hours a day seven days a week whenever it's
 19 needed.

20 The last major baseload facility to be built
 21 in this part of the country was 1987, and that was
 22 the Sherco III Unit south of St. Cloud, north of
 23 Minneapolis. So since 1987 until now there has not
 24 been a unit put into service. So, you know, being
 25 Big Stone II is looking at 2011 -- so, I mean,

1 we're way over 20 years without a baseload
 2 resource.

3 Just go back and think what has happened since
 4 1987 to the communities of Sioux Falls and Pierre
 5 and Milbank, how much it has grown since that time,
 6 how many people now have computers, two
 7 refrigerators, three televisions in their home, and
 8 it's -- to me as a power professional, it's hard to
 9 believe that we've gone this long without a
 10 baseload facility.

11 I really believe our infrastructure is being
 12 taxed beyond where it should be. We're relying too
 13 much on old inefficient generating sources.

14 The question on why coal. You know, if you
 15 look at our energy mix in this country, almost half
 16 of our oil is imported. Natural gas, which, you
 17 know, most people use to heat their homes, we're
 18 getting more and more of that being imported. It's
 19 to the point that almost 20 percent of our natural
 20 gas is being imported, and we're using it faster
 21 than we're finding it.

22 Coal is the only domestic resource, fossil
 23 fuel resource, that the United States has and has
 24 in abundance. So for energy security I think coal
 25 has to be a cornerstone of our development.

1 You know, currently coal supplies over
 2 50 percent of the electricity in this country, and
 3 it's going to have to continue to be a cornerstone
 4 in our energy mix.
 5 VICE CHAIRMAN SAHR: Mark, with the
 6 existing plant what is the capacity on that? What
 7 percent of the time is that operating?
 8 MR. ROLFES: It's a 450 megawatt
 9 plant. Its capacity factor runs in the high 80s to
 10 low 90 percent.
 11 VICE CHAIRMAN SAHR: And other than
 12 being down for maintenance and those type of
 13 planned outages and certainly unexpected ones could
 14 happen, is it pretty much operating all the time
 15 that it can for the most part? Those are pretty
 16 high numbers.
 17 MR. ROLFES: If you take out planned
 18 and scheduled outages, the plant's forced outage
 19 rate is very low. It's available usually over
 20 98 percent of the time that it's scheduled to be
 21 there. So it is running. And it's producing
 22 heavily all the time.
 23 VICE CHAIRMAN SAHR: And I think a
 24 lot of us have a real interest in wind energy and
 25 realize that certainly could be something important

1 for this region.
 2 Could you just compare that to a typical wind
 3 form you might expect there?
 4 MR. ROLFES: I don't want anyone to
 5 walk away with the impression the utilities are
 6 only looking at Big Stone. This is part of their
 7 generation mix. But, you know, I can speak a
 8 little bit more on the wind resources that
 9 Otter Tail has. It has some in Buffalo Ridge and
 10 some in North Dakota and the capacity factor on
 11 those resources is usually running in the
 12 30 percents. So 30 percent versus 90 percent.
 13 VICE CHAIRMAN SAHR: Thank you.
 14 COMMISSIONER JOHNSON: Question for
 15 Stacie. When you were talking about the energy
 16 availability you're using MAPP figures.
 17 Was there a reason you chose those as opposed
 18 to information on the seven partners?
 19 MS. HEBERT: The application itself
 20 has information. It has those same two graphs for
 21 each of the co-owners. We just didn't want to bog
 22 down with 14 additional graphs. So those numbers
 23 are representative of what each of the co-owners
 24 sees for their individual utility, and I would
 25 welcome you to if you don't have a copy of the

1 application, you can certainly see that information
 2 in the application.
 3 COMMISSIONER JOHNSON: In '05 and
 4 for the next few years it looked like a great deal
 5 of excess energy. Is that being sold as merchant
 6 power, or what are MAPP partners doing with that
 7 now?
 8 MS. HEBERT: It was actually excess
 9 capacity.
 10 COMMISSIONER JOHNSON: Capacity,
 11 yeah.
 12 MS. HEBERT: Some of it's being sold
 13 within the MAPP regions. Some of it's being sold
 14 outside the MAPP regions. And it's really just the
 15 individual load at the utility level that starts
 16 eating away. There could also be some retirements
 17 of the generating units that would lower the
 18 capacity number during that period.
 19 COMMISSIONER JOHNSON: Am I right
 20 assuming there are also some reserves in there?
 21 MS. HEBERT: Correct. Each of the
 22 MAPP member utilities are required to maintain a
 23 15 percent reserve. So you take your expected peak
 24 demand for your utility and you also have to have
 25 capacity for additional 15 percent. That's one of

1 the benefits of being in the power pool.
 2 When everyone has that additional
 3 15 percent -- if, for example, Big Stone I were to
 4 go down, we can rely on our neighbors, our
 5 co-members within MAPP to help supply that power
 6 when we lose our generator. So we don't have to
 7 provide our own backup. We can lean on our
 8 neighbors. Like I say, that's one of the benefits
 9 of MAPP membership.
 10 COMMISSIONER JOHNSON: When you
 11 addressed the possibility of Canadian power, talked
 12 about the barrier the transmission costs would be,
 13 do you have any idea -- I mean, were any studies
 14 done on the costs of undertaking that?
 15 MS. HEBERT: No. I'm not aware of
 16 any. There may have been studies. I'm not aware
 17 of anything done associated with the Big Stone II
 18 project. But that second factor is truly the
 19 energy situation in Canada and the way that they
 20 plan their system based on the energy that's
 21 produced by the hydroelectric generators. And they
 22 don't have an 80 or 90 percent capacity factor so
 23 they end up building more capacity than they need
 24 in order to guarantee that they've got the energy
 25 that they need to serve their customers.

1 COMMISSIONER JOHNSON: Good.
 2 Thanks. For Bill, you talked about the ability to
 3 use existing infrastructure. Will there need to be
 4 upgrades? I'm thinking about the rail. Will there
 5 be any upgrades needed to the railroad spur?
 6 MR. SWANSON: No. The railroad spur
 7 will continue to be maintained exactly the same way
 8 it is. I'm sure with the existing traffic on it
 9 they're going to look at the maintenance of it and
 10 the existing rail and track bed, but as far as the
 11 rail spur goes, as far as the coal supply, it will
 12 be exactly the same.
 13 COMMISSIONER JOHNSON: Big Stone I
 14 uses a cooling pond. Big Stone II uses a cooling
 15 tower. Can you talk a little about why a cooling
 16 tower is a better option for today?
 17 MR. SWANSON: It really comes down
 18 to we actually like the cooling pond a lot. The
 19 cooling tower is a little easier to maintain the
 20 chemistries because you have a very small circuit
 21 of water you're able to control the chemistries.
 22 The chemistries that build up in the cooling
 23 water can build up on the cooling surfaces inside
 24 the plant, the condensers, the various coolers, as
 25 the calcium gets high, has a smaller circuit you

1 can control the energies better.
 2 COMMISSIONER JOHNSON: When I hear
 3 cooling water I'm thinking something that looked
 4 like a typical water tower. Is that about right?
 5 How big are we talking? Am I getting the right
 6 mental picture?
 7 MR. SWANSON: No. I don't know that
 8 I would say -- it's about 200 -- it's probably
 9 shorter than a tower. It's about maybe 100 yards
 10 long, 200 yards long. And there are individual
 11 sells on that with a fan on top so there's a
 12 cooling plume that comes out of the top of that and
 13 that evaporation is where the cooling effect comes
 14 from. It's a little different style of tower.
 15 COMMISSIONER JOHNSON: Somebody w
 16 talking about the joint scrubber. Was that -- is
 17 the adjective "joint" to indicate that it's being
 18 used for both plants?
 19 MR. GRAUMANN: Yes. It will be used
 20 for both plants.
 21 COMMISSIONER JOHNSON: There are
 22 efficiencies obviously to gain by that?
 23 MR. GRAUMANN: Right. First of all,
 24 efficiencies in terms of we'll be able to increase
 25 the size of that scrubber by 100 percent. In other

1 words, we would serve both units with an increase
 2 in cost of only about 60 percent. So there's some
 3 cost efficiencies there using that approach.
 4 COMMISSIONER JOHNSON: You talked o
 5 a couple of different instances about with various
 6 emissions, you know, wanting to maintain them
 7 basically at current levels even though we might be
 8 getting a second plant. And I thought you had a
 9 good chart to display sulfur dioxide for that.
 10 I mean, is there new pollution control
 11 equipment being put into Big Stone I to also
 12 respond to mercury and NOx? And, if so, are those
 13 improvements part of the \$160 million that you
 14 referred to?
 15 MR. GRAUMANN: They wouldn't all be
 16 a part of that. The scrubber will be used for both
 17 sulfur dioxide removal and it would also aid in the
 18 mercury removal. So simply because there's a joint
 19 scrubber there will be some benefits from both
 20 units using that type of an approach.
 21 The NOx changes for Unit 1 are simply
 22 operational changes. We haven't included in that
 23 budget estimate any capital costs, additions for
 24 Unit 1. Based on our current evaluation of that
 25 particular unit, we feel that we will be able to

1 make adequate reductions on Unit 1 just with
 2 operational changes so that the overall site NOx
 3 emissions will not increase.
 4 COMMISSIONER JOHNSON: Could you
 5 give me an example of what an operational change
 6 might be that would have that kind of impact.
 7 MR. GRAUMANN: What we'd be looking
 8 at doing, we have an over fire air system on Unit 1
 9 right now that was installed as a part of the
 10 Title 5 requirements of the Clean Air Act. And
 11 that particular requirement required us to get down
 12 to about .86 pounds per million BTU of NOx as an
 13 annual emission, average emission limit.
 14 And that technology, the over fire system
 15 can -- what that amounts to is essentially staging
 16 the combustion so you put in a little less air into
 17 the cyclones and a little more air above and what
 18 that does then is it changes the mix for the
 19 combustion air and so it results in a decrease in
 20 NOx emissions. And we are planning on running that
 21 over fire air system just a little harder to be
 22 able to accommodate the Big Stone II.
 23 COMMISSIONER JOHNSON: Is there a
 24 reason that those operational changes haven't been
 25 implemented prior to, you know, this discussion?

1 MR. GRAUMANN: We haven't been doing
2 that. We've started operating that system back in
3 2000. That was the first time that the system was
4 actively used for extended periods of time. We've
5 been working with that system during that time.

6 In the meantime, we've installed some other
7 emission controls equipment, and we're just trying
8 to figure out how to balance all of our plant
9 operation and the testing of that over fire system
10 will be ongoing between now and when we bring the
11 Unit 2 on line.

12 COMMISSIONER JOHNSON: I thought th
13 group collectively did a good job talking about the
14 fact that emissions will be -- at today's levels
15 are lower.

16 Have there been any studies, though, about
17 the impacts, environmental, of emissions from
18 Big Stone I?

19 MR. GRAUMANN: We haven't had any
20 direct environmental impacts on Big Stone I, at
21 least not anything recent. We had an ambient air
22 monitoring station that was set up around the site.
23 In fact, we had operated it for a while, and I
24 believe the South Dakota Department of Environment
25 and Natural Resources operated it for a period of

1 time. But that equipment I don't believe has been
2 in operation for probably close to 20 to 25 years,
3 something like that.

4 COMMISSIONER JOHNSON: Mr. Chairma
5 that's all I've got. Thank you.

6 CHAIRMAN HANSON: I have just a few
7 questions.

8 Stacie, I'm curious, when you're looking at
9 MAPP, and I would assume that you also looked at --
10 have dealings with MISO at the same time and that
11 you are looking at some potential constraints that
12 we're often told about in transmission systems.

13 Can you tell us, are there hurdles there yet
14 that you have to go through?

15 MS. HEBERT: Now are you talking in
16 terms of where we could look to find additional
17 generating capability be that purchases, that type
18 of thing?

19 CHAIRMAN HANSON: Additional load
20 and the ability to transmit the energy outside the
21 region.

22 MS. HEBERT: MISO, of course, has a
23 little different function than MAPP. MISO is a
24 transmission organization.

25 I can tell you transmission constraints that

1 we see in this region do limit in Otter Tail's case
2 where we can actually go out and buy capacity in
3 energy. There are transmission constraints that
4 will -- we've had times where we wanted to purchase
5 energy from Canada, and there's a constraint down
6 in Nebraska that makes that -- I'm talking a
7 short-term transaction there but constraints in the
8 transmission system down in Nebraska can cause
9 it -- our transmission request can be denied.

10 CHAIRMAN HANSON: So there are still
11 hurdles that you face in the transmission.

12 MS. HEBERT: Certainly. Certainly.

13 CHAIRMAN HANSON: Okay.

14 MS. HEBERT: We see those
15 transmission constraints on a day-to-day basis. So
16 certainly as we're looking out for a long-term
17 resource, transmission constraints are an issue.

18 CHAIRMAN HANSON: Thank you. I'm
19 not certain who would prefer to answer the question
20 regarding transmission, but I'm curious on the
21 additional transmission system that you plan to
22 construct, and I recognize a lot of it's not going
23 to be in South Dakota, although we would actually
24 prefer that it be in South Dakota, we'd like to see
25 some excess capacity for wind generation in this

1 state.

2 Could you fill us in a little bit perhaps,
3 Mark, on how much of the excess capacity that you
4 presently have that you're going to use to increase
5 in transmission capacity that you plan to construct
6 and if there is any potential for new excess
7 capacity that may be married to renewable energies.

8 MR. ROLFES: Okay. I'll try and tie
9 a couple of things together. One, that whole
10 process is moving forward to the MISO process, and
11 we do have interconnection requests and delivery
12 service requests in with MISO. We didn't address
13 that in this presentation because it's --

14 CHAIRMAN HANSON: Understood.

15 MR. ROLFES: With that said, just
16 quickly, the existing Big Stone Plant has four
17 transmission lines out of it. Two of them are
18 230,000 volts and one runs north and one runs
19 south. They are not looked at to be changed at
20 all.

21 There are two 115 kV lines that run north and
22 east and south and east. One goes to Morris. One
23 goes to Granite Falls. We have looked at what it
24 would take to get the power generated by a
25 600 megawatt unit out into the system.

1 I'll begin with there's no excess capacity
 2 that exists today. So we're looking at additional
 3 construction to serve the new unit.
 4 Our needs can be met by upgrading those two
 5 115 lines to 230,000 volts. Then we're also
 6 looking at a couple of options, but to make it
 7 simple those could just be upgraded to 230 volts to
 8 take care of the needs for this project.
 9 We are looking at the regional needs and
 10 regional plans and are very strongly considering
 11 building the south line at 345 kV. That line is
 12 looking at roughly half to be in South Dakota, half
 13 in Minnesota. If we go ahead and are approved by
 14 the Commission to build that 345, we expect to have
 15 an additional capacity that could come close to
 16 1,000 megawatts.
 17 Because of open access it's a first-come
 18 first-served so this would facilitate the ability
 19 for wind, but it wouldn't guarantee because, again,
 20 of open access, it's a first-come first-served.
 21 But we are strongly looking at the possibility of
 22 overbuilding transmission to facilitate regional
 23 needs.
 24 CHAIRMAN HANSON: Thank you very
 25 much. I appreciate that. That's exciting to hear.

1 Could you perhaps -- Mark, you may also be the one
 2 to answer this, but obviously you'll feel free to
 3 pass it on.
 4 We hear about the costs of natural gas. We
 5 see every day that it's climbed so tremendously
 6 over the past few months even. Coal certainly
 7 doesn't fluctuate nearly as much and we have, as I
 8 understand, 250 years worth of coal in
 9 North America.
 10 What can we anticipate with the price of coal
 11 versus the price of natural gas? Do you have your
 12 soothsayer hat on?
 13 MR. ROLFES: That's probably a good
 14 analogy. One of the long-range concerns is natural
 15 gas and coal are competing so if natural gas prices
 16 go through the roof, coal may want to take some of
 17 the gravy that goes with that.
 18 But because we see competition -- there's a
 19 number of mines in the Powder River Basin all
 20 producing this similar type of fuel -- we believe
 21 that competition will minimize some of that impact.
 22 But if the cost of natural gas doubles and triples,
 23 we know there will be some influence on the coal
 24 price, but we expect it to be much, much, much
 25 smaller than what we see in natural gas.

1 CHAIRMAN HANSON: Thank you. I'm
 2 curious about the increase in rail traffic to the
 3 area. Perhaps I missed it in the presentation.
 4 Approximately how much additional traffic will
 5 there be, cars, trips through, things of that
 6 nature?
 7 MR. ROLFES: These are real simple
 8 numbers. Currently the existing unit gets a train
 9 on the average every other day. When Big Stone I
 10 was built and operated on North Dakota Lignite,
 11 lignite is a less dense, lower BTU, higher moisture
 12 fuel, and we were using steel cars.
 13 Because of that, when Big Stone was built and
 14 for the first 15 years of operation it got a train
 15 a day. Now because we're on better coal, we're
 16 getting a train every other day. With both units
 17 we expect the train traffic level to be back to the
 18 level it was in 1975 through 1990 roughly, and that
 19 is one train a day. So the area has seen train
 20 traffic, you know, that high for 15 -- for a
 21 15-year period with one train a day instead of a
 22 train every other day.
 23 CHAIRMAN HANSON: Are you a captive?
 24 MR. ROLFES: Yes, we are.
 25 CHAIRMAN HANSON: Okay. Thank you.

1 Any further questions?
 2 COMMISSIONER JOHNSON: Mark, I
 3 thought you did a good job of explaining the
 4 potential -- again, this is a question on this
 5 particular plant so my apologies.
 6 You talked about the potential overbuild for
 7 transmission on the south line. As you look at
 8 moving from 115 kV to 230 on the two lines going
 9 east, would there be excess capacity created there,
 10 first off?
 11 MR. ROLFES: Well, going from 115 to
 12 230 will not yield much, if any, excess capacity.
 13 COMMISSIONER JOHNSON: What would
 14 the approximate, you know, approximate cost,
 15 marginal cost, of going from -- instead of 115 to
 16 230, going from 115 to 345?
 17 MR. ROLFES: I have the marginal
 18 costs roughly from going to 230 to 345, and that's
 19 in the neighborhood of \$25 million.
 20 COMMISSIONER JOHNSON: Chump chan
 21 really. And that would be for both lines, both the
 22 southeast and the northeast line?
 23 MR. ROLFES: No. This is only
 24 looking at 345 for the south line. And the south
 25 line parallels the Coteau Hills and the north end

1 of the Buffalo Ridge. So it's the area where we
2 would expect the region to need additional
3 capacity.

4 The line that runs north to Morris is not a
5 prime wind development. We don't expect the needs,
6 the regional needs, to justify anything more than
7 230 on that line.

8 COMMISSIONER JOHNSON: Okay.
9 Perfect. Thank you.

10 VICE CHAIRMAN SAHR: Mark, one last
11 question. Have you looked at all -- obviously this
12 is a major investment. Have you looked at any sort
13 of potential rate impact?

14 For the investor-owned companies we do set the
15 electricity rates. Do you see any expected
16 increase, decrease, so on and so forth? We'll take
17 a decrease but --

18 MR. ROLFES: I can probably assure
19 that there won't be a decrease because of this.
20 Each utility looks differently. I don't know,
21 Stacie, if you are in a position to comment. I
22 don't know, to be honest.

23 MS. HEBERT: Like Mark said, each
24 utility is taking a look at that on an individual
25 basis, and that's something that we're working on

1 as part of the Minnesota certificate of need
2 process, but I don't have anything available for
3 you right now.

4 VICE CHAIRMAN SAHR: Thank you.

5 CHAIRMAN HANSON: Thank you.
6 (A short recess is taken)

7 CHAIRMAN HANSON: Ladies and
8 gentlemen, I have just a couple of announcements
9 before we get on our way with public testimony.
10 The first is that we do have a sign-up sheet as we
11 explained earlier. You will need to place your
12 address on the sign-up sheet if you wish to receive
13 any of the mailings so please be sure to do that.

14 Right now, however, the sign-up sheet is up
15 here with Cheri. You can go ahead and sign your
16 name a second time with the address if you haven't
17 already on a sheet back there in case you don't
18 find your name back there.

19 When we take public testimony you will
20 obviously need to use your outside voice. Pretend
21 you're an auctioneer at an auction. You don't have
22 to speak quickly. We prefer you enunciate, and we
23 have an opportunity to hear you. We want everyone
24 to have an opportunity to be a part of this and to
25 hear what is being said.

1 Would you please -- if you are having trouble
2 speaking loud enough, you may see a few folks like
3 this (indicating). It's very important that the
4 court reporter be able to hear what you're saying
5 so if you're having problems projecting and you see
6 some hands cupped to our ears, you will move up
7 here, please, and speak in the general direction of
8 the Council and the court reporter.

9 COMMISSIONER JOHNSON: I'd just make
10 one other comment. Chairman Hanson did make a good
11 point about the importance of signing in. I'd add
12 one more reason. That's really our public record
13 of who was here tonight, who in the community and
14 the region felt it was important enough to come
15 out.

16 Even if you don't say anything, we'd be
17 interested in making sure we have your attendance
18 noted.

19 VICE CHAIRMAN SAHR: Mr. Chairman,
20 may I add one more thing? I'm just curious, show
21 of hands for my sake how many people are in favor
22 of the plant or feel good about it right now?

23 (Hands are raised)

24 VICE CHAIRMAN SAHR: The utility
25 guys up front for the utility, you better raise

1 your hand. Thank you.

2 CHAIRMAN HANSON: I also noticed a
3 number of elected officials who are in the
4 audience, and I'd like to point out that Val Rausch
5 and Steve Street, Representatives, are here, if you
6 would raise your hand and say howdy.

7 Additionally, Jim Peterson, State Senator, I
8 believe I saw him. And County Commissioners, I saw
9 a group of them conspiring somewhere. We'd like to
10 say hello. Acting Mayor Don Larson from Milbank.
11 There you are. As well as Mayor Deb Wick from
12 Big Stone. We appreciate very much having you here
13 this evening.

14 Bruce Gerhardson would like to make a couple
15 of comments, address the captive coal issue before
16 we get in with the public testimony. You can fault
17 me for asking that particular question.

18 MR. GERHARDSON: I'll actually -- if
19 you don't mind, if you're not sick of Mark Rolfes,
20 I'll have Mark speak to it. Mark is I think in
21 many ways better than I. I will certainly fill in
22 if you prefer.

23 CHAIRMAN HANSON: I was informed
24 that you needed to address that issue. Thank you.

25 MR. ROLFES: When the question was

1 asked about captive rail and I just responded as
2 yes but maybe a little bit more explanation so
3 everybody understands what we're talking about and
4 the process.

5 Right now the existing Big Stone I unit and
6 the proposed Big Stone II unit can only receive
7 rail deliveries from the Burlington Northern
8 Sante Fe Railroad. So when we say we're captive it
9 means we only have a single rail supplier we can go
10 to. There is not competition.

11 Just a little sidelight to that. There is an
12 organization referred to as the Surface
13 Transportation Board. It's what used to be the
14 Interstate Commerce Commission, but now it's the
15 Surface Transportation Board that's supposed to
16 regulate disputes when a customer feels that they
17 are being overcharged by the railroad.

18 And currently we are involved in a Surface
19 Transportation Board case that's pending. In fact,
20 we expect a decision very soon. That is a very
21 long and tenuous process that we have been at for
22 many, many years. It's a very cumbersome process.
23 That proceeding will set the tariff rate for a
24 20-year period for fuel shipments.

25 So we are captive, one supplier that does --

1 has the ability to have monopolistic tendencies,
2 and our remedy is to go to the Surface
3 Transportation Board for setting of our rates,
4 which is a long, cumbersome process.

5 CHAIRMAN HANSON: Thank you very
6 much, Mark. We'll give the public testimony
7 portion of the hearing. We'll appreciate hearing
8 from any citizens who wish to speak to the
9 Commission at this time.

10 MR. SOKOLSKI: My name is
11 Adam Sokolski. I represent the Izaak Walton League
12 of America. We've got members all across the
13 country, including several major chapters here in
14 South Dakota as close as Watertown. I'm going to
15 ask that my written comments be added to the record
16 of today's hearing. I'm going to go ahead and
17 insert some handwritten -- not notes but
18 corrections to it.

19 I'm an energy associate for our Izaak Walton
20 League's Midwest Office in St. Paul, Minnesota. I
21 work on energy issues throughout the region
22 together with our partners for Minnesota For Energy
23 Efficient Economy, The Union Of Concerned
24 Scientists, and -- excuse me. Intending to
25 intervene in the South Dakota Public Utilities

1 Commission proceeding regarding the Big Stone II
2 project.

3 We have concerns about the proposed Big Stone
4 II power plant, not the least of which that it
5 would be a substantial increase in carbon dioxide
6 emissions over today's. This is an environmental
7 issue and a financial issue. The world's emerging
8 response to global warming will inevitably
9 transform the regulatory climate in the years
10 ahead. These new laws will in turn change the
11 economics and the technology of electrical
12 production.

13 This will make high carbon energy sources
14 relatively more expensive than they are today,
15 while low carbon energy sources become better and
16 cheaper through technological advanced economies of
17 sale and government initiatives.

18 The Big Stone II partners have proposed a
19 high-risk, high-cost power plant when you consider
20 the ratepayer costs that are likely under a
21 carbon-capped regulatory scenario. Just this
22 summer the United States Senate passed a resolution
23 nonbinding supporting, "a comprehensive and
24 effective national program of mandatory,
25 market-based limits and incentives on emissions

1 of greenhouse gases." The regulatory path ahead
2 puts a hefty price tag on proposals such as
3 Big Stone II.

4 In fact, Otter Tail Power is one of the main
5 proponents of the project. Their largest customers
6 in Minnesota, Enbridge Energy Corporation, which is
7 a large natural gas pipe line as well as an oil
8 pipeline, is seeking to insulate itself from the
9 high costs and risks of future fossil fuel
10 regulation from investments such as Big Stone by
11 seeking from Otter Tail a long-term contract that
12 is keyed into the costs of a new wind power
13 development in the other Dakota, North Dakota.

14 The Izaak Walton League, Minnesotans For An
15 Energy Efficient Economy, and the Union Of
16 Concerned Scientists appreciate the opportunity to
17 participate in the South Dakota PUC's proceeding.
18 Thank you.

19 And may I add this to the record?

20 CHAIRMAN HANSON: Yes.

21 (Exhibit 2 is marked for identification)

22 CHAIRMAN HANSON: Is there any
23 further public testimony, please. You may also ask
24 questions if you have any concerns.

25 MS. WHITE: Thank you for allowing

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1 me to speak tonight. My name is Deanna White, and
 2 I am with the Sierra Club, and I'm here on behalf
 3 of the several thousand members in the Sierra Club
 4 that live in South Dakota and in Minnesota.
 5 I had a couple of questions about the
 6 presentation that I'd like to I guess get into the
 7 record. My comments aren't as neatly typed and
 8 organized as other folks, but there were just a few
 9 thoughts and concerns that I wanted to make sure
 10 were part of the record.
 11 Sierra Club has submitted official comments in
 12 writing as part of the scoping process, but I
 13 wanted to just hit some of the highlights and
 14 concerns and we'll make sure copies of our written
 15 comments were also submitted to the PUC for your
 16 perusal.
 17 First, in terms of the questions on the
 18 presentation, I was a little confused and math
 19 isn't my strong suit and never has been but I
 20 noticed that on the MAPP deficit diagram there was
 21 an awfully sharp move from, you know, the plus side
 22 to the negative side. And I didn't see why that
 23 was, why all the sudden in, you know, 2007 I
 24 believe it was that number just suddenly became a
 25 deficit. So I'd be curious to know more about

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1 that.
 2 I'm also very encouraged to hear that some of
 3 the emissions might be cut by as much as 50 percent
 4 of current levels, and I would hope that efforts
 5 would be made in Big Stone I or the existing
 6 Big Stone Plant to cut those emissions with or
 7 without Big Stone II. I think that if that
 8 technology exists, which is what you're telling us
 9 this evening, I would hope that you would consider
 10 that option.
 11 And the other concern that I had or question
 12 that I had when you were going through the
 13 environmental impact specifically as well as the
 14 community impacts that this proposed plant would
 15 have is it seemed like you were really looking just
 16 at the footprint for the actual building of the
 17 plant, and I think it's important for the
 18 Commissioners, for the public, and for the folks at
 19 Otter Tail to consider the broader impact. Because
 20 that is where most of the concerns that folks have
 21 with the building of this plant lie.
 22 You're talking about, you know, more trains.
 23 You're talking about the effect that's going to
 24 have as those trains travel through communities
 25 well outside of your 20-mile radius. You're

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1 talking about potential increases in other criteria
 2 pollutants including mercury which is going to
 3 spread far beyond the immediate community of the
 4 plant and the holding pond.
 5 And, you know, we think that there are some
 6 real concerns about the impact that that's going to
 7 have on the health of folks that live within the
 8 area of those pollutants are going to be part of
 9 the air that they're breathing. That's going to
 10 have an impact on their health, going to have an
 11 impact on our economy, not just in terms of the
 12 increased costs in hospital visits and asthma and
 13 other problems that folks are going to be facing
 14 that are going to contribute to increased hospital
 15 visits and other problems, but, you know, I grew up
 16 in South Dakota. We hunt and fish. We're
 17 outdoors. Those rivers, streams, lakes are
 18 incredibly important to us. We're already seeing
 19 problems in Minnesota that are creeping into
 20 South Dakota with mercury pollution in our lakes
 21 and streams that has an impact not just on what I
 22 get to do on the weekend but it has a huge impact
 23 on the tourism that has a fundamental base for
 24 small communities in rural South Dakota.
 25 I'd encourage you to really consider that

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1 impact as well and the potential impact on tourism
 2 and our quality of life as well as the global
 3 warming impacts and all of the other things that I
 4 know folks are going to be talking about tonight.
 5 I think just to keep it short because it's
 6 getting late, why are we committing, you know,
 7 another 40 years and another billion dollars to a
 8 technology that's already out of date? We need to
 9 be exploring other alternatives to coal and other
 10 alternatives to building new polluting coal fire
 11 power plants. We should be investing in
 12 alternative energy. We should be investing in
 13 energy efficiency, and we should be looking at
 14 other alternatives instead of trying to do the same
 15 thing over and over again.
 16 Thank you for your time, thank you for your
 17 attention, and I'll make sure we get copies of our
 18 official comments for your record.
 19 CHAIRMAN HANSON: Thank you, Diana
 20 (sic). And I think it's appropriate to have
 21 answers to those questions at this time. I believe
 22 the Commissioners didn't ask the question. It's a
 23 very good question about the reduction in
 24 generation. The Commissioners didn't ask that
 25 question because we knew the answer. Certainly

1 we'd like to hear from Otter Tail and -- excuse me,
 2 Big Stone, whomever.
 3 MS. HEBERT: The question that Diana
 4 raised had to do with the steep increase in
 5 deficits that's seen in the MAPP power pool
 6 beginning in 2010. There's really three reasons,
 7 three drivers behind that decrease. One of them
 8 being load growth of the utilities. The second one
 9 could be retirement of existing generating plants
 10 that have reached the end of their useful life and
 11 so no longer are going to be generating
 12 electricity. And the third possibility, a lot of
 13 utilities in MAPP have capacity purchases from
 14 other utilities. So another factor is that they
 15 may have capacity purchases that expire in that
 16 2010, 2011 time frame and out beyond that too. So
 17 those are three reasons why the amount of capacity
 18 available could be shrinking going forward.
 19 CHAIRMAN HANSON: Stacie, is that a
 20 MAPP-generated graph that you presented?
 21 MS. HEBERT: That is not a
 22 MAPP-generated graph. That's a Big Stone-generated
 23 graph. But that data is pulled from the
 24 Midcontinent Area Power Pool website, and that
 25 reference is included in the application.

1 CHAIRMAN HANSON: Thank you. Other
 2 questions for were emissions reductions and a
 3 desire to see additional emissions reductions and
 4 concern for environmental impact outside of the
 5 immediate area of the plant.
 6 Could you address that for us, please.
 7 MR. ROLFES: Just to make things as
 8 clear as possible, in our presentation we talked
 9 about a joint scrubber. What that is is a scrubber
 10 that will scrub the emissions from not only the new
 11 unit but the existing unit.
 12 And I want everybody to be very clear that the
 13 rules and regulations and such in place today do
 14 not require that. All we would have to do is build
 15 Big Stone II to the standards that are applicable.
 16 We are proposing to make this a better project
 17 by building a scrubber that is twice as big and
 18 taking the exhaust gases from Big Stone I to that.
 19 So even though the output from the site will more
 20 than double, SO2, which is the primary pollutant
 21 removed by the scrubber, will probably be roughly
 22 15 percent of what it is today. We're reducing it
 23 by 85 percent.
 24 The other pollutants that people are normally
 25 concerned about, nitric oxide and mercury, we're

1 making -- the scrubber and other changes will
 2 ensure that the emissions are no greater -- either
 3 less than or equal to what is coming out today.
 4 So for SO2, NOX, and mercury the effect on the
 5 surrounding area can only be positive from where it
 6 is today.
 7 CHAIRMAN HANSON: Thank you very
 8 much. Are there further questions or comment at
 9 this time? This is not necessarily just opponents
 10 by any means. We're interested in hearing what
 11 people have to say.
 12 MR. KEEGEL: Commission members,
 13 thank you for coming down this evening. It's a
 14 long distance to be and a late evening. Concerned
 15 members of the community, thank you for taking a
 16 few moments here.
 17 My name is DeWayne Keegel. I work for
 18 Missouri River Energy Services, otherwise known
 19 as -- our financing arm is Western Minnesota
 20 Municipal Power Agency, one of the owners of this
 21 potential project.
 22 On behalf of Public Power I was asked to
 23 deliver, you know, a brief statement of our member
 24 communities. We represent 59 municipalities within
 25 the State of Minnesota, South Dakota, Iowa, and

1 North Dakota. Of that, 22 of our member
 2 communities are in the State of Minnesota, 12 in
 3 the State of South Dakota. We serve on their
 4 behalf. They are not-for-profit agencies, as we
 5 are, so we try and represent their interests.
 6 Their three primary concerns are, number one,
 7 that we produce energy for them in a very
 8 environmentally friendly manner. Two, that we do
 9 that at a very cost-effective rate and that we do
 10 that in a very reliable format.
 11 We're excited about the Big Stone opportunity
 12 because, number one, from an environmental
 13 standpoint we're more than doubling the generation
 14 from the existing site, and we're reducing the
 15 emissions output. That meets one of the criteria
 16 from our members. They're quite excited about that
 17 opportunity.
 18 Back in 1980 we built our last generation
 19 resource in Wheatland, Wyoming in Laramie River
 20 Station. That unit has met our members' needs from
 21 1980 until 2009, where in 2010 we go into our
 22 generation deficit which we see in the MAPP Region.
 23 So from our member communities we see the same
 24 types of things that have been reported as you'd
 25 expect as members of MAPP.

1 Currently we continue to build those types of
 2 reserves in the peaking power facilities where
 3 we're utilizing natural gas. That we see as a
 4 stopgap to meet our reserves. Our member
 5 communities also have integral programs for
 6 integrating wind resources into the community. We
 7 see the potential opportunities from the new
 8 transmission lines as also contributing to the
 9 further development of those types of resources.

10 So on behalf of Public Power what we'd like to
 11 state is that we see this as a very viable
 12 opportunity for providing cost-effective, reliable
 13 energy that takes into account the environmental
 14 issues well into the future.

15 We anticipate this resource to contribute to
 16 the needs of our members, those nonprofit people
 17 who elect the boards that direct us well into the
 18 future as much as 50 years. So on behalf of
 19 Public Power, that's what we'd like to state.

20 Thank you, folks.

21 CHAIRMAN HANSON: Thank you.

22 Further comment?

23 MS. WERDEL: Good evening. My name
 24 is Nancy Werdel, and I work for Western Area Power
 25 Administration. The project applicants have come

1 Further comment, please. Good evening.

2 MS. MEYERS: Good evening. My name
 3 is Nettie Myers. I'm the President of Utility
 4 Shareholders of South Dakota representing over
 5 2,000 members of utility shareholders of the
 6 investor-owned utilities in South Dakota, and we
 7 wholeheartedly support this project.

8 Thank you.

9 CHAIRMAN HANSON: Thank you.

10 Further comment, please.

11 MR. LIEBE: I'm a local resident.
 12 I'm also a member of the Board of Directors of
 13 Utility Shareholders. I'm not here in that
 14 capacity. I'm here as a consumer, a shareholder,
 15 and a concerned citizen.

16 I am definitely in favor of this project from
 17 the -- I was at the energy seminar that was put on
 18 at the PUC in Sioux Falls, and the demonstration of
 19 the need for power is great and if we're going to
 20 expand in our community, farm communities, rural
 21 communities are going to grow, I'd like to see
 22 people pushing for something rather than being
 23 against all the time. We're against this, we're
 24 against that.

25 We hear the most efficient electric energy

1 to Western for an interconnection request, and as a
 2 result of that, Western will be preparing an
 3 Environmental Impact Statement under the National
 4 Environmental Policy Act, which is a federal law
 5 for federal projects. And because of their
 6 interconnection request this is part of a federal
 7 project.

8 I just would like to remind the members of the
 9 public who are in attendance and other
 10 organizations that there are actually five separate
 11 processes that they need to be engaged in for this
 12 project, including the PUC's plant siting process,
 13 as well as the State of South Dakota's transmission
 14 siting process. And the State of Minnesota has two
 15 processes for their certificate in need and also
 16 high voltage transmission project.

17 Some of those are in various stages of the
 18 permit processes, and please make sure that you
 19 engage in all of those processes so that you can
 20 provide your comments.

21 And Western has a website where we will be
 22 providing information on the EIS at www.wapa.gov,
 23 and look under the interconnection projects.

24 That's all. Thank you.

25 CHAIRMAN HANSON: Thank you, Nancy.

1 would be nuclear energy. And yesterday or the day
 2 before I heard on TV that the effects of Chernobyl,
 3 the accident that was so great, it was so great, is
 4 actually very minimal. It was a percentage of what
 5 they said it was going to be. And I'd like to see
 6 people be in favor of something rather than against
 7 it, against everything and cause everyone else a
 8 lot of extra expenses and stuff to get something
 9 through that we need for our community, our area,
 10 to grow economically. And I'm definitely in favor
 11 of this project.

12 CHAIRMAN HANSON: Further comment,
 13 please.

14 COMMISSIONER JOHNSON: If you
 15 gentlemen are the Three Musketeers, we're the
 16 Three Stooges.

17 MR. PETERSON: For those of you who
 18 don't know, I'll begin because I'm the senior
 19 member of this group. I'm Jim Peterson, State
 20 Senator, District 4. We want to welcome our PUC
 21 people. It's great to have you here. We really
 22 appreciate it.

23 And I just have to welcome Chris Madsen back.
 24 Chris and I sat one chair apart my first year in
 25 the house, and I really respect that gentleman. I

1 just wish that he would have stayed and he would
2 have been our speaker, but he's a tremendous asset
3 to whoever got him here.

4 You know, when we looked at this during the
5 legislative session there were a couple of things
6 that we were looking at. One was the economic
7 development, and everybody has heard about the
8 economic impact to the community. You've heard
9 about the jobs. You've heard about the workers
10 that are going to come in, how it's going to
11 benefit the restaurants and everything else.

12 Tonight you heard about a potential
13 development that can occur from Milbank and for
14 40 miles south. We have the Coteau Hills running
15 through Grant County, Deuel County down into
16 Brookings County, one of the prime wind areas of
17 South Dakota. Mark told you that this is being
18 overbuilt going south. There's a tremendous
19 potential. Every megawatt of wind costs about
20 \$1.3 million dollars. A lot of farmers down in
21 Deuel County are really excited about maybe being
22 able to add wind generation on.

23 Another thing that we looked at was the
24 environmental impact. And Mark explained tonight
25 about how this is going to be a win-win situation

1 for our district, for our area, because the total
2 emissions from both plants will be less than the
3 current plant. The nitrous oxides, the sulfur
4 dioxide, mercury, it's all going to be less.

5 It's a win-win deal. It had tremendous
6 legislative support. There was almost unanimous
7 support for the incentive bills that we came up
8 with. And we feel it's great for the community.
9 We feel that Otter Tail has been a tremendous
10 asset, and we really want to see this project go
11 forward.

12 I'll let the other guys speak. Go ahead, Val.

13 MR. RAUSCH: Get in between those
14 two Democrats. They do look out for me. It's a
15 wonderful working relationship that we have as
16 Representatives of District 4 in the Senate and the
17 House, and Senator Peterson is absolutely correct.
18 It almost was complete unanimous. Statewide
19 looking at this type of project, at the
20 opportunities to bring more people into our state,
21 not just to work, some will come to live, but just
22 a -- in the future an extra value added to our
23 property.

24 We always think of we're an ag state. We're
25 an ag state, but we finally have another

1 opportunity for the largest private construction
2 project in the State of South Dakota, \$1 billion.
3 And the revenue that that's going to generate for
4 all of us in the state and the ones that are our
5 neighboring states at least through the
6 construction, just a great opportunity for us.

7 And Senator Peterson's right. Environmentally
8 we looked at all of those things, and we just
9 couldn't see where it was a lose situation.

10 Is there some downsides in big construction
11 projects and a bunch of strangers coming in? Yeah,
12 there is. But we did it 25, 30 years ago, and
13 they've been a great neighbor for 30 years.
14 They've been active in our communities, and they
15 have treated us well.

16 They've continued to put money in that plant
17 when the EPA and those things haven't required them
18 to do so because they want to be a good neighbor.
19 They want to run a good facility. We're glad to
20 have them as a neighbor. We're here to support the
21 project and give them whatever help we can from our
22 roles and give our constituents what I think we all
23 want and that's growth in our areas and a more
24 sound economy. Thank you.

25 MR. STREET: I concur with the

1 gentlemen's statements. I speak as a neighbor. I
2 live 18 miles south of the existing facility. My
3 role as a state legislator, we've supported this
4 project. I'd like to go on record as
5 congratulating Mark Rolfes and his crew doing a
6 wonderful job of creating a plan for a very
7 environmentally friendly electrical plant. They've
8 done a great job.

9 Really the relationship I can speak most about
10 is our representing Northern Lights Ethanol. We
11 exist on the property of Big Stone I. We lease our
12 land from them. We've been in business with them
13 for six years now. Over the course of those years,
14 of course, we've run into some problems. And it's
15 solving those problems -- that's where they really
16 shine. The utmost professionalism when you have
17 problems with them -- not with them, but when
18 problems creep up they get solved in a very
19 professional manner, and I think that speaks well
20 of both parties. It's just been a good
21 relationship.

22 And I'd just like to go on record again as
23 congratulating Otter Tail for doing a wonderful
24 job, Mark, and the rest of you. Way to go.

25 CHAIRMAN HANSON: Thank you.

1 Further comment, please.
 2 MR. TUCHOLKE: After the team
 3 approach, this isn't going to be as exciting. I'm
 4 Clayton Tucholke, Gene Mann, Grant County
 5 Commissioners. We'd like to welcome you to Milbank
 6 and Grant County, appreciate you coming up.
 7 We've been around I guess representing the
 8 Commission. We've been involved in this right
 9 before the start back before anybody else heard
 10 about it, the Commissioners do, and our questions
 11 have been answered. We're very supportive of
 12 what's happening, especially looking back the
 13 30 years we've been involved and seeing the other
 14 one built and looking forward to this one here
 15 coming to Grant County for the need for the power.
 16 And it will be a great thing for our economy in the
 17 future.
 18 MR. MANN: I'm Gene Mann and also a
 19 County Commissioner, and I guess one thing that has
 20 struck me tonight that I just really thought of,
 21 I've been a Commissioner for 15 years and Chairman
 22 of the Planning and Zoning Board for 15 years,
 23 12 years previous to that on the City Council. And
 24 I have never heard a Complaint about the way the
 25 power plant out here has been operated.

1 And as far as I'm concerned, it's a classy
 2 outfit, and they bend over backwards to cooperate
 3 with everybody around.
 4 Thank you.
 5 CHAIRMAN HANSON: Thank you,
 6 gentlemen. Further comment this evening?
 7 MS. STUEVE: I'd like to take up the
 8 challenge the gentlemen presented about can we push
 9 for something. Yes, we can, and I will push for
 10 something. We can do more. We can do better. We
 11 can do bigger. We can win bigger.
 12 I am Mary Joe Stueve, S-T-U-E-V-E, and I am
 13 here in two capacities tonight. I just joined on
 14 with Clean Water Action South Dakota out of
 15 Sioux Falls. And I have information here that I
 16 would like for the record that I will present.
 17 But I'm also here in the capacity -- I've
 18 raised my four children on a family farm in between
 19 Big Stone County and Traverse County in Minnesota
 20 24 years. I have grandchildren. I have a home in
 21 Graceville, Minnesota. Me and my family and our
 22 children, we live there off and on. We come back.
 23 We intend to move back. I have a home there, I
 24 have land there, and I have an interest in what's
 25 going on here.

1 I will pass these down. I'll place extra
 2 copies in the back for those of you who want to
 3 pick them up. And, for the record, these are a
 4 synopsis of the comments we presented earlier as an
 5 intervening party. And here's contact information.
 6 I'll be the first to admit I like my
 7 electricity and I use it. Four children. I'm on
 8 the farm. We had ice storms. We had power go out
 9 for four or five days and no way to get into town.
 10 I know what it is to have electricity, and I
 11 appreciate it. I will be the first to admit it.
 12 Do we know that South Dakota is considered and
 13 has been rated as the Saudi Arabia along with the
 14 other Upper Midwest states, the Saudi Arabia of
 15 wind energy?
 16 Fact: South Dakota has a potential power
 17 output of 117,200 megawatts. That's the
 18 equivalent of 195 coal plants the size of proposed
 19 Big Stone II. We have that capacity, that
 20 availability. Some will say it's not reliable.
 21 Fact: There's a plant going up, the final
 22 report came in in June just this last year, and
 23 it's called Compressed Air Energy Storage. This
 24 plant is going up down in the Oklahoma, Texas,
 25 New Mexico area. They are putting this --

1 implementing this in. It's Compressed Air Energy
 2 Storage, CAES. It will go online in year three.
 3 I spoke with Dick Kelly this morning, CEO of
 4 Xcel Energy. After he got done speaking I said, Do
 5 you know about this? What does Xcel think about
 6 this? Yes. He says, That's key. That's key.
 7 South Dakota could tap this, could look into
 8 this Compressed Air Energy Storage. It a
 9 three-year time frame to get it on. We have the
 10 underground storage to be able to put the air in to
 11 bring it out at high market demand time and to be
 12 able to -- we have the coal plant. It's usually a
 13 dual operation.
 14 I urge the Commission to look at Compressed
 15 Air Energy Storage. I can get you the report site,
 16 the document. It's titled The Economic Impact of
 17 CAES on Wind in Texas, Oklahoma, and New Mexico.
 18 The other things I would like the
 19 Commissioners -- and I appreciate you coming
 20 tonight. I appreciate the opportunity to speak and
 21 to hear what everyone's talking about. Some
 22 concerns and questions I had with the earlier
 23 presentation:
 24 On the mercury, correct me if I'm wrong,
 25 please. I heard you say we would be at the same or

1 lower levels of mercury emission with the two
2 plants.

3 MR. GRAUMANN: That's correct.
4 That's our target.

5 MS. STUEVE: I might ask at this
6 point in time, please correct me again if I'm
7 wrong, but Big Stone I was grandfathered in before
8 the new emission guidelines came out with mercury
9 emissions and the new guidelines are lower and the
10 older plants operate at 4 to 13 times higher than
11 the new required emissions for the plants that were
12 not grandfathered in. So will we still be above
13 the new guidelines if we are operating at 2004
14 levels?

15 MR. GRAUMANN: Your understanding of
16 that isn't entirely correct. When EPA developed
17 the new mercury rules in 2005, March of 2005, they
18 did actually two things. They established emission
19 rates for mercury for new plants. They also
20 established the national cap and trade system for
21 mercury. And they allocated allowances to each of
22 the states as a part of that particular process.

23 South Dakota's allocation is about 144 pounds
24 based on the standards for beginning in 2010. And
25 in 2018 that drops to 58.

1 And so in absence of any controlled
2 technologies, Big Stone I would have a choice of
3 either, one, buying allowances, or, two, scrubbing
4 or doing something to reduce the mercury emissions
5 down to those levels because we -- that cap would
6 apply then to our particular units. We couldn't do
7 anything, we couldn't emit anymore mercury than the
8 cap would allow, otherwise we'd be in violation of
9 the rules.

10 And so there is an apples and oranges
11 comparison, but to say that Big Stone I is not
12 going to be controlled, that's incorrect because
13 they will need to meet the new mercury levels
14 either by buying extra allowances above the 144 or
15 doing something to get down to the 144, if the
16 allowances are all distributed to Big Stone I. And
17 that's not our decision. That will be the State of
18 South Dakota's.

19 MS. STUEVE: It will be contingent
20 on the decision.

21 (Discussion off the record)

22 CHAIRMAN HANSON: Please, go ahead.

23 MS. STUEVE: Okay. Another concern
24 and something I would like to be considered, total
25 maximum daily load, TMLD. I'm certain South Dakota

1 and Minnesota guidelines are different, although we
2 do share the same wonderful lake, Big Stone Lake.

3 And I'm not familiar with the rules and
4 regulations. I would like that to be considered as
5 part. In Minnesota we have a court case and
6 development was halted down near the suburban
7 metropolitan area. Development was supposed to
8 occur, but it would impair a river down there that
9 was already -- it would further impair it. And
10 when it's listed as being impaired certain projects
11 that would add to the pollution to it are not
12 allowed to continue. That would need to be looked
13 at. Big Stone, Little Minnesota, potential rivers
14 coming out from there. And it has to be more than
15 just the adjacent. It's at least a 50-mile radius.

16 The other one would be the job curve that you
17 showed for the Big Stone Plant. And we do need
18 jobs. We do need development. Any of you who have
19 not been down to the Lake Benton area and seen what
20 has happened to the local economy, the community
21 down there, I urge you to take a look at that and
22 see what has happened with the wind power
23 development down there.

24 The job curve that you showed went up and
25 down, the bell curve; correct? I would like the

1 Commission to consider and to be part of this
2 study, economic impact. I have a guess that the
3 job curve for the wind development potential would
4 be a curve up and it would plateau and keep up.

5 We heard from the tour that for every one to
6 20 turbines there's at least three jobs and there's
7 hundreds -- we have the potential for thousands of
8 windmills across South Dakota and a development and
9 sustainability of jobs.

10 I have many other things. I thank you for
11 your time, though. Most of the other comments and
12 concerns I have as a citizen and as Clean Water
13 Action are in the written comments we submitted.

14 CHAIRMAN HANSON: Thank you,
15 Mary Joe. And we will mark those as Exhibits 3A
16 and 3B, 3C.

17 (Exhibits 3A through 3C are marked for identification)

18 COMMISSIONER JOHNSON: For anybody
19 in the audience that just because you don't take an
20 opportunity to speak tonight doesn't mean this is
21 your last opportunity for input. Certainly we
22 would welcome written comments at the Commission as
23 well. That's it.

24 CHAIRMAN HANSON: Thank you. And,
25 Nancy from WAPA, would you please make an attempt,

1 if you can -- if you cannot, just tell me -- as
 2 Mary Joe was stating some of her concerns
 3 pertaining to the environment and whether or not
 4 information would be provided outside of certain
 5 areas regarding certain specifics as she went into,
 6 will the Environmental Impact Statement that WAPA
 7 is entering -- is going through address those
 8 issues?

9 MS. WERDEL: One thing about the
 10 federal EIS is it looks at all of the different
 11 parts of the project rather than just the specific
 12 part. So it will look at the project as a whole
 13 and the impacts as a whole and provide a study of
 14 all the impacts throughout the general area.

15 CHAIRMAN HANSON: Will it also
 16 include the lakes, streams, river that she was
 17 referring to?

18 MS. WERDEL: It will have water
 19 quality impacts as part of that study. And I took
 20 a couple of notes, and we'll take those back and
 21 put those as part of our scoping as an inclusionary
 22 thing into the EIS.

23 CHAIRMAN HANSON: Thank you very
 24 much. Thank you very much.

25 MS. STUEVE: I will put extra copies

1 at the back table.

2 CHAIRMAN HANSON: Further public
 3 comment, please. Close to the auctioneer saying
 4 sold here. So if you have a desire to speak, this
 5 is the time.

6 Ladies and gentlemen, the Public Utilities
 7 Commissioners appreciate your attendance, and we
 8 know that this is a very important issue regardless
 9 of whether you're on the left side, right side, or
 10 you're walking down the fence on this issue, just
 11 attempting to learn more.

12 We recognize that sometimes it can be an
 13 emotional issue. We very much appreciate the
 14 dignified and respectful fashion in which you have
 15 testified here today. The information that's been
 16 provided we feel is very valuable, and at this time
 17 we will conclude the meeting.

18 Excuse me. Before I do that, Commissioner
 19 Johnson made an excellent point. Please be aware
 20 if you have additional information, you wake up at
 21 3 o'clock tonight and think oh, I wish I had said
 22 this, please submit that to the Public Utilities
 23 Commission. We appreciate that.

24 That concludes the hearing.
 25 (The hearing concluded at 9:45 p.m.)

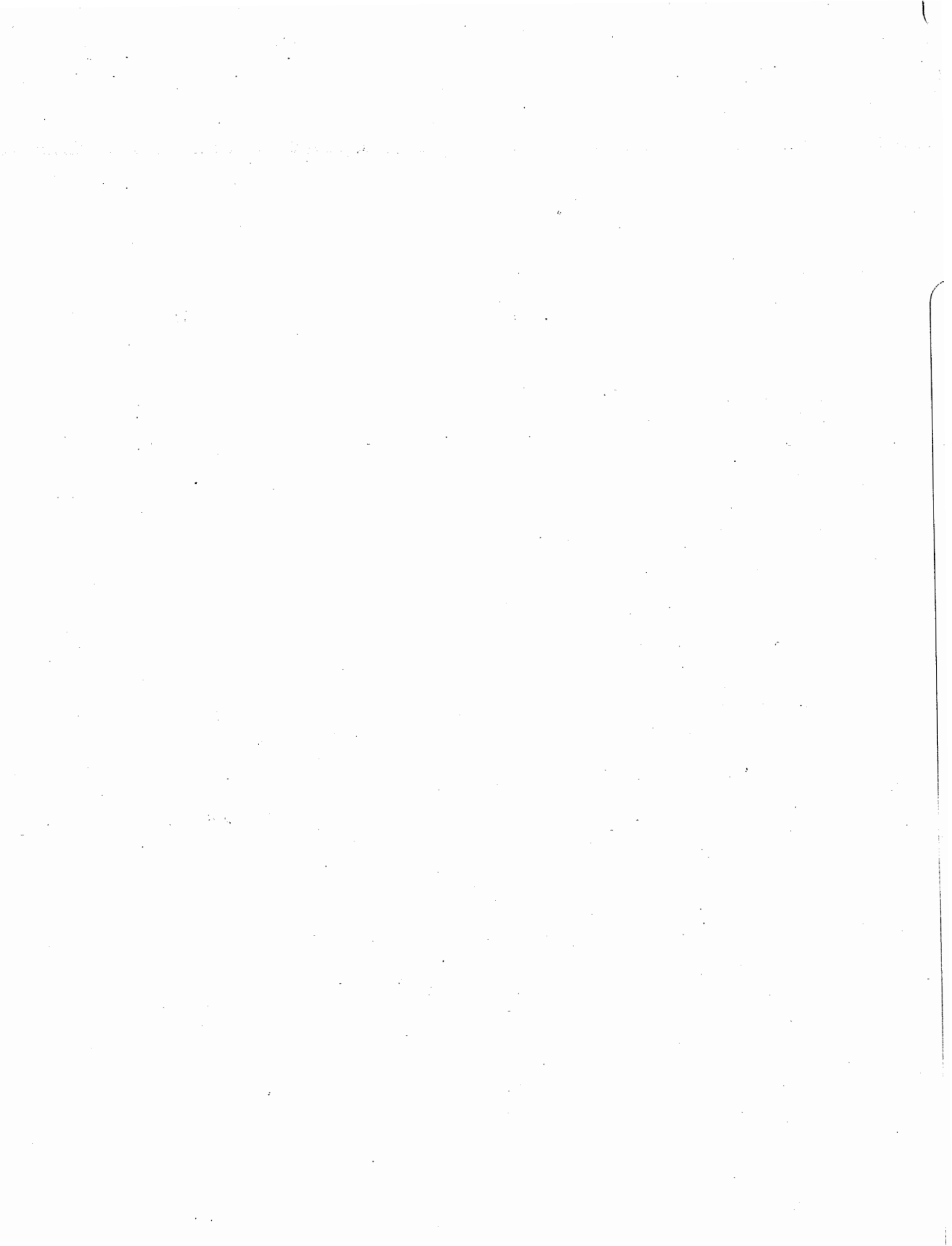
1 STATE OF SOUTH DAKOTA)
 2 :SS CERTIFICATE
 3 COUNTY OF HUGHES)
 4

5 I, CHERI MCCOMSEY WITTLER, a Registered
 6 Professional Reporter and Notary Public in and for the
 7 State of South Dakota:

8 DO HEREBY CERTIFY that as the duly-appointed
 9 shorthand reporter, I took in shorthand the proceedings
 10 had in the above-entitled matter on the 13th day of
 11 September 2005, and that the attached is a true and
 12 correct transcription of the proceedings so taken.

13 Dated at Pierre, South Dakota this 21st day
 14 of September 2005.

15
 16
 17 
 18 Cheri McComsey Wittler,
 19 Notary Public and
 20 Registered Professional Reporter



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Zone
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Zoning
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South Dakota Public Utilities Commission

Big Stone II
Energy Conversion Facility
Siting Permit
Public Hearing
September 13, 2005



A stylized graphic of a factory consisting of a tall, thin chimney on the left and a rectangular building on the right, both rendered in a light green color. The chimney is positioned behind the building.

BIG STONE *II*
PARTNERS IN GENERATION

Big Stone II Co-owners

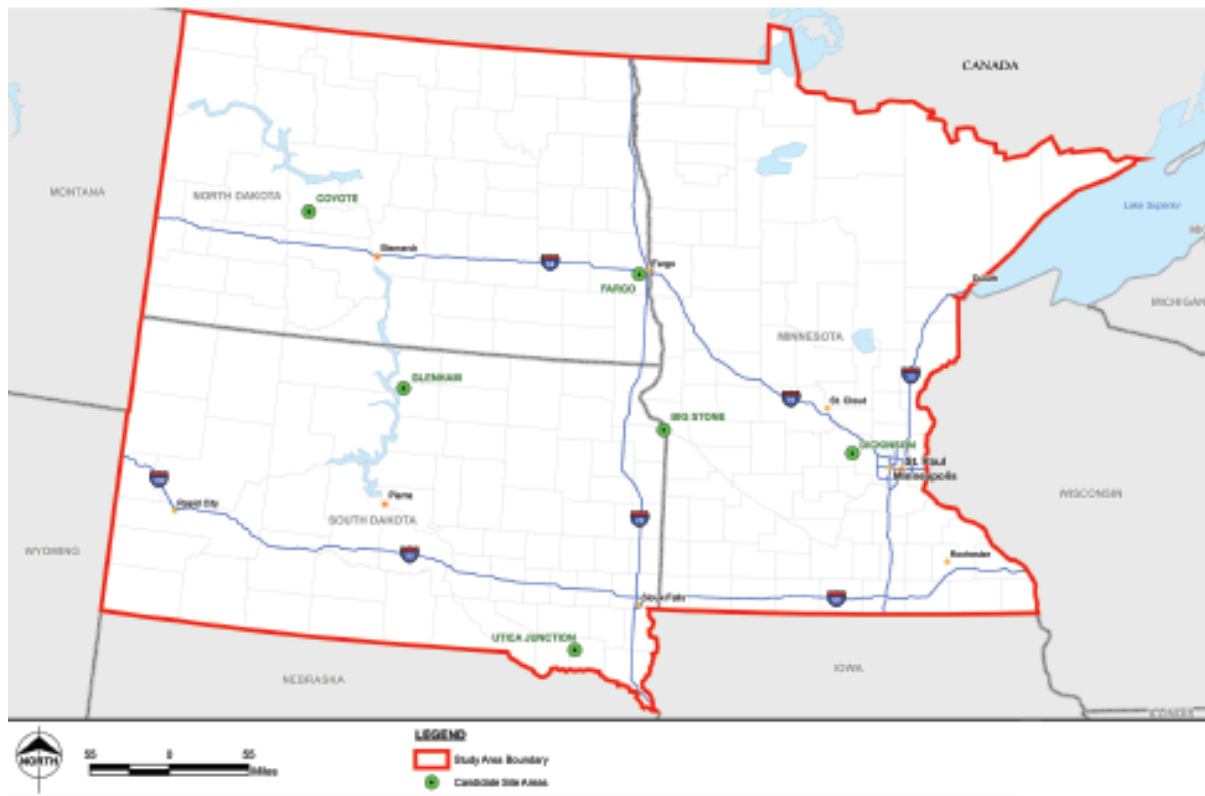


Energy Sources Considered

- Wind
- Super-critical pulverized coal
- Atmospheric circulating fluidized bed
- Integrated gasification combined cycle
- Combined cycle gas turbine (natural gas)



Big Stone II Alternative Site Evaluation Study

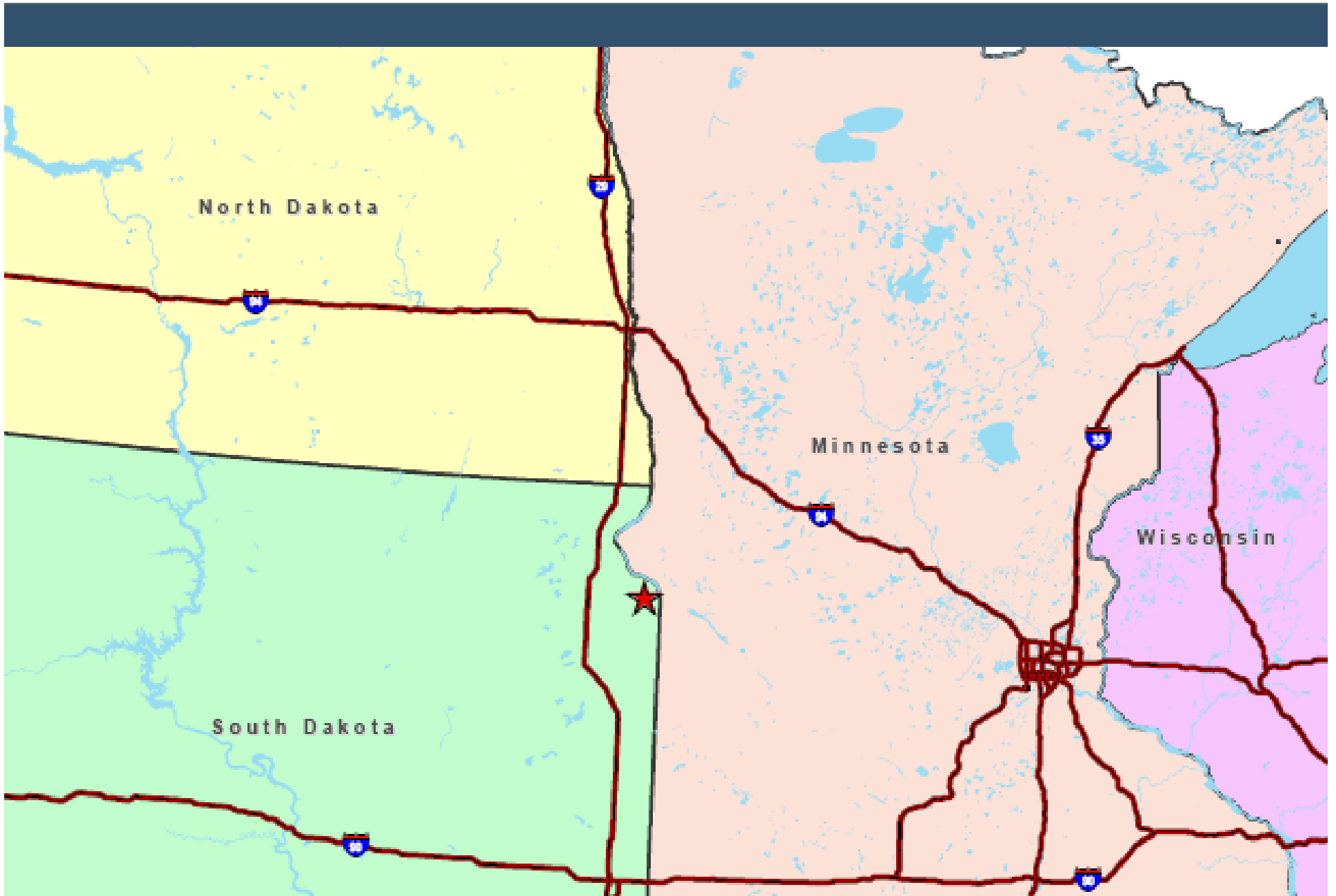


Candidate Sites

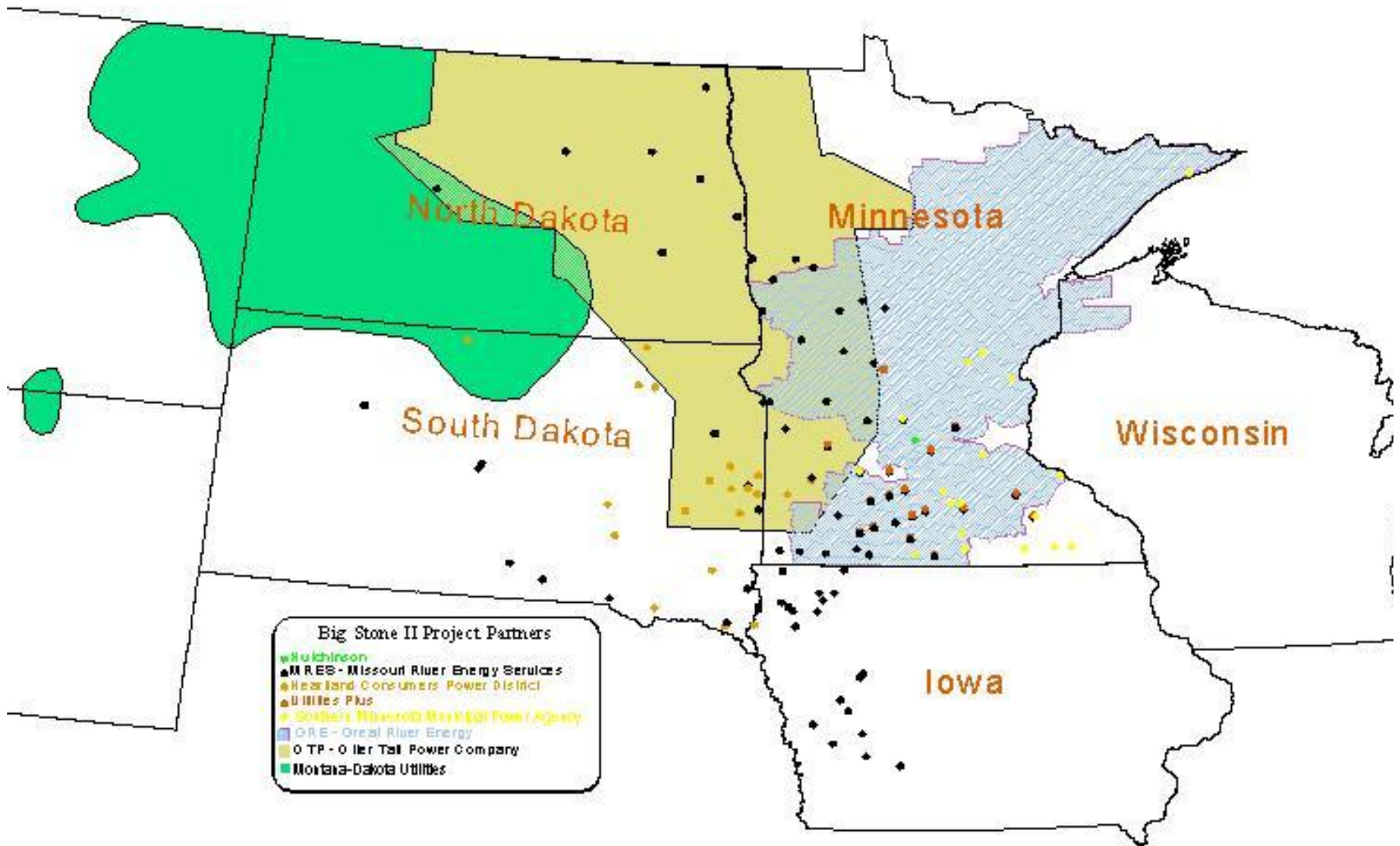
- Big Stone – Grant County, South Dakota
- Coyote – Mercer County, North Dakota
- Dickinson – Wright County, Minnesota
- Fargo – Cass County, North Dakota
- Glenham – Walworth County, South Dakota
- Utica Junction – Yankton County, South Dakota

Site evaluation criteria

- Air Impacts: Class I Area and Airspace Restrictions
- Water Supply: Surface Water Proximity and Water Supply Potential
- Environmental: Socioeconomics, Land Use Compatibility, Protected Species Impacts, Noise Impacts, and Wetlands
- Fuel Supply: Rail Line/Mine Proximity, Fuel Delivery Competition, and Reagent Delivery
- Transmission: Proximity to Interconnection Point and Expected System Impacts
- Other: Highway Access, Land Availability and Common Facilities/Staff



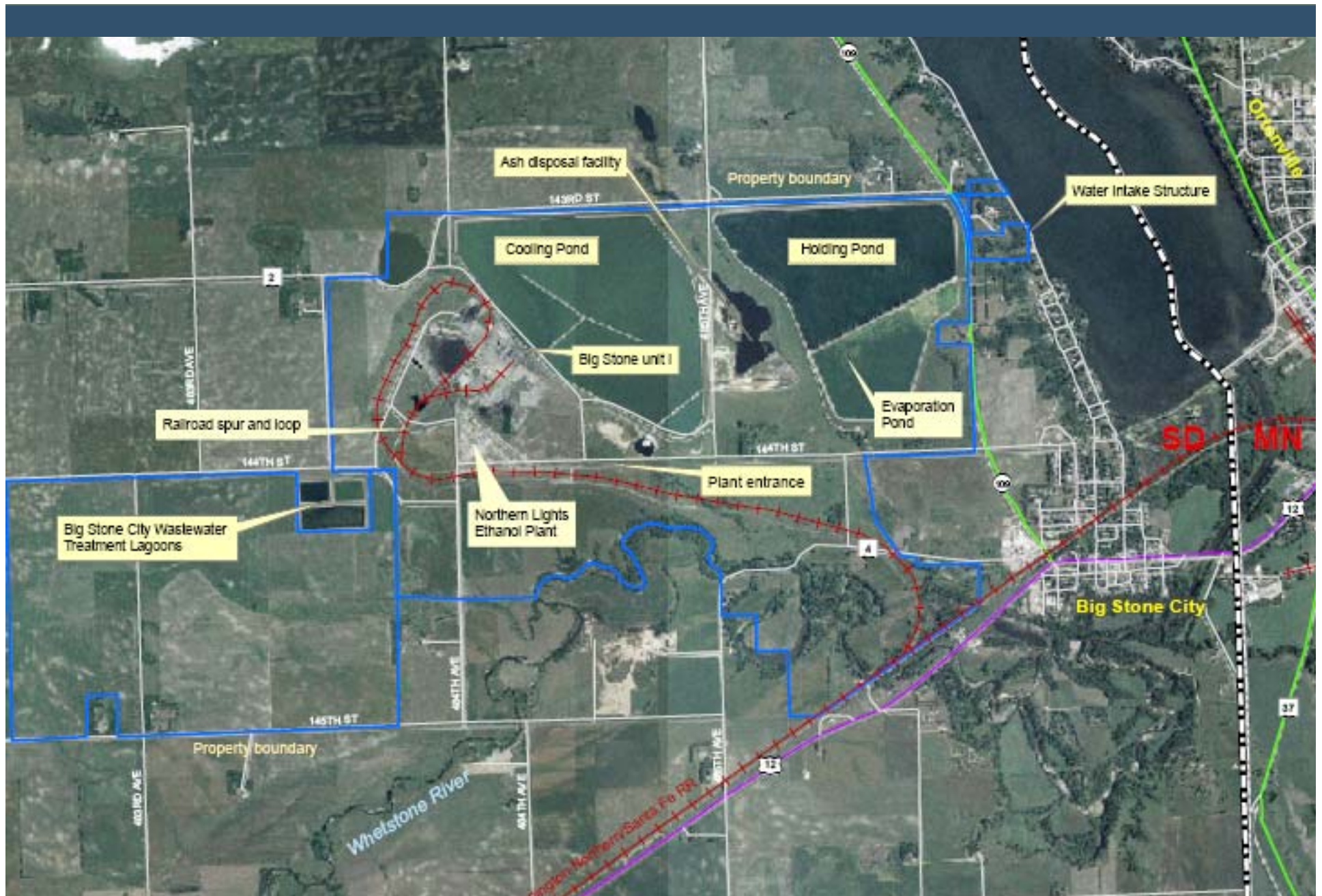
Big Stone II Preferred Site



Co-owners' Service Territories

Project Description





Existing Facility

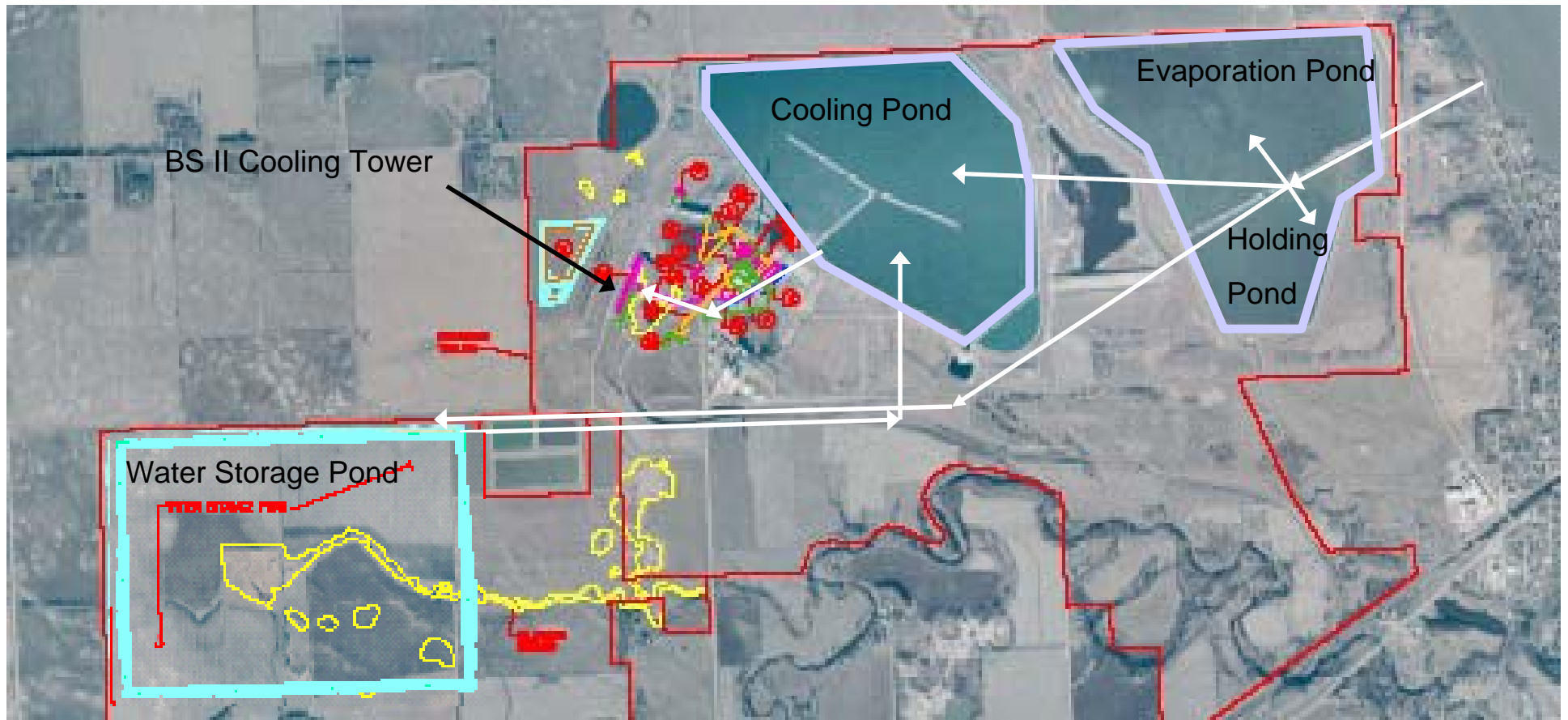
Opportunities to Share Existing Infrastructure

- Cooling water intake structure, pumping system and delivery line
- Plant road and rail spur
- Coal unloading facilities
- Solid waste disposal facilities





Big Stone Site

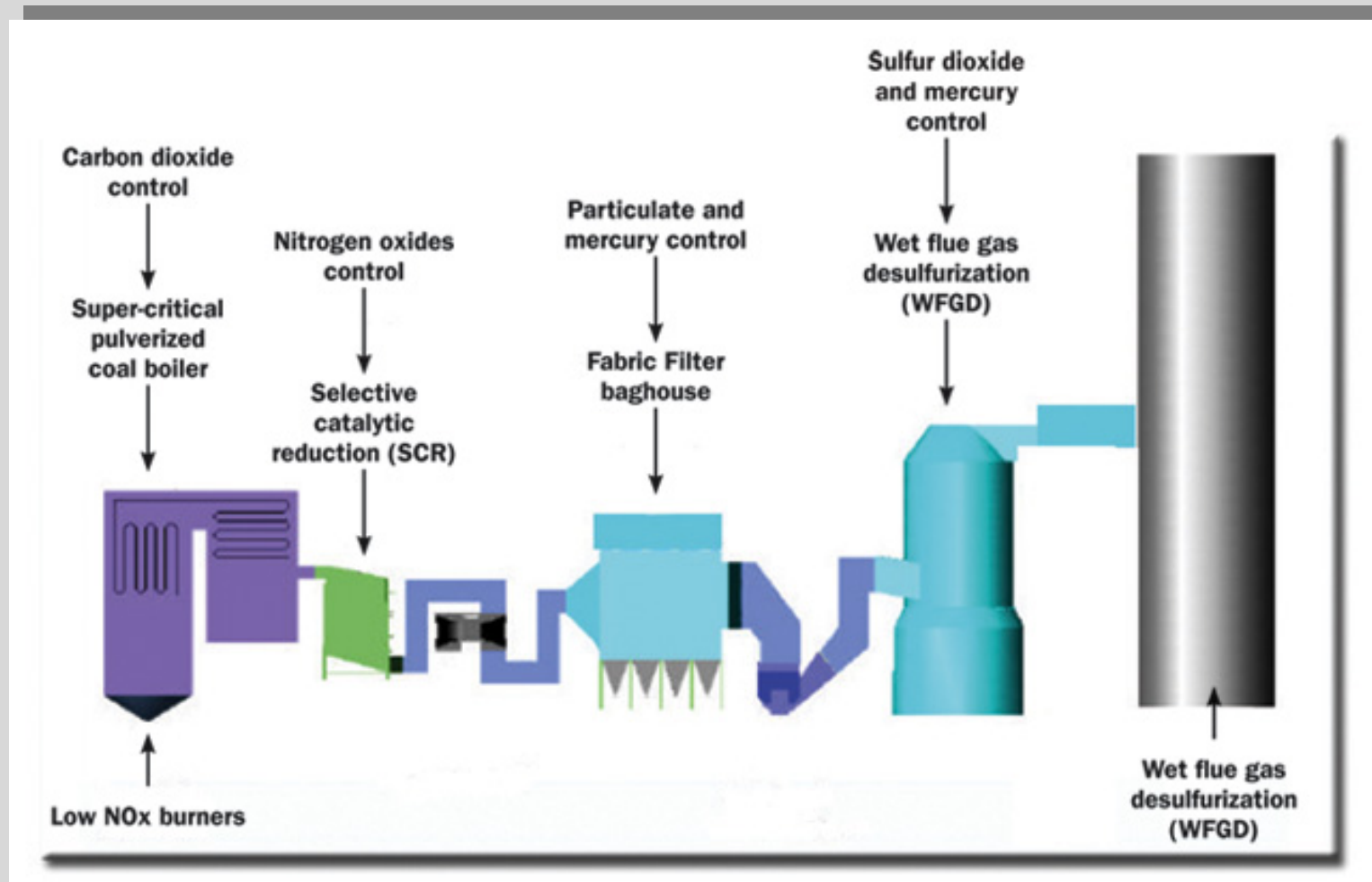


Big Stone Site – Water Appropriations and Storage

10,902 Ac*ft - design annual usage

- Holding pond capacity: 965 Ac*ft
- Evaporation Pond Capacity: 1,436 Ac*ft
- Water storage pond capacity: 9,900 Ac*ft
- Cooling pond useable storage capacity: 3,000 Ac*ft (5440 ac*ft total)
- Total site useable storage capacity current design: 15,300 Ac*ft

Emissions Control Technology



Wet Scrubber

- Historically, dry scrubbers used to remove sulfur dioxide when burning subbituminous coal
- Wet scrubbers are more expensive
- However, wet scrubbers offer
 - More efficient SO₂ removal
 - More efficient mercury control
 - Saleable fly ash



Joint Scrubber Possible Because of Wet Scrubber Technology

- Double the size of the scrubber but only 60% increase in cost
- Able to share some equipment and the benefits of redundancy of other components
- Lower per megawatt hour cost for common scrubber



Nitrogen Oxides Control

- Commitment to add Big Stone II and not increase nitrogen oxides emissions from the Big Stone Plant site
- Make Big Stone Plant unit I operational changes to its lower nitrogen oxides emissions
- May also require equipment changes

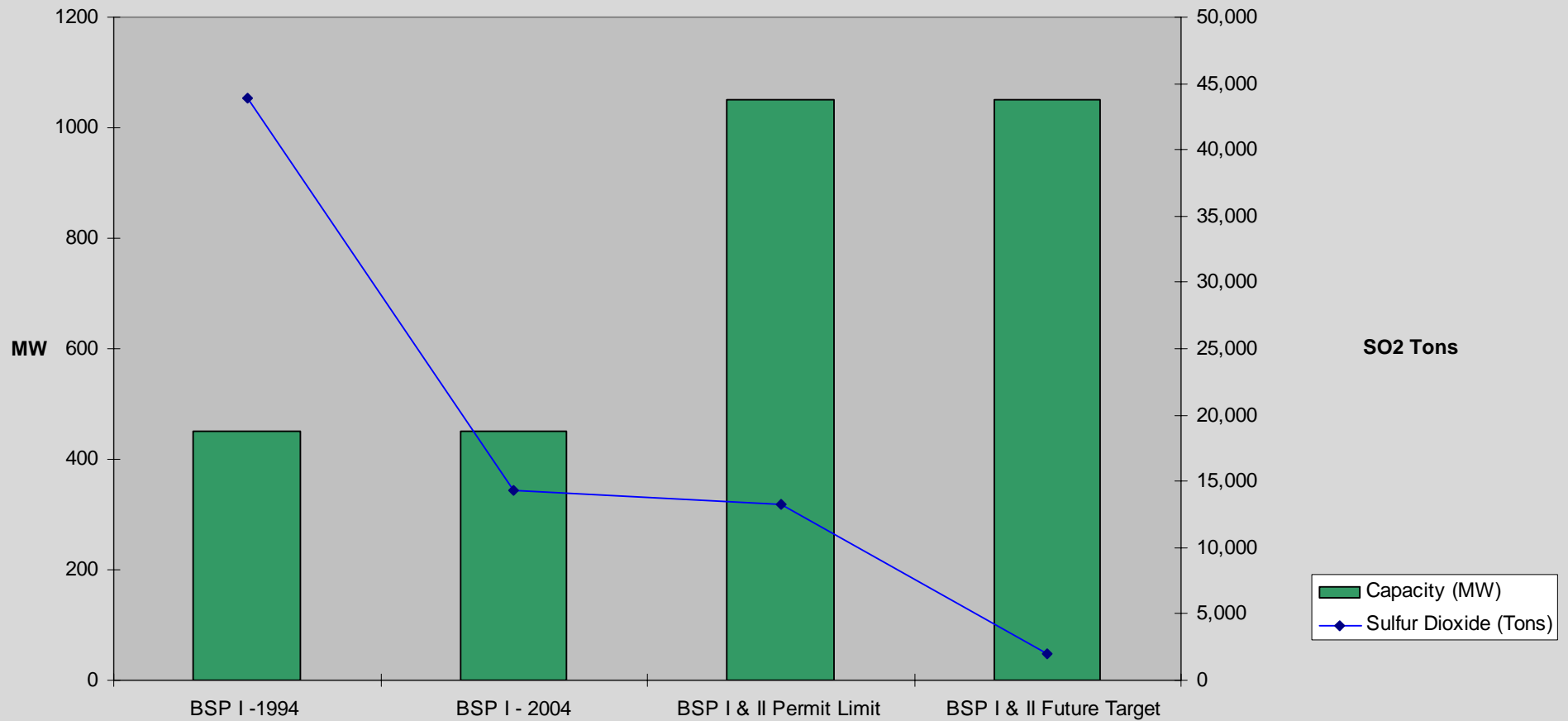


Emissions Control Summary

- Sulfur dioxide, nitrogen oxides, and mercury emissions from both units are targeted to be less than or equal to Unit 1's emissions in 2004.



Sulfur Dioxide Emissions



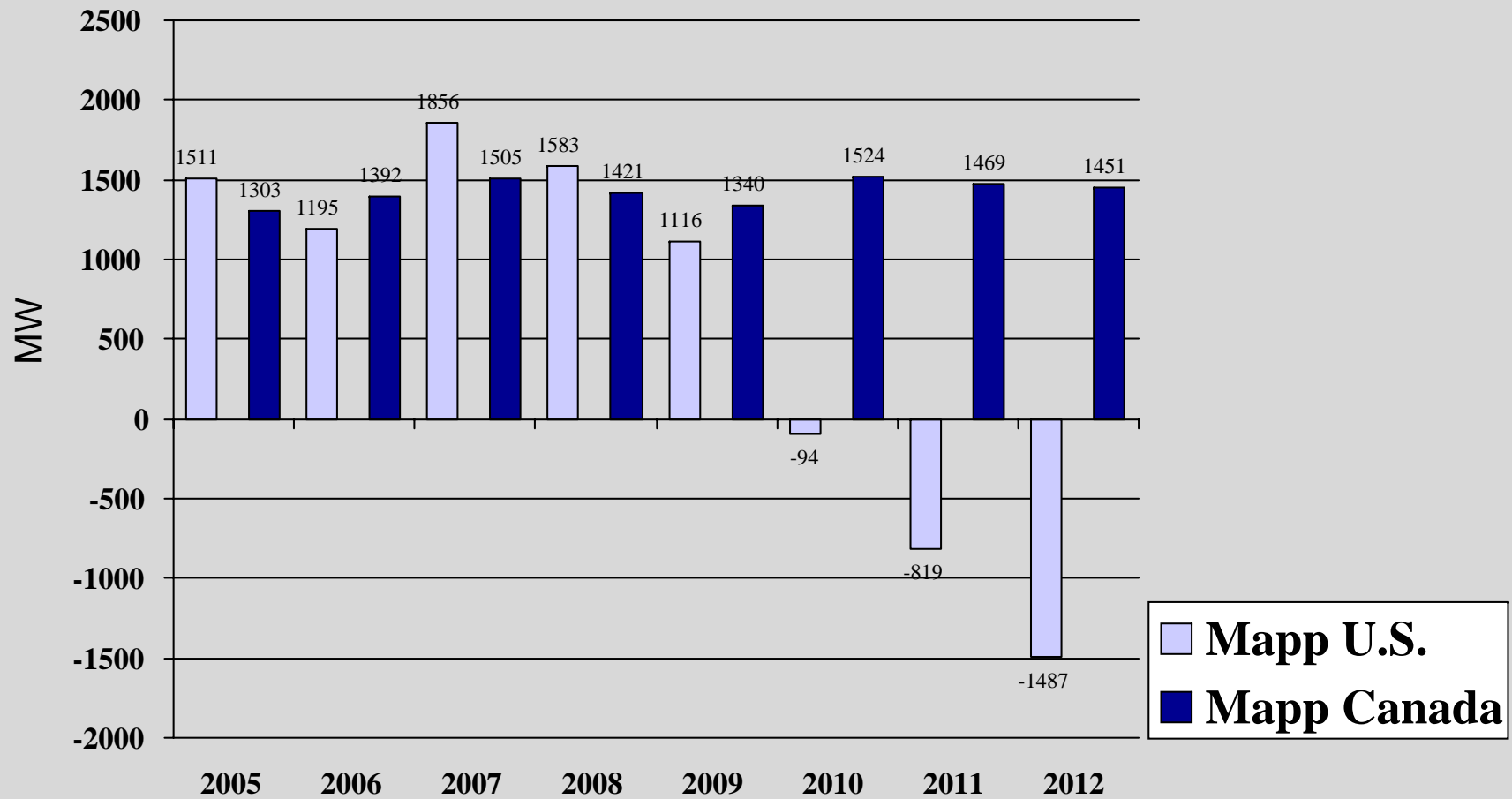
Facility Need



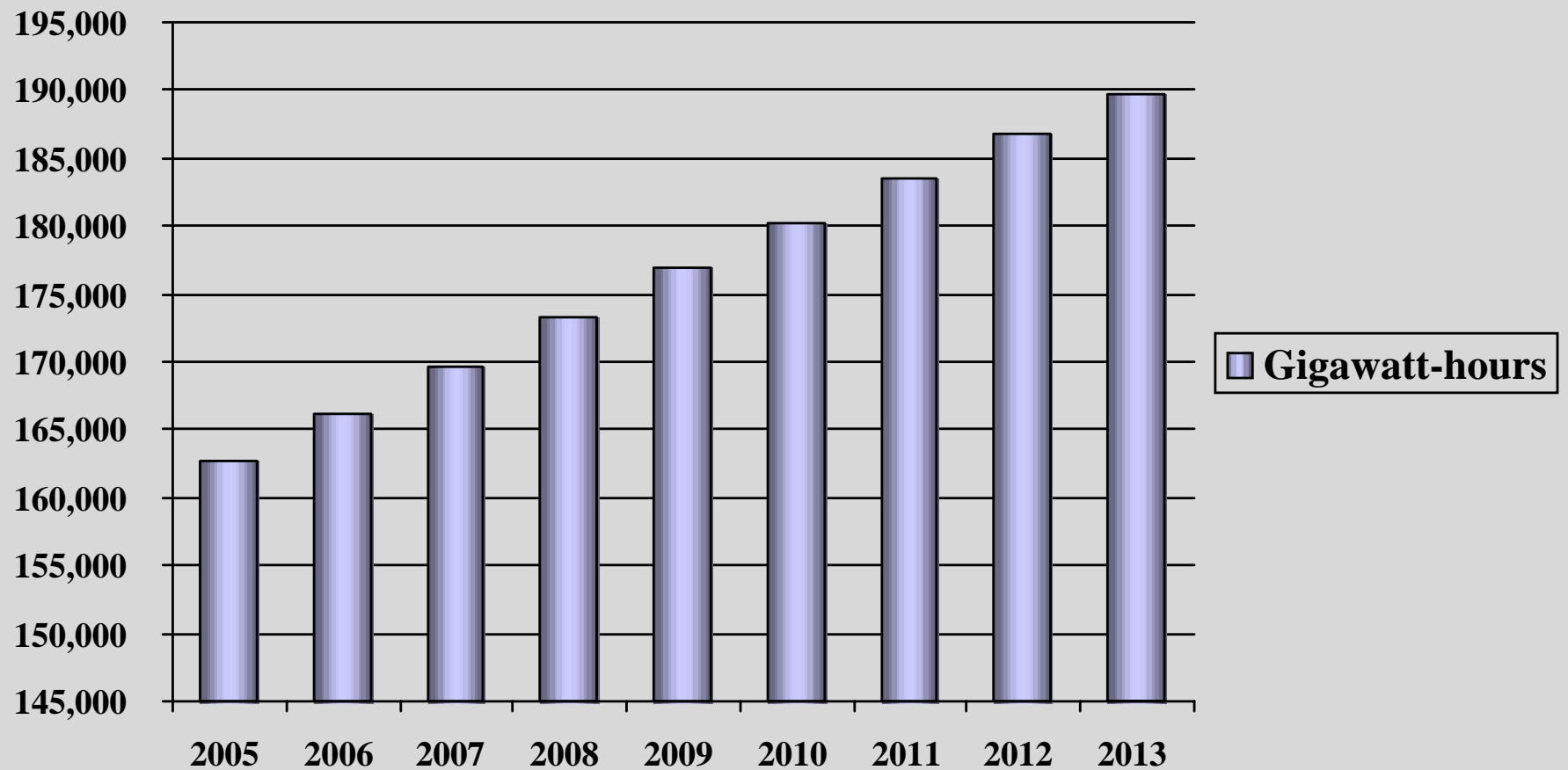
MAPP Region



MAPP Surplus/Deficit Forecast



MAPP U.S. Annual Net Energy Forecast

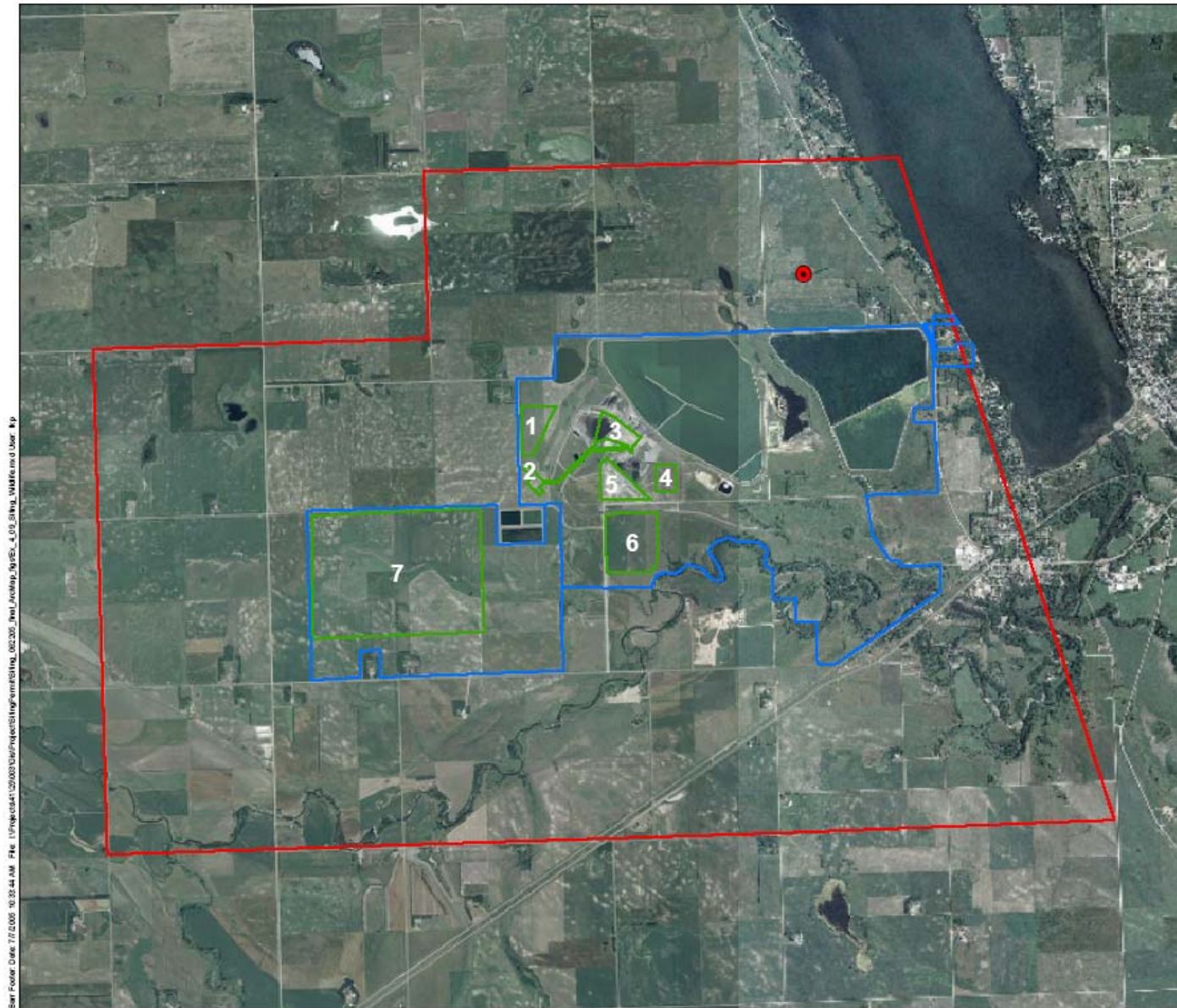


Baseload, Intermediate and Peaking Facility Relative Cost

Type of Generation	Capital Cost	Fuel Cost	Typical Energy Production
Peaking	Low	High	Low
Intermediate	Medium	Medium	Medium
Baseload	High	Low	High

Environmental Information





Field observations made by Barr Engineering Company. South Dakota Natural Heritage Database query completed on September 24, 2004 by the SD Department of Game, Fish and Parks.



Exhibit 4-9
 WILDLIFE
 Big Stone II Project
 Big Stone II Co-owners

Big Stone II Wildlife

Environmental Impacts

- Physical Environment
- Hydrology
- Terrestrial Ecosystems
- Aquatic Ecosystems
- Land Use
- Water Quality
- Air Quality
- Solid and Radioactive Waste



Environmental Impacts

Physical Environment

- Land forms and topography
- Geology
- Soils and Economic Deposits
- Erosion and Sedimentation

Impacts primarily limited to new storage pond area-most other activity within existing plant site



Environmental Impacts

Hydrology

- Surface Water Drainage
- Water Use and Sources

Impacts to drainage primarily limited to new storage pond area

Increased water needs can be met within existing operational constraints on Big Stone Lake withdrawal



Environmental Impacts

Terrestrial Ecosystems

- Vegetation Communities
- Wildlife
- Threatened and Endangered Species

No adverse impacts are expected



Environmental Impacts

Aquatic Ecosystems

- Fisheries
- Wetlands

No adverse impacts to fisheries are expected

Wetland impacts addressed through USACOE permitting process



Environmental Impacts

Land Use and Land Use Controls

- Existing Land Use
- Noise

New unit takes advantage of existing industrial land use and infrastructure

Incremental noise impact modeled as insignificant



Environmental Impacts

Water Quality

- Whetstone River System
- New Makeup Storage Pond
- Stormwater Management

No impacts expected to Whetstone River

New pond water quality expected to be similar to area shallow lakes

Stormwater will be managed through SWPPP



Environmental Impacts

Air Quality

- Common scrubber – no increase in sulfur dioxide emissions
- No increase in nitrogen oxide emissions
- Best available control technology for particulate matter emissions
- Targeted mercury emissions at 2004 levels



Environmental Impacts

Solid Waste

Propose to use existing permitted solid waste disposal facility



Community Impacts

- Economic Impacts
- Infrastructure Impacts
- Community Services
- Population and Demographics
- Cultural Resources



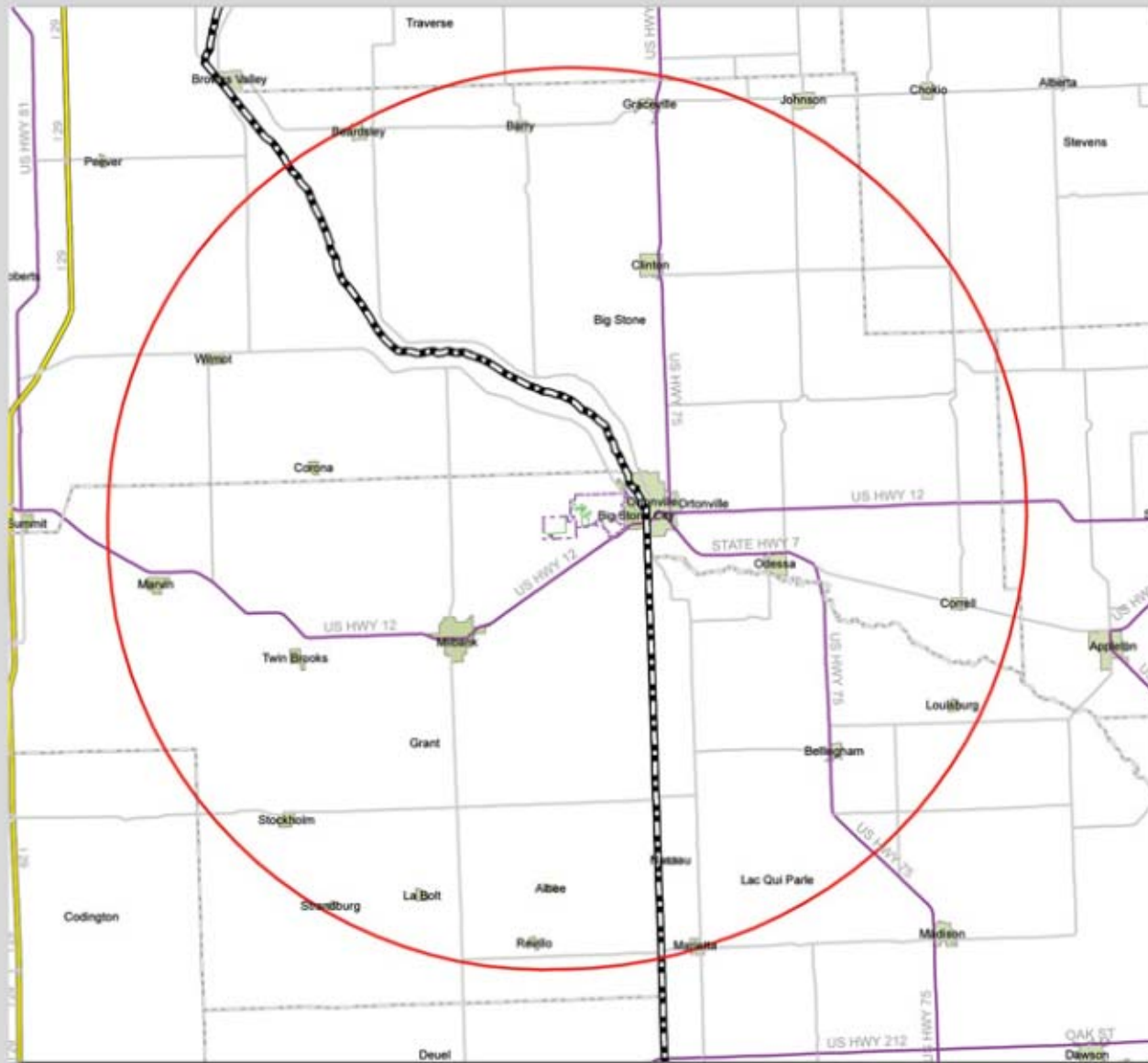


Figure 5-1

Community Impacts Study Area

Community Impacts

Economic Impacts

- Employment (temporary and permanent)
- Agriculture
- Commercial and Industrial Sectors
- Land Values
- Taxes

Impacts expected to be positive or neutral



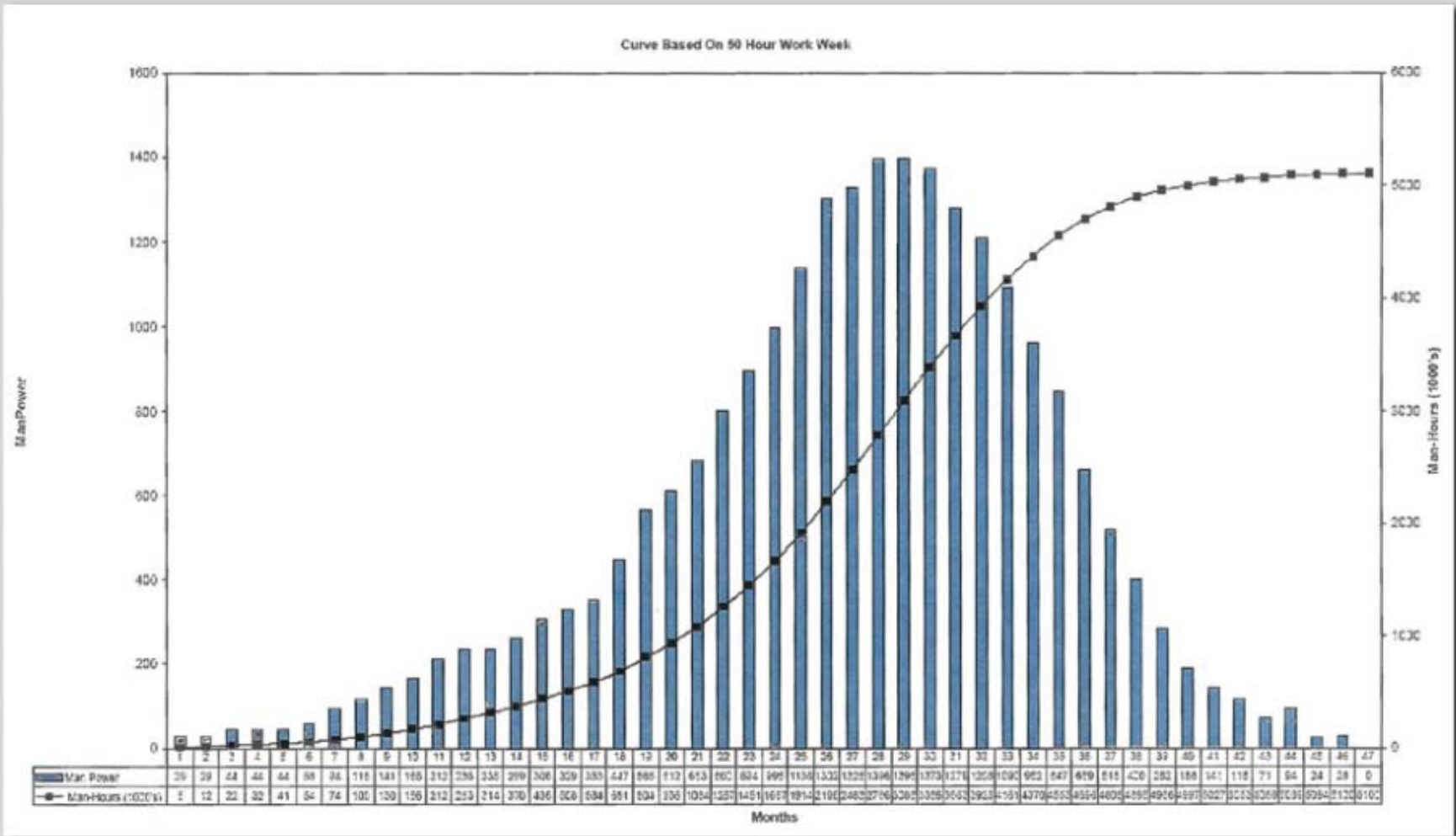


Exhibit 5-2

Estimated Construction Labor Requirement

Community Impacts

Infrastructure Impacts

- Housing
- Energy
- Sewer and Water
- Solid Waste Management
- Transportation

Existing infrastructure generally
adequate to meet project needs



Community Impacts

Community Services

- Health Services and Facilities
- Schools
- Recreation
- Public Safety

Existing services not expected to be
overtaxed by project



Community Impacts

Other Impacts

- Population and Demographics
- Cultural Resources

No adverse impacts expected



Project Schedule



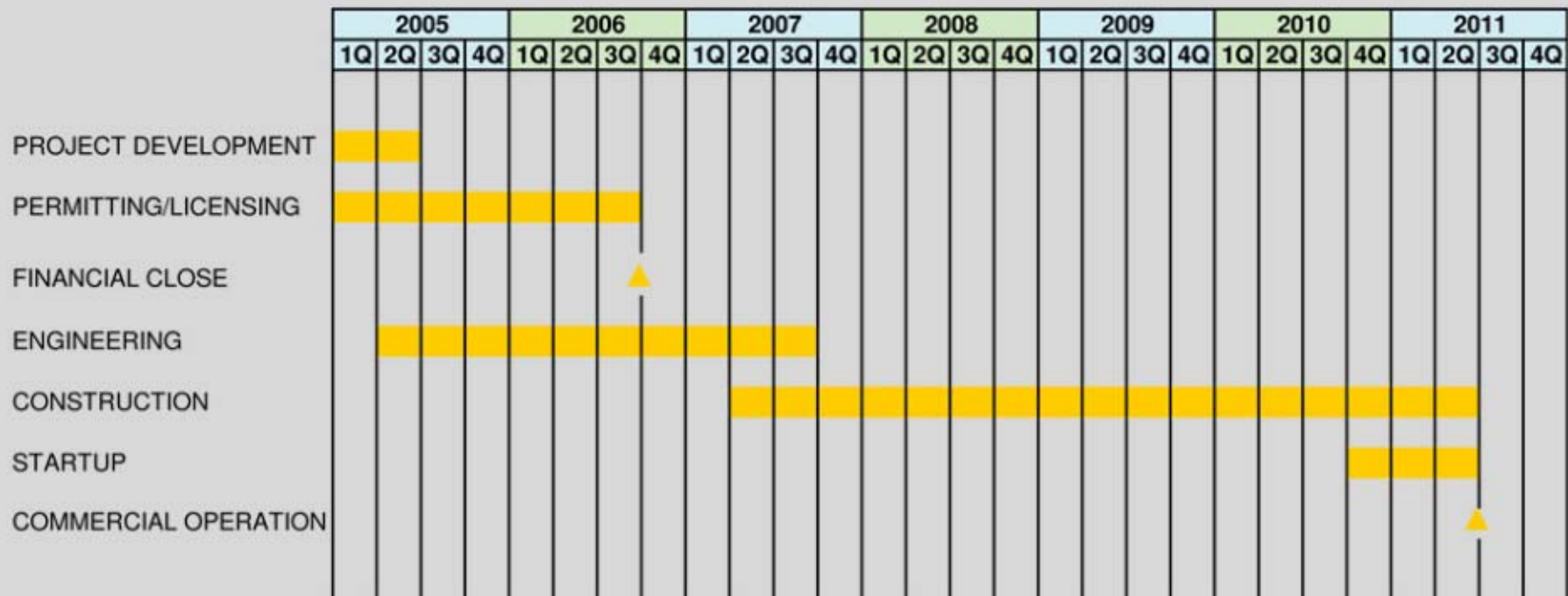


Exhibit 1-4

Big Stone II Project Schedule

BIG STONE *II*



South Dakota Public Utilities Commission

Big Stone II
Energy Conversion Facility
Siting Permit
Public Hearing
September 13, 2005





BIG STONE *II*

PARTNERS IN GENERATION

Big Stone II Co-owners

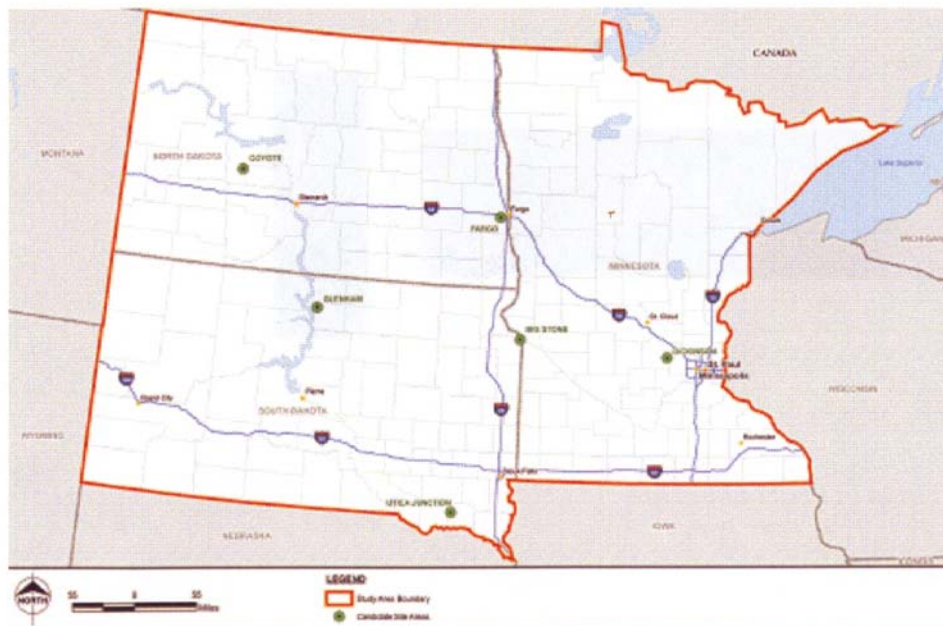


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Big Stone II Alternative Site Evaluation Study



Candidate Sites

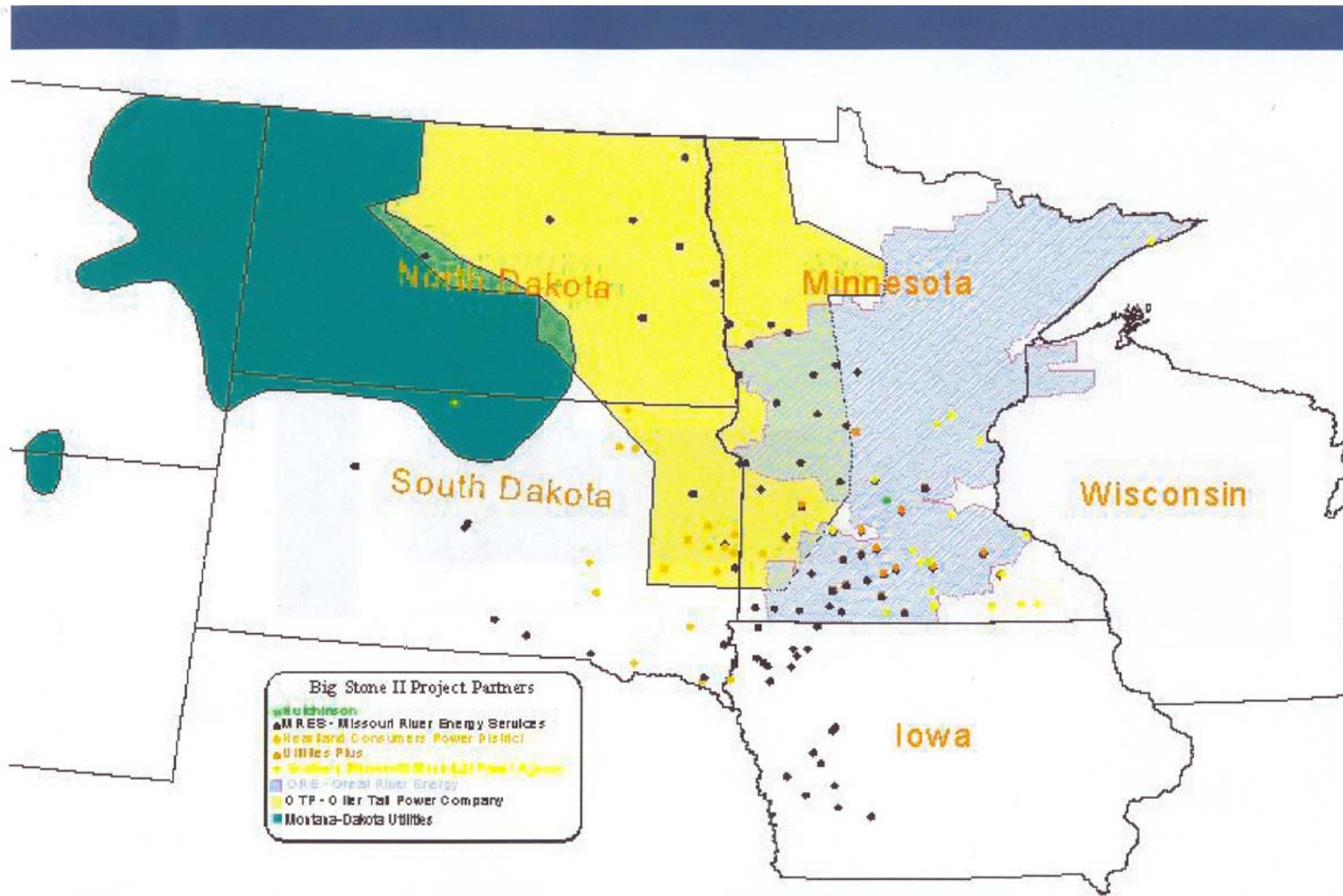
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Big Stone II Preferred Site



Co-owners' Service Territories

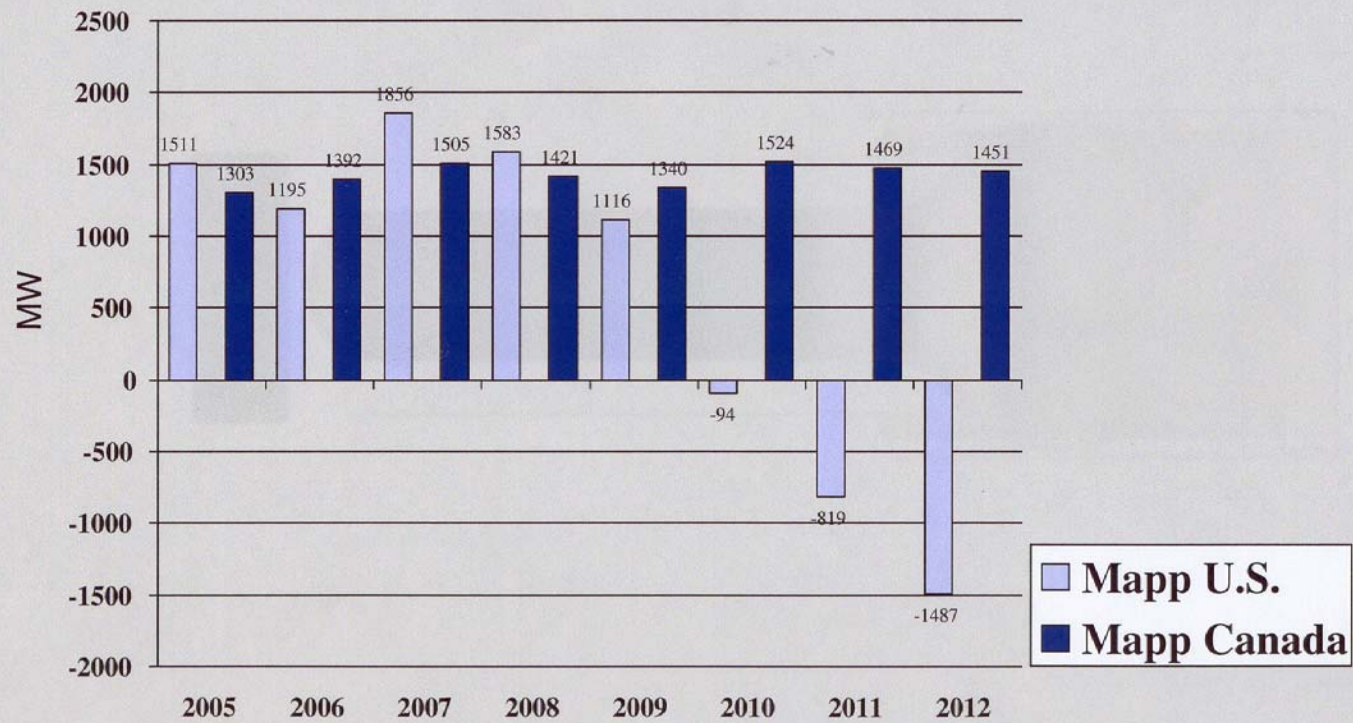
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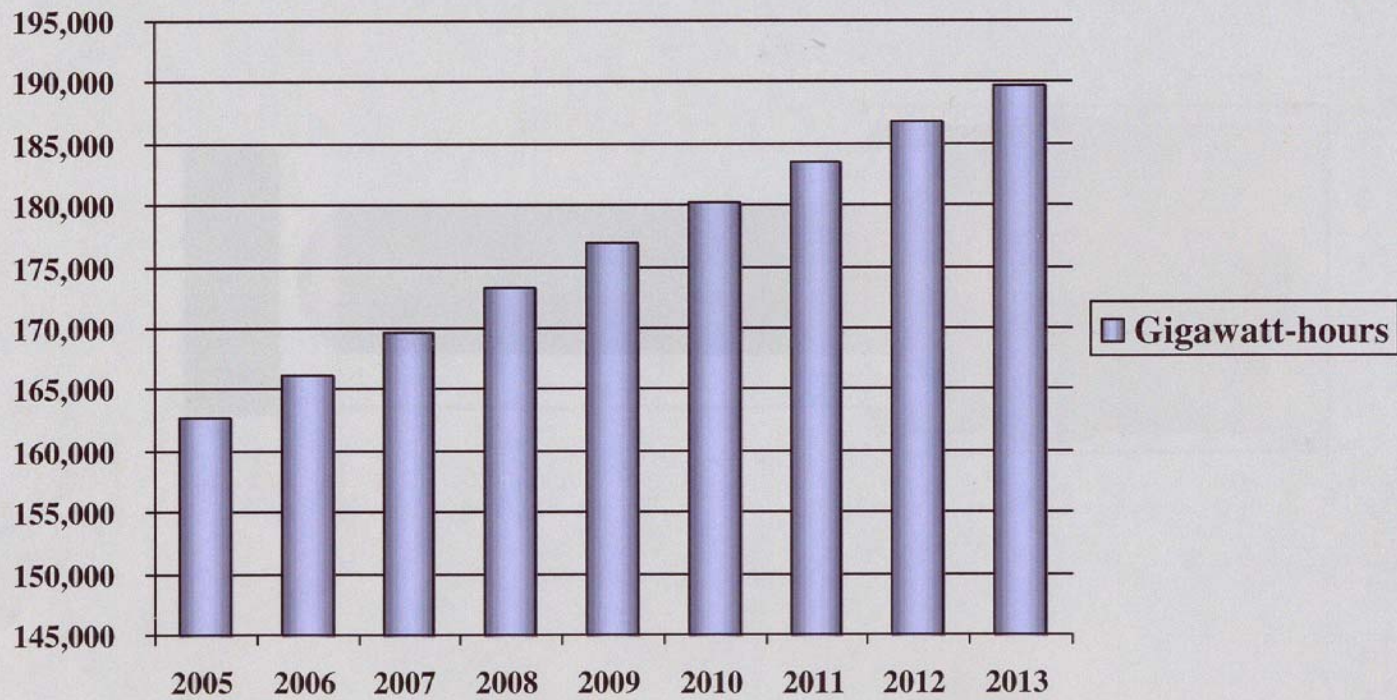
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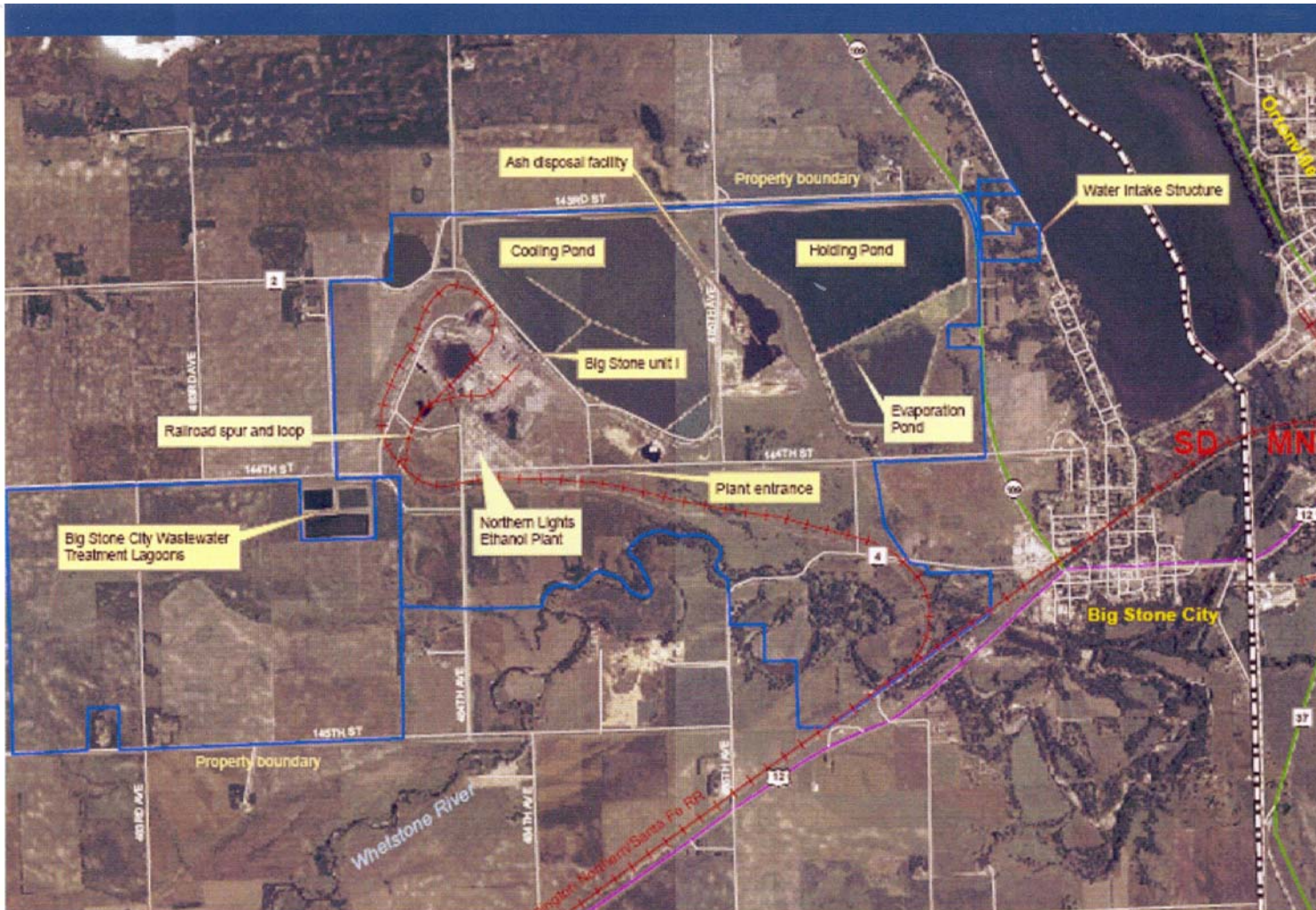


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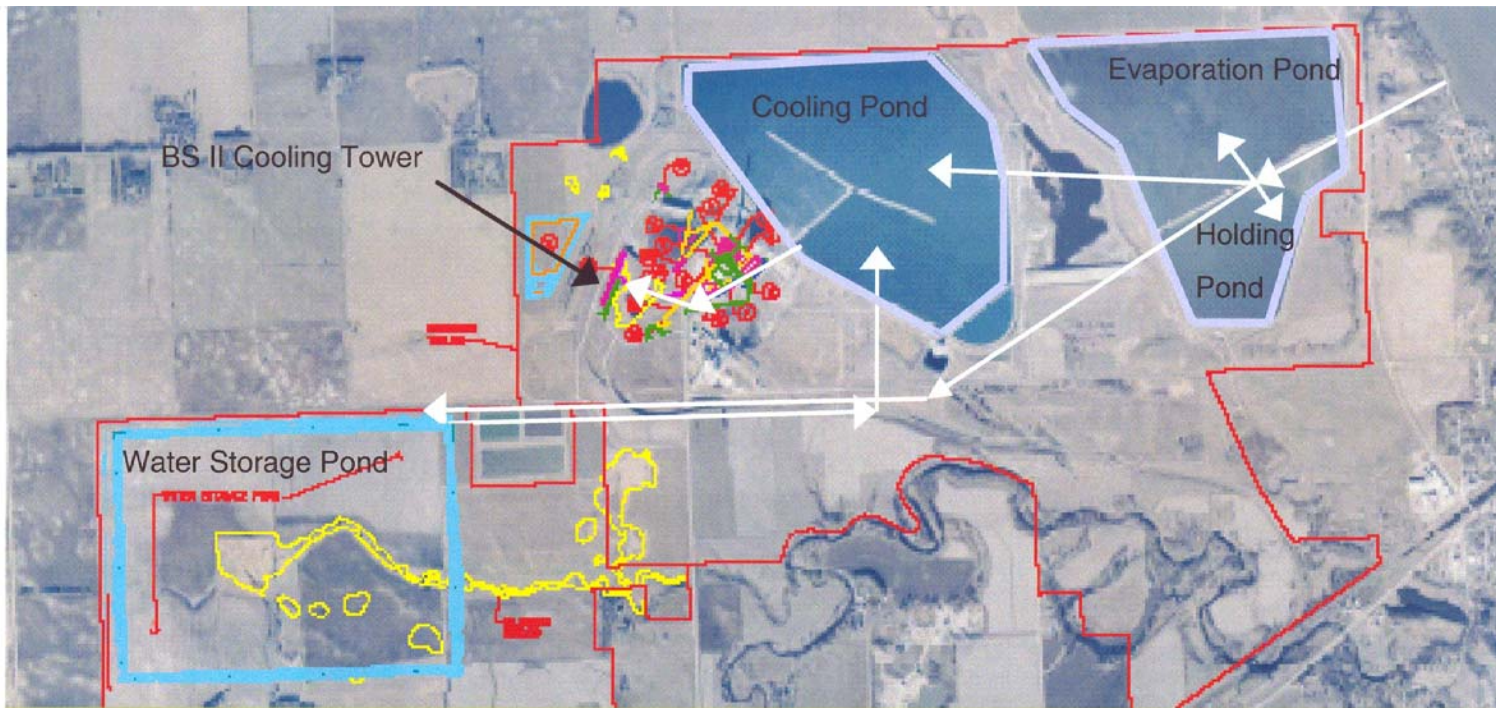
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Big Stone Site

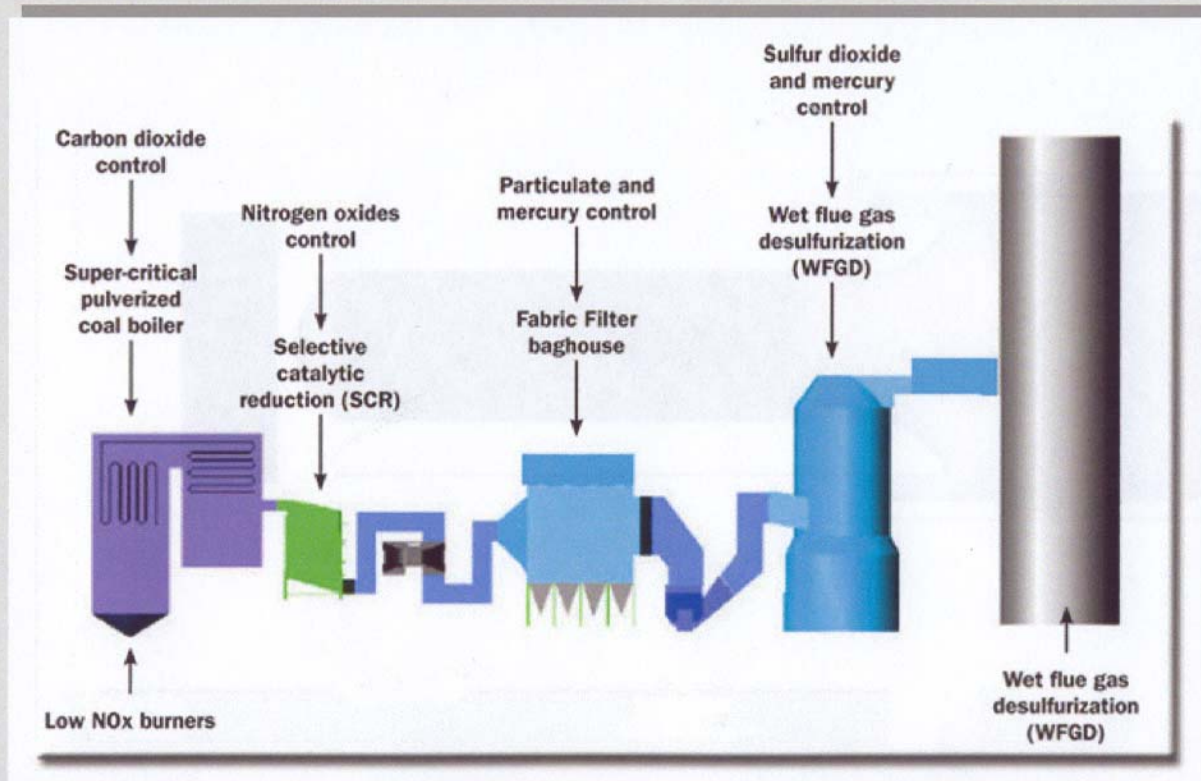


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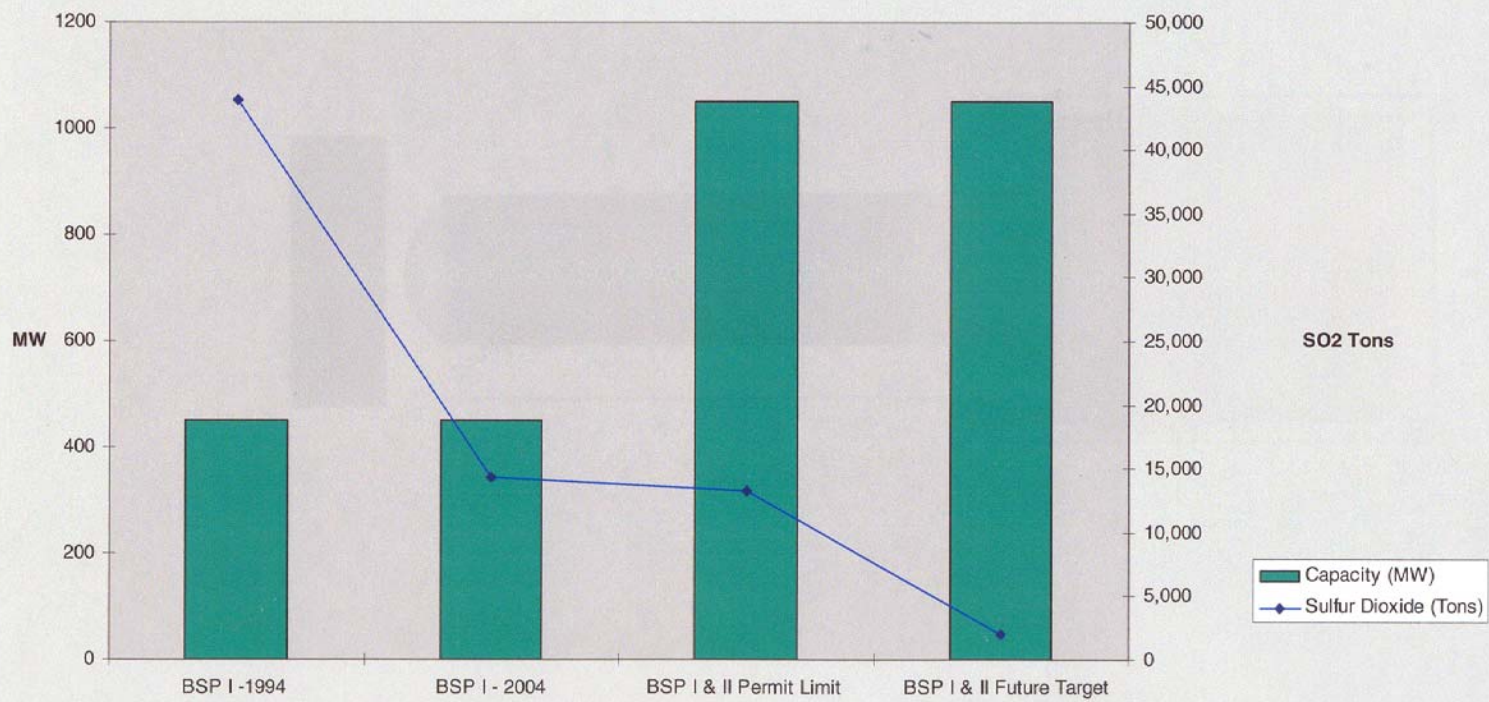


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Sulfur Dioxide Emissions



Environmental Information



Environmental Impacts

- Physical Environment
- Hydrology
- Terrestrial Ecosystems
- Aquatic Ecosystems
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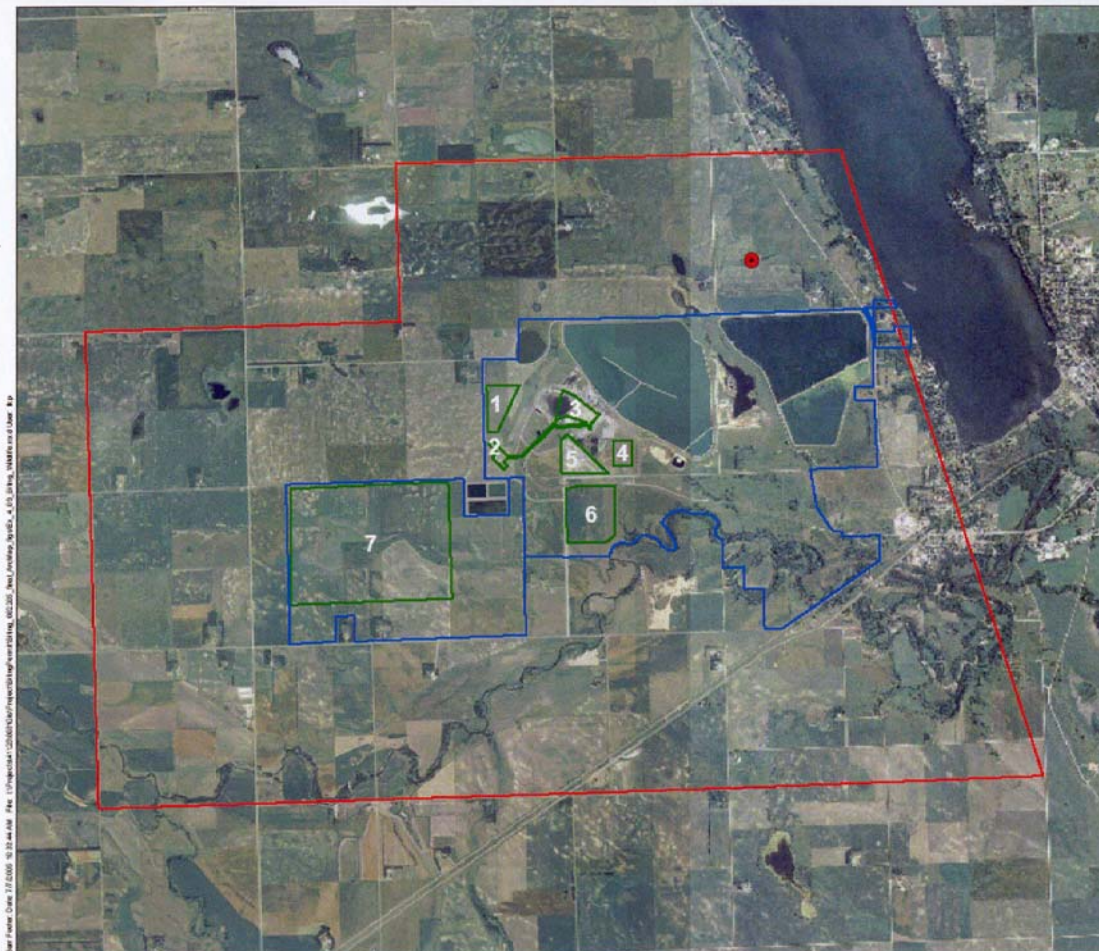
Environmental Impacts

Terrestrial Ecosystems

- Vegetation Communities
- Wildlife
- Threatened and Endangered Species

No adverse impacts are expected





Air Photo Date: 7/2008 @ 10:44 AM File: C:\temp\air\color\res\res\bigstone\bigstone_082008_Air_Photo.apr, 4.03 MB, Windows Color 8-Bit

- Property Boundary
- Extended Study Area
- Project Features**
- ID**
- 1 Cooling Tower Blowdown Pond
- 2 Cooling Tower
- 3 New Plant
- 4 Construction Parking
- 5 Ethanol Plant
- 6 Construction Laydown
- 7 Makeup Storage Pond
- Bald Eagle Nest

Field observations made by Barr Engineering Company. South Dakota Natural Heritage Database query completed on September 24, 2004 by the SD Department of Game, Fish and Parks.

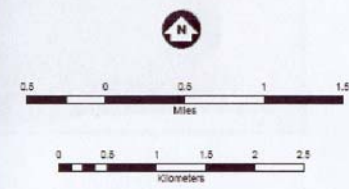


Exhibit 4-9
 WILDLIFE
 Big Stone II Project
 Big Stone II Co-owners

Big Stone II Wildlife

Environmental Impacts Aquatic Ecosystems

- Fisheries
- Wetlands

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Environmental Impacts

Solid Waste

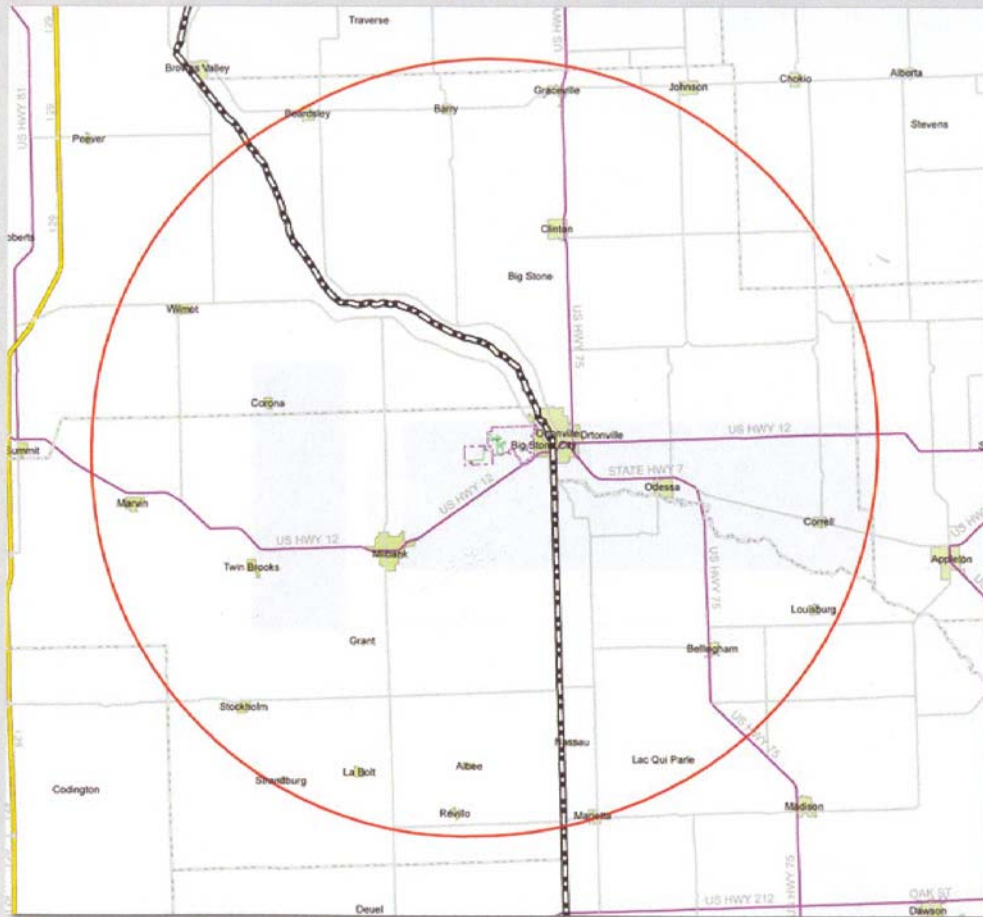
Propose to use existing permitted solid waste disposal facility



Community Impacts

- Economic Impacts
- Infrastructure Impacts
- Community Services
- Population and Demographics
- Cultural Resources





Legend

- 20_mile_project_radius
- Big Stone Property Boundary



Figure 5-1

Community Impacts Study Area

Community Impacts

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- Land Values
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Impacts expected to be positive or neutral



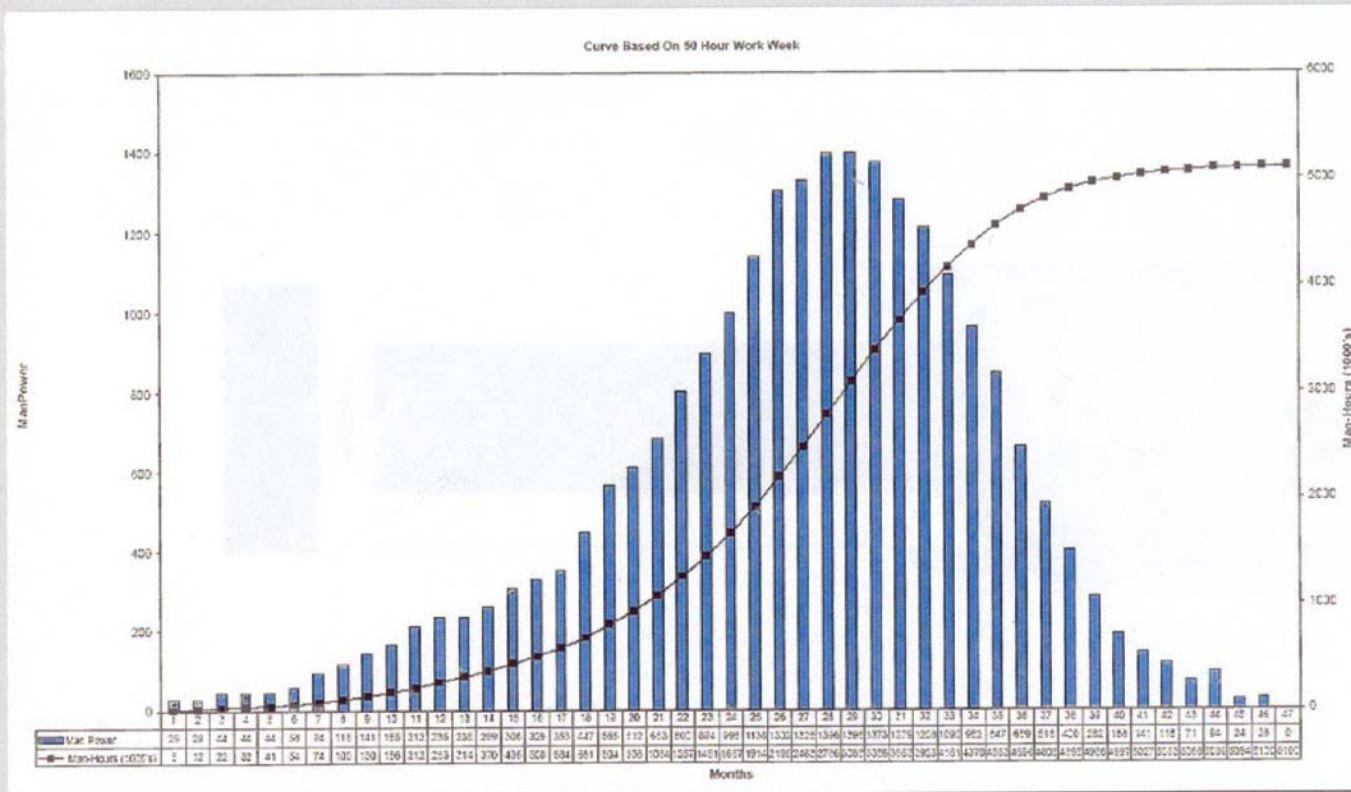


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- Public Safety

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Community Impacts

Other Impacts

- Population and Demographics
- Cultural Resources

No adverse impacts expected



Project Schedule



BIG STONE *II*

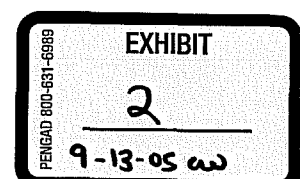


My name is Adam Sokolski, and I am an Energy Associate with the Midwest Office of the Izaak Walton League of America. The Izaak Walton League – together with our colleagues from Minnesotans for an Energy-Efficient Economy and the Union of Concerned Scientists – intends to intervene in the ^{SOUTH DAKOTA} Public Utilities Commission proceeding regarding the proposed Big Stone II power plant.

We have concerns about the proposed Big Stone II power plant – not the least of which is that it would be a substantial increase in carbon dioxide emissions. This is an environmental issue AND a financial issue. The world's emerging response to global warming will inevitably transform the regulatory climate in the years ahead. These new laws will in turn change the economics and the technology of electricity production and use, making high-carbon energy sources relatively more expensive, while low-carbon energy sources become better and cheaper through technological advances, economies of scale, and government incentives.

The Big Stone II partners have proposed a high-risk, high-cost power plant when you consider the ratepayer costs that are likely under carbon-capped regulatory scenarios. Just this Summer, the United States Senate passed a resolution supporting “a comprehensive and effective national program of mandatory, market-based limits and incentives on emissions of greenhouse gases.” The regulatory path ahead puts a hefty price tag on proposals such as Big Stone II.

1.



In fact, Otter Tail Power's largest industrial customer in Minnesota, Enbridge Corporation, is seeking to insulate itself from the high costs and risks of future fossil fuel investments such as Big Stone II, by seeking from Otter Tail a long term contract that is keyed into the costs of a new *wind power* development in the "other Dakota".

Izaak Walton League, Minnesotans for an Energy Efficient Economy and the Union of Concerned Scientists appreciate the opportunity to participate in the South Dakota Public Utilities Commission proceeding.

CLEAN WATER ACTION ALLIANCE of Minnesota

A statewide alliance of more than 50,000 households and 30 organizations working on a wide array of issues affecting Minnesota communities. CWAA has a long history of supporting citizen efforts to protect water resources, of promoting sound solid waste management, of pushing for agriculture policies that strengthen rural communities, of working for a transition to clean renewable energy, and of promoting social values, policies and behaviors that result in economic and environmental justice.

PREVENTING WATER POLLUTION

Clean Water Action Alliance is working, both nationally and locally, through lobbying, outreach efforts and organizing, to defend the public's drinking water from contamination at the source, to

clean-up currently polluted waters, and to ensure that the Clean Water Act continues to be enforced so that all of our waters are protected.

RENEWABLE ENERGY

Clean Water Action Alliance is working with its allies, organizing citizens across the state to move forward on the transition to clean, renewable energy. Through the Mercury-Free Minnesota Campaign, CWAA is also working to increase public demand

for the reduction of mercury releases from coal-fired power plants.

RURAL COMMUNITIES & THE ENVIRONMENT

Clean Water Action Alliance is working with farmers and rural residents to organize support for agricultural production systems and practices that ecologically and economically sustain family

farmers, rural communities and the environment. CWAA's advocacy and outreach is pushing for changes that will protect against adverse water, air, and human health impacts from large-scale, industrial livestock production and will connect consumers with locally and sustainably grown food to directly support our family farmers and strengthen rural communities.

PROTECTING CHILDREN'S HEALTH

Clean Water Action Alliance and its allies are working to protect children's health by reducing the presence of toxins, such as mercury, in the environment. CWAA is advocating the use of a precautionary

approach in tackling this problem - preventing harm before it happens.

MIDWEST REGIONAL OFFICES

CLEAN WATER ACTION ALLIANCE

Fargo/Moorhead
118 N Broadway #316
Fargo, ND 58102
(701) 235-5431

Twin Cities
308 E Hennepin Ave
Minneapolis, MN 55414
(612) 623-3666

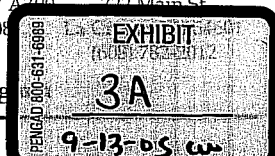
Duluth
394 Lake Ave S #312A
Duluth, MN 55802
(218) 722-8557

Sioux Falls
231 S Phillips Ave #250
Sioux Falls, SD 57104
(605) 978-9196

National Office.
4455 Connecticut Ave NW
Washington, DC 20008
(202) 895-0420

La Crosse
722 Main St

www.cleanwateraction.org

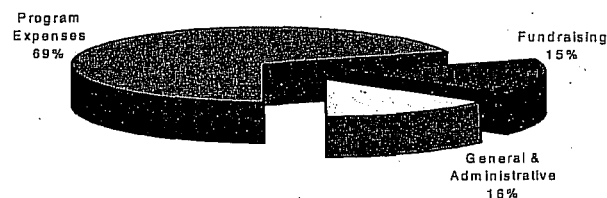


CLEAN WATER ACTION ALLIANCE of Minnesota

Clean Water Action Alliance has a track record of success building coalitions and involving citizens directly in winning environmental victories in Minnesota. With assistance from CWAA, many local organizations have grown stronger, started important environmental programs, and stopped destructive projects in their communities. Through public outreach, education, organizing, technical assistance and public interest lobbying, CWAA - working in concert with Alliance members and allies - has improved protections for Minnesota's environment. Included among these successes are:

- Strengthening consumer protection in the federal Safe Drinking Water Act;
- Adopting better programs and policies at the federal, state and local levels to protect rural communities from the air and water pollution from factory livestock operations;
- Winning key renewable energy developments that make Minnesota a leader in national wind energy production;
- Requiring tougher penalties for polluters;
- Passing state law to reduce mercury emissions.

Clean Water Action Alliance receives most of its support from individuals who care. The pie chart below shows how contributions received in 2003 were spent:



MEMBERSHIP

Thank you for becoming a member of Clean Water Action. Contributions to Clean Water Action are not tax deductible, so that we can advocate effectively for or against legislation.* Clean Water Action's memberships are for a term of one year. We encourage you to give what you can!

Affirming Members: Contribute less than \$5 per year.

Supporting Members: \$5 per year

Subscribing Members: \$25 per year (Subscribing members will receive the national publication, *Clean Water Action News*)

Sustaining Members: \$60 or more per year (Sustaining members will receive *Clean Water Action News* and state/regional updates)

When you join Clean Water Action at any of the above levels, all your family members residing in the same household are also included as members.

All members are entitled to vote on the organization's national program priorities and on the selection of the Board of Directors. If you would like to have input into the national program priorities or vote for the Board of Directors, please provide your e-mail address on our support statement, call 1-800-70-WATER or visit our website, www.cleanwateraction.org. For information about how to participate in elections for state leadership of Clean Water Action Alliance of Minnesota, you can call the Twin Cities office at (612) 623-3666.

PLEASE KEEP THIS AS A RECEIPT OF YOUR MEMBERSHIP!

DATE: _____

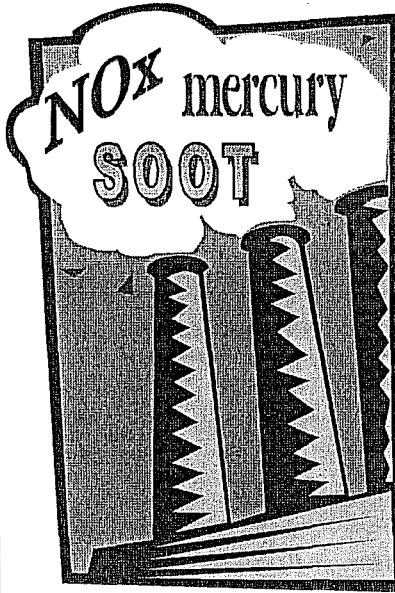
STAFF: _____

CONTRIBUTION AMOUNT: _____

* Contributions to Clean Water Action are not tax deductible. Clean Water Action is a non-profit organization under section 501(c)(4) of the Internal Revenue Code.



Replace Coal Power with Clean Wind Energy



Problem

Otter Tail Power Company, in conjunction with several other power companies, is proposing a major new source of air and water pollution for South Dakota and Minnesota. Otter Tail plans to more than double the output of the existing coal-burning power plant at Big Stone by building a new plant on the same site – Big Stone II. Coal pollution is a threat to our health and environment. Investing in a new coal-burning power plant wastes money and takes South Dakota away from safe, clean renewable energy from wind.

Toxic Coal Pollution

Coal-burning power plants are a significant source of air pollution. Coal-burning power plants emitted 3,762 thousand tons of carbon dioxide, 16 thousand tons of nitrogen oxides and 13 thousand tons of sulfur oxides in South Dakota in 2002.¹ Coal plants also emit significant amounts of lead and mercury. These pollutants are linked to serious health problems that lead to thousands of unnecessary deaths each year – more than from drunk driving or homicide.² Additionally, these health impacts often leave vulnerable populations -- like children and the elderly-- hardest hit.

Nitrogen oxides (NO_x) combine in the presence of sunlight with other organic compounds to form ground-level ozone, or smog. Smog is a powerful lung irritant that can exacerbate asthma and other respiratory problems.³

Sulfur dioxide (SO₂) is the primary component of particulate matter (PM), commonly known as soot. Some of these particles are so small they can travel deep into the lungs where they have adverse impacts on respiratory health. PM is especially dangerous for those with lung diseases (such as asthma and emphysema), for the elderly and for children. PM also contributes to haze, obscuring the visibility of our skylines and cherished recreation areas.⁴

Mercury is a heavy metal and a potent neurotoxin that is emitted from power plants when coal is burned. Mercury is released into the air and settles downwind of power plants where it contaminates lakes, rivers and the fish we eat. Exposure to mercury pollution may be especially harmful to women of child-bearing age, fetuses and children because it interferes with the development of the nervous system and can lead to delayed mental development, learning disabilities, and deficiencies in language, motor function, attention and memory.⁵



Coal pollution can cause or aggravate lung problems like asthma.

The Solution to Coal Pollution: Clean Wind Power

Wind power can reduce pollution generated by fossil fuels such as coal, oil, and gas. Wind power generates electricity with no air emissions; no fuel to mine, transport, or store; no cooling water; no water pollution; and no wastes. Using responsible siting practices, wind projects now have minimal impacts on wildlife and natural resources.

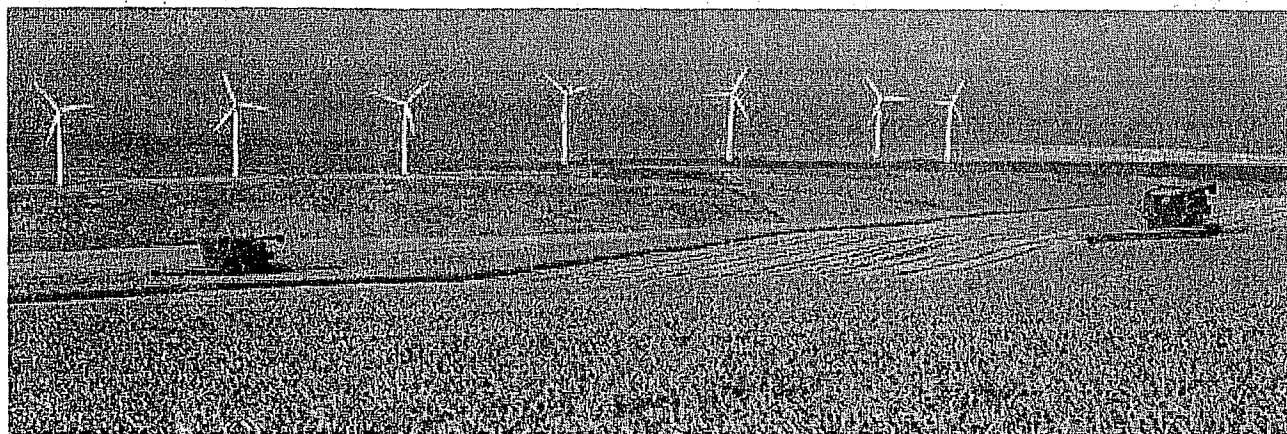
The Midwest is blessed with such an abundance of windy terrain, especially in the Great Plains states of North and South Dakota, Iowa, Minnesota and Nebraska – so much so that it is sometimes referred to as the “Saudi Arabia of wind energy.” South Dakota ranks fourth in the U.S. in renewable energy potential, with a potential power output of 117,200 MW.⁶ That is the equivalent of 195 coal plants the size of the proposed Big Stone II.

EXHIBIT

3B

GAD 800-651-6889

South Dakota has just begun to tap its outstanding wind resources. As of January 2004, South Dakota had only 44.48 MW of installed and projected wind energy capacity, and no new wind projects planned.⁷ South Dakota should harness its abundant wind resources, rather than investing money in a new coal-burning power plant.



South Dakota has incredible potential to generate renewable wind energy – improving our economy and environment.

Benefits of switching from coal to wind include:

- reduced air and water pollution and toxic wastes,
- health benefits from less air pollution – 54 fewer deaths, 1290 fewer asthma attacks and over 7000 fewer lost work days due to various illnesses caused by coal pollution,⁸
- improved electricity reliability, thanks to a diversified power portfolio,
- economic development and job growth through wind power “cash crops” for landowners and clean energy exports, increased business for wind turbine manufacturers and new skilled jobs in installation and maintenance of wind turbines.

Clean Water Action's Position

The Big Stone area is not the right place for a new coal plant. Although Big Stone II would be across the border in South Dakota, air pollution knows no boundaries. Airborne toxins would affect Big Stone Lake and Minnesota's Big Stone State Park. Known for fishing, recreation, and camping Big Stone Lake is already under fish consumption advisories for mercury.

Before South Dakota builds another polluting coal plant, the public health and economic development benefits of renewable energy options must be considered. Since coal plants can operate for at least 40 years, every time a new one is built we commit to dirty energy for generations to come. For the future health and economic well-being of the region, we should use clean, innovative renewable energy options, not polluting coal technology developed long ago.

¹ Energy Information Association, "State Electricity Profiles 2002," www.eia.doe.gov/cneaf/electricity/st_profiles/south_dakota.pdf

² Abt Associates, "Death, Disease and Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants," Bethesda, MD, 2000.

³ US EPA, "National Air Quality and Emissions Trends Report, 1999." Office of Air Quality Planning and Standards, EPA 454/R-01-004, 2001.

⁴ Abt Associates, 2000.

⁵ Minnesota Department of Commerce, "2001 Energy Planning Report," Appendix A: Dealing With Environmental Impacts of Electric Generation, 2001.

⁶ Union of Concerned Scientists, "Plugging in Renewable Energy," 2003. www.ucsusa.org/documents/Plugging_in_Renewable_Energy.pdf

⁷ American Wind Energy Association, "Wind Project Database- South Dakota," www.awea.org/projects/southdakota.html

⁸ Abt Associates, "Power Plant Emissions: Particulate Matter-Related Health Damages and the Benefits of Alternative Emission Reduction Scenarios," June 2004.

For more information contact your local Clean Water Action office:

Midwest Regional Office
308 East Hennepin Ave.
Minneapolis, MN 55414
(612) 623-3666

South Dakota Office
231 S. Phillips Ave. # 250
Sioux Falls, SD 57104
(605) 978-9196

Duluth Office
394 Lake Avenue S. #312A
Duluth, MN 55802
(218) 722-8557

Fargo-Moorhead Office
118 North Broadway
#314 Fargo, ND 58012
(701) 235-5431

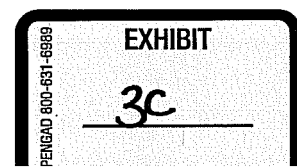
La Crosse Office
505 King Street, Suite 157
La Crosse, WI 54601
(608) 782-2012

Replace Coal Power with Clean Wind Energy

Concerned about the proposed new coal plant at Big Stone?
Ready to make your voice heard?

Here are some ideas for comments (in person or in writing) on the proposed Big Stone II coal plant to the South Dakota Public Utilities Commission. Please see the Clean Water Action fact sheet for additional information.

1. Costs on ratepayers and residents associated with increased healthcare, environmental, or economic costs from the impacts of air pollution
2. Impact of air pollution on the health of surrounding communities: global warming gases, ozone precursors that contribute to regional haze, particulate matter that increases the risk of respiratory and cardiovascular illnesses
3. Impact of mercury contamination on the health of surrounding communities
4. Effectiveness rates of various mercury control technologies
5. Costs on ratepayers and citizens of future carbon regulations to reduce global warming gases
6. Alternatives to coal-burning power plant: economic development opportunities of wind; real cost of new coal plant versus wind project; cost of burning biomass versus coal
7. Environmental, health, and economic impact of the disposal of coal waste ash
8. Thorough analysis of plant's impact on water: impact on fish and aquatic ecosystems of Big Stone Lake and Minnesota River
9. Economic impact on Big Stone Lake area: ability of the area to continue to attract sportspeople, hunters, birders, outdoor enthusiasts
10. Environmental and health impacts of coal dust from increased coal handling operations at plant
11. Impacts on state and federal endangered plants and animals from deposition of nitrogen, sulfur dioxide, mercury
12. Impacts on state and national parks or other special natural resource areas
13. Cumulative impacts from the old coal plant, the new one and any other pollution sources in the area.
14. Radioactive emissions from burning coal, which contains trace amounts of radionuclides.
15. Transmission lines



If you want to submit written comments to the South Dakota Public Utilities Commission, here is some information.

Mail your comments to:

Pamela Bonrud, Executive Director
South Dakota Public Utilities Commission
500 East Capitol
Pierre, SD 57501

Sample comments:

September 13, 2005

Pamela Bonrud, Executive Director
South Dakota Public Utilities Commission
500 East Capitol
Pierre, SD 57501

Re: In the Matter of the Application by Otter Tail Power Company on behalf of Big Stone II Co-Owners for an Energy Conversion Facility Permit for the Construction of the Big Stone II Project; Docket No. EL05-022

Dear Ms. Bonrud:

I'm very concerned that the proposed Big Stone II coal plant will be another major source of mercury pollution. I think the permit application process should look very carefully at the impact of mercury contamination on the health of surrounding communities. How serious is the mercury contamination in local lakes and rivers now? How much worse will it get? What will this do to local children or people who depend on fishing to live? What is the economic effect of damaging the fishing and recreation resources in the area? These questions must be answered!

Sincerely,

Your name
Your address

For more information, contact Clean Water Action at 605-978-9196.