CHAPTER 3

ENVIRONMENTAL IMPACT STATEMENT

COMMENT RESPONSE DOCUMENT

Xcel Energy Prairie Island Nuclear Generating Plant
Extended Power Uprate Project

PUC Docket No. E002/CN-08-509
PUC Docket No. E002/CN-08-510
PUC Docket No. E002/GS-08-690

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1.0 INTRODUCTION

This chapter provides a summary of the public meetings and public hearings, explains the methodology for receiving and organizing comments, and provides responses to comments received.

The Draft Environmental Impact Statement (DEIS) for the Prairie Island Nuclear Generating Plant (PINGP) Extended Power Uprate (EPU) and request for additional dry cask storage was published on March 17, 2009. Notice of the availability of the DEIS was sent to those person on the Office of Energy Security's project contact and agency technical representative lists, and published in the Environmental Quality Board Monitor and newspapers of local circulation.

The OES distributed copies of the DEIS to those persons requesting individual copies, former members of the advisory task force, local libraries and to those state agencies identified on the technical representatives list.

A public meeting on the DEIS was held on April 21, 2009, at the Red Wing Public Library. Based on sign-in sheets, the DEIS meeting was attended by 47 individuals. OES staff led the presentation and presided over the public meeting. The public was encouraged to provide oral comments at the public meeting and to submit written comments to the OES by May 8, 2009. A court reporter was present at the public meeting to ensure that all oral comments were recorded accurately.

1.0 METHODOLOGY

In preparing the Final EIS, the OES Energy Facility Permitting (EFP) staff considered all comments to the extent practicable. An identification number was assigned to each commenter, including those who expressed comments orally at the public meeting. Individuals who submitted comments in multiple separate submissions were assigned a separate commenter number for each submission. Each specific comment by the same commenter was assigned a sequential comment number; for example, Comment 15-14 refers to the 14th comment by the commenter assigned as number 15.

Based on the comments received on the Draft EIS, OES EFP prepared responses and modified the EIS (Chapters 1 and 2) where appropriate. The EIS was also revised based on OES EFP's internal technical and editorial review of the DEIS (i.e., changes made to the EIS that were not in response to a comment received).

Transcripts of the public meeting, as well as scanned images of the original comment documents in order by assigned commenter number, are included in their entirety in Section 3 of this chapter. The commenters and their comments are identified and labeled on each document image beginning with the public meeting transcripts. All comment documents on the DEIS, as

included in this comment-response chapter, as well as any supporting attachments, have been entered into the administrative record for these dockets. Individual responses for each comment are provided on the right side of each page in close proximity to the corresponding comment. In cases where subsequent comments address the same issue, references are made to the earlier comment number for appropriate responses.

Oral comments were given by 12 individuals at the DEIS public meeting; OES received 15 written comments during the public comment period. Table 3-1 provides a listing of the commenters, their assigned identification numbers and their affiliations.

Commenter Number	Commenter Name	Affiliation
1	Joan Marshman	Citizen
2	Andru Peters	Citizen
3	George Crocker	North American Water Office
4	Kristen Eide-Tollefson	PINGP Study Group
5	Roger Cuthbertson	Citizen
6	Michelle Meyer	Red Wing Sustainability Commission
7	Katie Himanga	Citizen
8	Michael Childs Jr.	Member PIIC
9	Lea Foushee	North American Water Office
10	Michael Childs Sr.	Member PIIC
11	Susan Johnson	Citizen
12	Andru Peters	Citizen
13	Kristen Eide-Tollefson	PINGP Study Group
14	Xcel Energy	Xcel Energy
15	Sierra Club	Sierra Club
16	Paula Maccabee	PINGP Study Group
17	Philip Mahowald	Prairie Island Indian Community
18	Lea Foushee	North American Water Office
19	Craig Affeldt	Minnesota Pollution Control Agency
20	Matt langan	Minnesota Department of Natural Resources
21	Joan Marshman	Citizen
22	Katie Himanga	Citizen
23	Kristen Eide-Tollefson	Citizen
24	Dennis Hatleli	Citizen
25	Thomas Harlan	City of Red Wing
26	Bruce McBeath	Citizen
27	Andru Peters	Citizen
28	Britta Bloomberg	Minnesota Historical Society

PUBLIC COMMENTS

TUESDAY, APRIL 21, 2009

6:00 p.m.

Prairie Island Nuclear Generating Plant

Certificate of Need Extended Power Uprate
PUC Docket Number E002/CN-08-509

Certificate of Need Additional Dry Cask Storage
E002/CN-08-510

Site Permit Extended Power Uprate
E002/GS-08-690

Red Wing Public Library
225 East Avenue
Red Wing, Minnesota

I N D E X

MR. STORM: Good evening. Thank you for coming.

MR. PETERS: Good evening, Bill.

MR. STORM: My name is Bill Storm. As many of you know, I am with the Office of Energy Security within the Department of Commerce, Energy Facility Permitting Unit. We're here tonight for a meeting to get public input on the draft environmental impact statement for three dockets that are before the PUC, Public Utilities Commission. Those dockets are the certificate of need docket for the extended power uprate, the certificate of need docket for the request for additional dry cask storage, and the site permit docket for the extended power uprate.

MR. CHILDS, SR.: Before we start, could you tell me what uprate means?

MR. STORM: Extended power uprate?

MR. CHILDS, SR.: Yeah.

MR. STORM: For those who don't know, Xcel Energy has applied to the PUC for three applications before the PUC. The first application is for a CON for extended power uprate. The extended power uprate is to ramp the power capacity of Prairie Island from 1,100 megawatts, bring it up

164 megawatts, an increase. So that's what the uprate stands for. Okay?

They need -- in order to do that, they need to get -- they need to have approval from the PUC to prove need, and that's what the certificate of need for the extended power uprate is about.

The site permit for the extended power uprate deals with the same issue, the request by Xcel to increase the capacity of Prairie Island nuclear generating plant by 164 megawatts. They need a site permit to do that from the PUC. That's one of the applications that's before the PUC.

The second item there -- the third item there is the certificate of need for additional dry cask storage. Along with the power uprate, Xcel Energy is also requesting to expand the ISFSI to allow for more dry cask storage on the ISFSI.

So those are the three dockets before the PUC relative to the Prairie Island nuclear power plant.

I'm having equipment failures tonight, folks. Sorry.

Before we get into tonight's meeting, I just want to go over a few items on the agenda. One, as with all the meetings that we hold, I have a

sign-in sheet, and I encourage you to sign it as you come in. It does a couple of things. It allows me to track the kind of public participation I'm getting in my meetings, and it also gives you an avenue if you want to sign up for my project contact list. There's a check box on the sign-in sheet where you can do that. What that does is those people who have checked that box, I will put their names -- if your names aren't already on the project contact list, I'll put that on my database of people who are interested about this project; and when I need to do mailings or notices for future meetings or hearings, you'll be sure to get one.

Okay. In addition to the sign-in sheet, there are these neon-colored cards. Tonight's meeting is so that we can gather input from the public on the draft EIS that the Office of Energy Security has developed. And if you would like to speak, I ask that you fill out one of these cards and give it to either Ray or myself. And when I get through my little talk on the process so far, I will call people up and everybody will get a chance to speak.

There is also a copy of my slides there, which you -- which you can have. And if you would

like a copy of the draft environmental impact statement, let Ray or I know, and we can provide you with a copy of the draft environmental impact statement.

Like I said, my name is Bill Storm with the Office of Energy Security. Ray Kirsch is assisting. He's the public advisor for these three dockets. And so if you ever -- if you have questions as we move through the process, you can contact -- my card's on the table. Ray's card's on the table. You can contact us and ask us questions.

What I want to do is, since this is the second meeting that we've had down here in Red Wing -- the first meeting was the initial meeting. It was a public information meeting, and it was a meeting to solicit input from the public on the scope of the environmental document. Tonight's meeting now is to solicit input from the public on that document that we produced. But what I want to do is -- before I get to your comments, I want to just give you a very short synopsis of what the process that we've done to date. And then when I'm done with that, then we will turn it over to the audience, and I will call people from the cards, and we'll allow you to speak. Once we get through the

cards, if people still want to speak who haven't filled a card out, we'll do that by raising of hands. And once we've done that, if there's people who want to speak again, we will certainly allow them, if time allows, to speak again.

As I said, there are three dockets from the PUC relative to the Prairie Island nuclear generating plant. If you were here at the initial public meeting where I went through what the process would be, you'll remember that those dockets have processes that are common among them. One of those is environmental review. Each docket being reviewed by the PUC has an environmental review component to it. The CON for the uprate requires by rule and law an environmental report, the site permit for the uprate requires an environmental impact statement, and the CON for the request for dry cask storage also requires an environmental impact statement, under a different rule but still an environmental impact statement.

What we have done at the Office of Energy Security is we've held -- we've tried to coordinate these processes so we weren't down here every other week having public meetings, and it's hard for the public to track that. So what we did is we held a

single public information and scoping meeting where we came down, we allowed Xcel to give a presentation on what the project is that they want to do, the three projects that they want to do, we ran through what the processes would be, and then we also took input on what the public would like to see covered in the environmental document, review document.

We then issued one scoping decision. The commissioner of the Department of Commerce is responsible for determining what the scope of the environmental review should be. So we had our scoping meeting.

Following that scoping meeting was a comment period. We took those comments into consideration. I made a recommendation to the commissioner on what should be in the scope, and the commissioner released the scoping decision. That scoping decision covered all three dockets.

And then the third thing we did was we produced the environmental document. It's an environmental impact statement. And that document fulfills the requirements for environmental review for all three of these dockets before the PUC.

As with the environmental review, all three dockets require a public hearing in their

process. Since all three dockets require a contested case hearing, we are coordinating that process. The contested case hearing will follow this meeting. I think it's scheduled for May 14th right now. So it's in the future. But the contested case hearing will be another opportunity for the public to speak on this project. When we hold it on May 14th, we will hold an afternoon session here in the library and an evening session at the Prairie Island Indian Community.

We decided to coordinate the environmental review processes and the hearing process, the public hearing processes to gain efficiencies so we're not producing twice the amount of paperwork and we're not coming down here three or four times. It's much more efficient, I think, to coordinate the processes.

And for those of you who were here during the public meeting, information meeting, you might remember this slide (indicating). I have three slides that are going to be following here. Each slide is a graphic representation of the process. This slide (indicating) is a graphic representation of the certificate of need process for the extended power uprate. And as you can see, an application is

submitted, an application is accepted, we hold a public meeting -- that's that one public meeting that we held -- we have a scoping process, the ER is released -- the ER is an environmental report, it's an environmental document -- you go into a contested case hearing, the ALJ's report, and a PUC decision.

Now, if you look at the flowchart for the site permit process, you can see a lot of the milestones are similar or overlap. There's the application is submitted. The application is accepted. There's a public meeting. That's that same public meeting we had down here. There's a scoping decision. The scoping decision outlines what will be in the environmental document. The environmental document is released. The public is given an opportunity to speak to it. That's what we're doing here tonight. Then from there we go into a contested case hearing. Following the hearing the ALJ will submit a report and a recommendation, and then that will be taken to the PUC for a final decision.

And, likewise, with the request for dry cask storage, there's a similar process again. You can see application submitted, accepted, public meeting, environmental scoping decision,

environmental document, contested case hearing, ALJ's report, final decision by the PUC.

Even though those three dockets are under different rules and processes -- the processes are under different rules and statutes, there's so much overlap that combining them just seemed to make sense.

And I just want to track the dates and what we did up to this point and maybe lead you a little bit into what's going to happen in the future.

Application submittal date. The certificate of need for the uprate and the certificate of need for the request for dry cask storage, they were both submitted to the Public Utilities on May 16th. The application for the site permit was submitted on August 1st. The PUC accepted the CON applications as substantially complete on July 22nd. They accepted the site permit application as substantially complete on August 15th. Following the acceptance of those applications and before the public meeting, I put out a -- the Office of Energy Security developed a scoping -- EAW draft scoping document. That was a draft of what I thought the environmental review

document should contain. And I released that to the public a few weeks -- well, August 25th so it would be out there to the public in time for the upcoming meeting. We held the first meeting -- and, again, the meeting was held for all three dockets -- on September 10th. We had a ten-day comment period. We received comments from the public following that meeting on what they thought should be in the scope.

Then the next thing that happened was the PUC was petitioned by citizens to have an advisory task force. The PUC agreed that the task force should be formed. They ordered that the OES, Office of Energy Security, form a task force. And that was done on October 10th.

The task force was formed. It met three times in October. And when the task force was finished with their work, the scoping decision came out. As I said before, the scoping decision, which defines what will be in the environmental document, that's the responsibility of the commission -- the commissioner of the Department of Commerce. He makes the decision on what should be in the scope. That scoping decision came out on November 14th. And, again, that scoping decision covered all three dockets.

The draft EIS, which again covers all three dockets, was developed by OES, the Department of Health had some input into it, and that was released on March 17th, '09. That brings us to tonight. Okay?

As I stated, we are here tonight to receive comments from the public on the draft environmental impact statement. If there are areas of the draft environmental impact statement that you think are deficient or areas that you would like to see more information added, that's what we're here to do, to get that input. And what we'll do is we'll have -- we'll have a comment period opened till May 8th. So you have till May 8th to get written comments to me, to my office.

Once the comment period closes, I will start working on the final. And basically what the final EIS is, it takes all the comments I receive of the draft EIS and I tabulate them, and then I respond to each one. And if a comment that we receive requires that there's a section of the EIS be beefed up or added to, we will do that. But what you'll get then is you'll get the revised environmental impact statement and attached to it will be a section that has every comment that we

received and our response to them. That response may be one sentence that the comment is out of scope, meaning the comment is outside the scope of the document, or it may be the comment resulted in us rewriting a section. It will refer you to that section within the environmental impact statement. So that's how that will be formed. The final environmental impact statement will be entered into the record during the contested case hearing.

So we're here tonight, the public meeting. You have until May 8th to submit your written comments on the draft EIS. Following the close of that comment period and as I start working on the final EIS, the public hearings, the contested case hearing will start.

The contested case hearing is held before an ALJ, administrative law judge. The administrative law judge assigned to this case is Richard Luis. He's already had two prehearing conferences to get the schedule down and to entertain parties or entities that wanted to become parties, official parties to the proceedings. But the hearing is scheduled for May 14th. And as I said, we'll have an afternoon session here in the library, and we will have an evening session at the

Prairie Island Indian Community.

Following the public hearing, there will be a comment period; and that's up to the ALJ to specify when that will be, how long that will be. It will be a minimum of ten days. Following that there will be the evidentiary portion of the hearing, contested case hearing. The evidentiary hearing is a hearing in which parties, those people who chose to intervene -- Prairie Island Indian Community, the City of Red Wing, and Xcel is obviously a party -- it's an opportunity for them to present evidence and testimony, just like the public hearing is an opportunity for the public to enter material into the record, question the applicant and their witnesses, and enter their statements into the record.

Once the evidentiary hearing closes, there will be a period that will be set by the ALJ for reply for briefs, reply briefs of the parties. And then the hearing will close. And sometime after that, to be determined, the ALJ will issue a report and recommendation. That report and recommendation will come back to staff with the record.

Staff -- staff -- OES staff will then write our comments and recommendations, which are

basically a history of the process, what we did, what kind of comments we got, the history of the pro -- a review of the record basically, and then our recommendations. And then we will present that in front of the PUC for a final decision, and that date's yet to be determined.

That meeting is also open to the public. It is up to the Commission whether they entertain input from the public or not at that meeting. So I can't really speak to that. But that meeting is also open to the public.

So that's the process that we've gone through up to this date and where we're headed to in the future.

Now, for those of you who are interested -- and you may remember this from our first meeting. If you're interested in what other people's comments are, what other agency comments are, if you're interested in some of the documents, be it the environmental impact statement or the scoping document, all that information is maintained on two websites. The first website up here is a website that OES staff maintains for the PUC. It's a PUC website, but we sort of refer to it as our website. We, the project managers at the OES for

what you said down on the record, and we won't have any misunderstanding about what information you're trying to get at.

The last point I'd like to make is, again, we're here to take input on the draft environmental impact statement. So to the extent possible, I ask that you make your comments specific to the draft environmental impact statement.

And, as I mentioned, you have tonight to make oral comments into the record. There's also a comment period. The comment period closes May 8th. If you want to -- in addition to making oral comments, if want to put it down in writing where you can be a little bit more extensive on it, that's fine. I encourage you to do that. If you're not comfortable talking in front of people, it's fine just to submit me a written comment. You can e-mail your comments to me, you can snail mail your comments to me at the address there, and you can also -- a new feature that we have on that first website that I showed you, the first URL site there, when you go -- when you go to that docket page, which is the docket for the Prairie Island nuclear power plant, you will see that we've added a feature to the website that, for those dockets that have

Commenter 1 - Joan Marshman

open comment periods, you can make your comments electronically. You can log on and make your comment right there, and the system will send your comment to me via e-mail. So if you -- so if you want to -- you can comment that way, if you want.

But, remember, May 8th, close of business May 8th is the date for commenting.

And, with that, I'd like to get to the reason we're here tonight, and that's to hear what you have to say. What I'll do is I will -- like I said, I will go by the cards, call you up. Ray will hand you the microphone. Remember to state your name and spell it for the court reporter and then state your comment.

First on my card is Joan Marshman. Are you here, Joan?

MS. MARSHMAN: Yeah. My name is Joan Marshman, M-A-R-S-H-M-A-N. I am a Florence Township supervisor, and I did serve on the advisory task force. And after reviewing the draft EIS for the Prairie Island request for uprate and additional dry cask storage, I feel there are many unanswered questions and concerns regarding the additional storage request.

1-1

The issue of permanency has long been a

Responses

Commenter 1 - Joan Marshman

1-1

concern for many Minnesota residents and continues to do so. The federal repository at Yucca Mountain, Nevada has been a politically charged issue; and its future regarding acceptance of any nuclear waste is highly doubtful, to say the least.

The highest political office in the nation, along with Congressional support, has stated that the Yucca Mountain facility is not an option. Still, the draft EIS continues to assume and depend on the federal repository being the final resting place for Minnesota's high-level nuclear waste. You cannot assume or depend on something that will not happen in any foreseeable future. Minnesota must actively address how to safely and responsibly store the Prairie Island waste. It is unlikely that any federal repository will be available to accept any waste; hence, the Prairie Island ISFSI will become a permanent facility.

In 1993 the Minnesota Court of Appeals regarding the dry cask storage at the Prairie Island plant said, quote, The proposed facility is probably classified as one in which waste is permanently stored, unquote. The administrative law judge found it unlikely that the federal facility would be available to take waste from dry cask storage in the

Responses

Comment 1-1

As discussed in Chapter 2, Section 5.4, the only spent fuel storage scenario in accordance with current Minnesota and federal law is temporary long-term storage of spent nuclear fuel at the Prairie Island ISFSI until the storage casks can be transported to a federal repository. A federal repository remains a federal obligation. Uncertainty related to this obligation is discussed in Chapter 2, Section 6. Text in Chapter 2, Section 5.4 has been modified and supplemented to include information from the Yucca Mountain EIS applicable to long-term storage at commercial reactor sites.

Commenter 1 - Joan Marshman

predictable future and that the facility is likely permanent in the sense that no -- it has no foreseeable end.

Permanent or long-term storage has much different sets of issues and impacts associated with them than does the 20- to 150-year storage term. The Nuclear Regulatory Commission has not done an EIS for long-term storage at the reactor sites.

The actual term of storage at the Prairie Island facility has not been determined, nor has there been any attempts to do so. We must enter into a careful, considered, and honest assessment of the current dry cask storage at the Prairie Island plant.

Since no permanent storage has been authorized, nuclear plants all across the country have been running out of spent fuel storage capacity space. Approximately 60 facilities have -- will have no more storage space in their spent fuel pools and will need to develop reactor site storage.

In 1994 Minnesota House Research information brief stated, quote, The state cannot prohibit storage from high-level radioactive waste from other states or other power plants at the dry cask facility at Prairie Island. Given the

1-2

Responses

Commenter 1 - Joan Marshman; Commenter 2 - Andru Peters

pervasive federal preemption of concerns related to high-level radioactive waste, it is unlikely that the state would be allowed to prohibit entry into the state waste generated elsewhere as long as the NRC has approved the facility and the transport of the waste, unquote.

1-2

The draft EIS depends on the Department of Energy taking title to the waste to go to the federal repository, whose funding is doubtful nor has it been licensed to accept anyway. There is no assurances that the dry cask storage at Prairie Island will not become permanent -- a permanent facility, so we must consider all possible options and avenues available. The draft EIS must address all the storage issues, along with the fact that there is no federal repository for the waste to go to in the future.

1-3

Thank you.

MR. STORM: Thank you, Joan.

Andrew Peters.

MR. PETERS: I guess since I'm up front, I'll face the audience. My name is Andrew Peters. I am a council member of the City of Lake City. I also was a member of the advisory task force team and also on the Prairie Island study group.

Responses

Comment 1-2
It's unclear whether Minnesota could prohibit storage of spent nuclear fuel generated in other states. Such transport and storage would appear to be contrary to Minnesota law (Minn. Stat. § 116C.83, Subd. 4). The Department of Energy (DOE) and Nuclear Regulatory Commission (NRC) may have, under the Nuclear Waste Policy Act (NWPA), as amended, authority to preempt state law and require centralized storage of spent nuclear fuel at commercial reactor sites. Such storage would require modifications to current ISFSI licenses with accompanying hearings. See discussion in Chapter 2, Section 6.1 and associated DOE reports.

Comment 1-3
Text in Chapter 2, Section 5.4 has been modified and supplemented to include information from the Yucca Mountain EIS concerning long-term storage options, including the unavailability of a federal repository.

Commenter 2 - Andru Peters

My comments are going to be addressing specifically Chapter 4, Human Environmental Impacts, sub 4.9, Transportation. And I'm going to be citing a couple of Department of Transportation regulations and documents that the report was silent on. And primarily I want to talk about Code of Federal Regulations Title 49, Transportation, part 171, subchapter C, Hazardous Materials Regulations; part 172, subpart D, Marking; subpart E, Labeling; subpart F, Placards; part 173, subpart B, Preparation of Hazardous Materials for Transportation; and subpart I, Radioactive Materials.

There's been a number of discussions regarding Yucca Mountain. I was living in California, and I was heavily involved in the discussion period of the Yucca Mountain in the early 1990s. I'll be honest. I'm surprised the issue is still alive, because in 1995 the state of California and Nevada killed it because the transportation industry would not support it. Primarily, for those that don't realize it, every city, county, and state has to prove their route in all agencies. Emergency services agencies have to be equipped to allow that movement, whether it's by rail or by motor, through

Responses

Commenter 2 - Andru Peters

the city with the appropriate forces. And that's why -- that's why I'm surprised that it's still an issue today. Maybe it's something that just keeps coming back, and hopefully they put pressure on Nevada and California.

At paragraph 172.2, No person may offer or accept hazardous materials for transportation in commerce unless the material is properly classified, described, package, marked, labeled, and in condition for shipping as required or authorized per this subchapter.

Looking at the Section 4.9, a good overview of the transportation route's but nothing specific as what's happening. As a matter of fact, the one route that was detailed, I think in the second paragraph, has identified Highway 61 coming from Prairie Island/Red Wing down through following the Mississippi River to La Crosse -- Winona/La Crosse. That is a contradiction on what DOT has in charts, and I'll talk about that briefly. I did not see any reference complying with DOT standards, guidelines and, as far as that goes, Environmental Protection Agency.

Paragraph 171.3, paragraph 3 states, Delivers as designated on the entire manifest of the

2-1

Responses

Comment 2-1

The Scoping Decision signed by the Director of the OES on November 14, 2008 addressed the issue of transportation of spent fuel from PINGP. A detailed discussion of the issue was specifically excluded in that decision. Chapter 1, Section 1.1.3 of the EIS refers the reader to the National Transportation Plan for a detailed analysis of issues surrounding the transportation of spent fuel.

Commenter 2 - Andru Peters

generator, the entire quantity of the waste received from a generator or transporter. Nothing is said how many casks are going to be moved. There are three nuclear plants in -- on the Mississippi River. Nothing has really been said on either three. Will they be moving dry cask storage into the Prairie Island facility? I've seen nothing on the Monticello or the La Crosse plant on enhancing storage capability. So I suspect the reason they're going for 24 to 35 additional spots is to allow for storage of casks from other sites traveling within the state of Minnesota. And from the position of La Crosse, that will be interstate commerce.

2-2

Paragraph 171.3, subsection D, states, If a discharge of hazardous waste or other hazardous material occurs during transportation and an official of a state or local government or a federal agency, basically in summary, needs to be notified or protocol -- and I know the county of Wabasha has no emergency service plans for a nuclear or radioactive waste accident, and I don't think Goodhue County has -- or does Goodhue County have something on -- you're probably forced because of the Prairie Island situation. But I know Lake City does not, and I suspect Wabasha, Kellogg, and those

2-3

Responses

Comment 2-2
The storage of spent nuclear fuel at the PINGP is managed to facilitate the shipment of the waste out of state to a permanent or interim storage facility (Minn. Statute 116C.83, Subdivision 4, item a).

Total number of casks anticipated through 2034 operations and decommissioning is 98.

Current legislation (Minn. Statute 116C.83, Subdivision 4, item b) limits the storage of spent nuclear fuel to that generated by a Minnesota facility and stored at said facility. See response to Comment 1-2, which addresses the same concerns.

Comment 2-3
See response to Comment 2-1, which addresses the same concern.

Commenter 2 - Andru Peters

cities do not. So we have a hole there.

Paragraph 171.12(e) states, Radioactive material being shipped must meet IAEA regulations for safe transport of radioactive materials and as amended. The reason I said that is because my CFR is dated 1990, and I'm sure they have been updated.

Part 1034, Routing of Traffic, DOT allows railroads to reroute trains in case of situations. And when you reroute, you're going to have counties and cities who are not on the regular route that you're going to have some issues. So that needs to be addressed.

2-4

On one of the maps -- let me go through the maps. It's important. Minnesota counties affected by truck transportation. Basically in this case it's Yucca Mountain or just intrastate within the state of Minnesota. This particular map shows no designated route from Hastings to Winona. The route is from La Crosse, Winona, to Highway 30 -- it looks like Highway 35 going north into the Twin Cities. That contradicts what's in Chapter 4.9 that you identified Highway 61.

Then on a state map that pretty much outlines the major routes, it looks like it was -- it looks like it's Interstate 80 for most of the way

Responses

Comment 2-4
See response to Comment 2-1, which addresses the same concern.

Commenter 2- Andru Peters

until you get to Salt Lake City, then it diverts down. But the state/federal highway system is very limited in how you move nuclear waste.

The last -- the last map shows the transportation routes, and they identified -- I'll have to attest, I don't know for what period -- but they show coming out of La Crosse, following I-90 to I-35, 37 casks into Albert Lea, down to Monticello 263 casks going down to Albert Lea, for a total of 300 casks. And that's a tremendous number of casks moving. And I know currently Prairie Island stores 24, and they're going to expand to 24 or more. But when you're talking 300 casks there and then for Prairie Island going via rail using Sioux Line going -- or actually now Kennedy Pacific going north to the Twin Cities then going south, they have identified in here 127 casks coming out of Prairie Island. So there's some discrepancy information, and I think they need to take a really good look on the transportation side, because -- and you will have to move nuclear waste, which is hazardous materials, and that type of thing. So I just want to make you aware that you need to take a look at that.

Thank you.

2-5

Responses

Comment 2-5
The total number of casks anticipated to support operation of the PINGP through 2033/2034 is 98.

Commenter 3 - George Crocker

MR. STORM: Thank you, Andrew.

George Crocker.

MR. CROCKER: Thank you. My name is George Crocker, C-R-O-C-K-E-R. I'm the executive director of the North American Water Office.

I guess for starters I'd like to point out the inadequacy of this EIS in terms of environmental impacts that may result from breaking reactor parts or operator error. There is no discussion that I saw about what the consequences of such incidents might be or discussions of their probability or what mitigation strategies might need to be incorporated if such events were to occur.

But, beyond that, this document I think is extraordinarily inadequate in terms of its discussion of the consequences of routine radiation releases. You point out on page 82, I guess it is, that, you know, there will be one person in one and a half million that gets cancer or something like that.

I'm going to give you a document that was prepared by Rosalie Bertell, an internationally renowned physicist, nuclear physicist, public health expert. And her information calculates that with the operations prior to the uprate -- and the uprate

3-1

Responses

Comment 3-1
Text in Chapter 2, Section 5.4 has been modified and supplemented to include potential incidents and impacts related to continued operation of the PINGP through 2034.

Commenter 3 - George Crocker

will expand these impacts by 10 percent or so -- why, for every year of nuclear operations at Prairie Island, we are committed to somewhere between 11 and 46 cancer fatalities over the next thousand years.

Your problem, in significant part, has to do with the term of exposure. The term of exposure has to do with the period of time in which the radionuclides are radioactive. They don't end that at a 70-year period. And because of the insufficient methodology that you use to calculate the public health impacts, you create the impression that the impact is negligible. The fact of the matter is across this country we see rising incidents of a large number of disease symptoms with question marks behind them as to what is the cause. And the reason we have the question marks behind them is because we are very, very purposeful in not finding out. And this document is part of what you could call a conspiracy to continue keeping the public unaware of the causes, the exposures to radionuclides that can cause these disease symptoms.

3-2

Bear in mind that the National Academies of Science has stated categorically and unequivocally -- there was no discussion of the BEIR reports, the Biological Effects of Ionizing

3-3

Responses

Comment 3-2

The potential radiological health impacts discussed in the EIS are analyzed with proper exposure levels and a proper term of exposure. Three things happen to radionuclides released from the PINGP: (1) the gases and particulates are dispersed, (2) the particulates ultimately precipitate to a surface (e.g., land, water), and (3) they decay. The analysis by Dr. Rosalie Bertell (Analysis of the Cancer Deaths Attributable to Each Year of Operation of the Prairie Island 1 and 2 Nuclear Generators), correctly indicates that some radionuclides released during operations are long-lived. However, the analysis by Dr. Bertell is not applicable to the Prairie Island plant and this EIS.

The analysis by Dr. Bertell relies on reports issued by the United Nations (e.g., UNSCEAR 1988). The UNSCEAR reports, though well respected, specifically note that they are based on generic modeling and should not be applied to a specific power plant in a specific geography with known radionuclide release data.

Radionuclides released into the air by the Prairie Island Nuclear Generating Plant in 2006 are included in a table here. As indicated in the table, many of the radionuclides have relatively short half-lives (e.g., hours, days). As a rule of thumb, eight half-lives are considered to be sufficient to diminish radioactivity to a level below detection. Assuming no dispersion of the radionuclides, only Krypton-85, Cobalt-60, and Cesium-137 would likely be detectable after one year; most radionuclides would not be detectable after 90 days. However, dispersion does occur – Krypton moves throughout the atmosphere, Cobalt and Cesium move with the atmosphere until deposition. Thus, though there is exposure from these select radionuclides over time, the dose to persons from these radionuclides is substantially less than that estimated at the PINGP boundary, which is less than 0.01 mrem/yr. Sampling and monitoring by Xcel Energy, Minnesota Department of Health (MDH), and Wisconsin Department of Health Services (WDHS) indicates that there is no "build up" or increase in background radiation in the environment (see Chapter 1, Section 4.13). These programs are attuned to detecting radionuclides from power plant operations (e.g., Cesium-137).

Commenter 3 - George Crocker; Commenter 4 - Kristen Eide-Tollefson

3-3

Radiation, that I saw. And I think, Mr. Storm, that not including the BEIR documentations in your document is unacceptable.

The National Academies of Science says there is no safe dose. The radionuclides that will be -- that are being and will continue to be released at Prairie Island will continue to be biologically active on into the distant future. Your document has an obligation to take that full impact into account.

Are you paying attention?

MR. STORM: I hear you, George.

MR. CROCKER: Thank you.

MR. STORM: Thank you, George.

Kristen.

MS. EIDE-TOLLEFSON: I'm Kristen Eide-Tollefson. And I followed -- oh, last name -- first name K-R-I-S-T-E-N. Last name Eide-Tollefson, E-I-D-E, hyphen, T-O-L-L-E-F-S-O-N.

I followed this -- creation of this document closely and the work of the task force very closely, which I -- 15 closely -- closely written charted concerns that were identified by the communities that the OES put together down here, the individuals, the communities who analyzed the issues

Responses

Comment 3-2 (continued)

PINGP Gaseous Radionuclide Releases, 2006

Radionuclide		Half-life	
Gases			
Argon-41	Ar-41	1.827	hours
Krypton-85	Kr-85	10.720	years
Krypton-85m	Kr-85m	4.480	hours
Krypton-87	Kr-87	73.600	minutes
Krypton-88	Kr-88	2.840	hours
Xenon-131m	Xe-131m	11.840	days
Xenon-133	Xe-133	5.245	days
Xenon-133m	Xe-133m	2.190	days
Xenon-135	Xe-135	9.110	days
Xenon-138	Xe-138	14.130	minutes
Iodines			
Iodine-131	I-131	8.040	days
Iodine-133	I-133	20.800	hours
Particulates			
Beryllium-7	Be-7	53.440	days
Cobalt-58	Co-58	70.800	days
Cobalt-60	Co-60	5.271	years
Cesium-137	Cs-137	30.170	years
Rhodium-108	Rh-108	35.360	hours

Comment 3-3

The National Academy of Sciences' Biological Effects of Ionizing Radiation (BEIR) VII report is discussed in Chapter 1, Section 4.13. Dose calculations throughout the EIS utilize the BEIR report's recommended linear no-threshold model, and cancer incidences are calculated using the BEIR report's suggested dose-to-risk coefficient.

Commenter 3 - George Crocker; Commenter 4 - Kristen Eide-Tollefson

and sent them on to be included in the environmental impact statement.

I've really had quite a bit of trouble just getting a handle on this document. The uprate is 90 pages long. The environmental review for the increased storage is 56 pages long. When I borrowed the original Prairie Island environmental impact statement to read it when the ISFSI was first cited here, I had to get a box and I had to haul three huge binders to my car, and it took me two weeks to go through all the material and all the details and all the information in it.

4-1

So I think that what I would like to do here is to just take three of the issues that were raised by the task force and to read aloud the treatments and the conclusions.

The first issue raised by the task force was stranded waste, the high-level nuclear waste that is at this point, because we have no Yucca Mountain, stranded on the banks of the Mississippi. Obviously communities and citizens, even legislators are wondering how long will the waste be here, what will we do if it's not moved, how will we keep it safe? And the storage pad and casking pool are not designed for long-term storage. So what does the

4-2

Responses

Comment 4-1
The EIS has attempted to develop a "thorough but succinct" discussion of alternatives and impacts (Minn. Rules 4410.2300). Several areas of text have been supplemented based on comments received on the draft EIS.

Comment 4-2
See response to Comment 1-1, which addresses some of the same concerns. Text in Chapter 2, Section 5.4 has been modified and supplemented to include information from the Yucca Mountain EIS and discusses the need for institutional control in order for ISFSIs to function as designed and protect public health.

Commenter 4 - Kristen Eide-Tollefson

EIS have to tell us about this?

In the discussion of the impacts on page 34 to 37, although there is uncertainty as to the storage alternatives that will be available in 2034, a likely scenario is temporary long-term storage -- that's actually a new phrase in my experience -- at the Prairie Island ISFSI until dry storage casks can be transported to a federal repository. Given the uncertainty as to when a federal repository will be available to accept casks, this document assumes for analysis purposes only that the casks will be at the ISFSI for up to 200 years. And assuming that regular monitoring and maintenance continue, radiological impacts will be -- for up to 200 years will be within NRC regulatory limits and would not be significant during normal operations.

Then there's a general discussion that time is a consideration for the risks related to the handling of casks. But once they're on the pad, the EIS notes, they won't be handled. Now, perhaps we're looking for statistical analysis of the radiological effects. This is what we have:

Current analysis indicates that the risk of radiological impacts from these events is small. If emergency measures, planning measures remain

Responses

Commenter 4 - Kristen Eide-Tollefson

effective into the future -- we're talking 200 years at least -- and if we assume they remain relatively constant over time, then multiplying the risks over an additional 200 years will not make them significant. That's your statistical analysis.

And then -- then we go to the NRC's analysis, which proposes that the dry casks can be safely stored until at least 2094, which I will note is not 200 years. NRC -- the EIS says that the NRC notes that there are no technical limitations for safe storage. And perhaps if you're looking for an analysis of what the technical limitations discussion might be, we are out of luck because that is outside -- that's one of the many, many things outside the scope of this environmental review.

So the conclusion is -- just a second, I have one more piece on that -- this is the extent of the analysis of the design of the casks. The minimum design life for the TN40 series of transnuclear casks is 25 years. However, due to the passive nature of the dry storage casks and the robustness of the components, it is anticipated that the ISFSI could physically be operated for several hundred years. Now, this is a conclusion that has absolutely no documentation in the -- in the record

Responses

Commenter 4 - Kristen Eide-Tollefson

Responses

and is in stark contrast to the conclusions of the draft environmental impact statement for Yucca Mountain, which is fairly extensive. And I think that one of the important things that we need to realize is that if there is no Yucca Mountain, then the storage at Prairie Island is an ad hoc no action alternative.

Let me then summarize the position of the EIS on a matter of concern to us all. This is temporary long-term storage. Assuming regulatory monitoring and maintenance, they will be okay up to 20 years if you don't touch or move them after 50. And NRC says they can be stored safely at least until 2094.

In the EIS for Yucca Mountain, the no action alternative is based upon extensive engineering studies that support the analysis, and these extensive engineering studies outline three major factors that increase or affect the risks of long-term at reactor site storage. One is the amount of and exposure to precipitation. Two, the freeze/thaw cycle. And, three, proximity to human populations and other sensitive biological systems, which I would say the Prairie Island Indian Community, Red Wing, and the Mississippi River rate

Commenter 4 - Kristen Eide-Tollefson

quite high.

The Yucca Mountain DEIS notes that existing storage facilities could begin to be compromised as early as 50 years and should be replaced within the first 100 years and every hundred years thereafter.

The second item that I'd like to address is the issues identified in the task force recommendations for the EIS that have to do with the psychological and social and economic impacts of living near a nuclear plant. Of course, the Prairie Island Indian Community has been attempting to communicate to regulators, legislators, and federal agencies for many years the difficulties and effects of living this close. And the cumulative effects of the proposed actions of uprating, extending -- relicensing the plant and extending storage are a concern of all neighboring communities. There was a psychologist on the task force who was specifically interested in helping to address these concerns. What does the EIS have to say about psychological impacts?

I'm sorry, I'm shaking a little. It makes it harder.

Okay. The analysis is 20 lines long in

4-3

Responses

Comment 4-3
OES-EFP staff believe that an assessment of the psychological impacts of the proposed projects to the surrounding communities would require time and resources that are outside the scope of environmental review. A peer reviewable assessment of these impacts is not a simple "data mining" of information from other social study data, but must be designed and implemented with purpose in mind.

Commenter 4 - Kristen Eide-Tollefson

the middle of page 57. DES staff conducted a literary search in an effort to obtain information on the potential psychological impacts associated with living near a nuclear generator plant. The vast majority of articles dealt with post-incident surveys, after Chernobyl or something has happened. Then the EIS briefly states that the phenomenon that there are often higher levels of support for nuclear power near a plant, particularly for those who benefit from it, and -- but it also acknowledges that even where there's support or acceptance, there is sometimes underlying unease.

Then the EIS refers the reader to do their own research and gives three studies from a British study that may be of interest, and it concludes: Considering the comments received during the site permitting process for the Monticello nuclear generating uprate versus the public comments expressed during these proceedings, it would appear that assessing the potential psychological impacts of a given facility at its host community would be very specific to each community. Good observation. To adequately assess this impact would require a level of detail, i.e. basic research, that is, again, outside the scope of this study.

Responses

Commenter 4 - Kristen Eide-Tollefson

I have only one more, and that is that one of the things that has been of the greatest ongoing discussion among the task -- people who served on the task force and then those of us who have continued to get together and study these issues is that people are being asked to live with a number of uncertainties and multiple interacting affects of the uprate, extending storage, and extending the term of storage. And I think that the requests that are being made and that have been put on paper in the Prairie -- in the Red Wing Resolution that several of the other communities are also considering are not unreasonable requests. They take into consideration that we're all living here together and we have to live with each other and we will be living with each other and we will very like have a nuclear plant in the community, but the fact that -- but what has been requested is a number of -- is a number of considerations around mitigations that have to do with monitoring, knowing where the plume goes, the plume for the thermal -- the thermal discharges, for the emissions discharges.

But we're discussing the EIS, and so I'm going to read you the only treatment of mitigation

4-4

Responses

Comment 4-4
Text has been added as Chapter 2, Section 8.0, describing unavoidable impacts and mitigation for the proposed expansion of dry cask storage.

The EIS does not recommend permit conditions, but rather provides information on potential impacts and identifies uncertainties to facilitate a thorough consideration of whether or not the proposed project is permittable by the Minnesota Public Utilities Commission and other appropriate state agencies, e.g., Minnesota Department of Natural Resources, Minnesota Pollution Control Agency. Whether additional monitoring or other mitigations are appropriate permit conditions is a determination to be made by these agencies.

Commenter 4 - Kristen Eide-Tollefson

that I could find -- now, I might have missed it -- the only treatment of mitigations that I could find in the EIS. It's under 5.0 on page 90.

Unavoidable impacts in mitigation. The primary impact of the proposed uprate, I'll use, is an increase in the temperature of the circulating water leaving the main condenser due to an increase in thermal output. Cooling water discharge temperature will be maintained for increased use of cooling towers or other methods. Thermal discharge will remain within the limit. No change in permitted water appropriation is needed. The proposed uprate will also increase gaseous radionuclide emissions but will not measurably change the maximum projected annual offsite radiation dose. In other words, there are no recommendations -- recommended mitigations or even listing of mitigations recommended by the task force.

And so I will -- I will conclude my remarks with a request that the -- that a number -- and I'll turn that -- this in a written form -- of two things. One, that we recognize that the failure -- that the EIS recognize that as we now have a failure of the only federal storage option

4-5

Responses

Comment 4-5
See response to Comment 1-1, which addresses the same concerns.

Commenter 4 - Kristen Eide-Tollefson; Commenter 5 - Roger Cuthbertson

that we had, that this constitutes a major change of circumstance for the -- for the Prairie Island reactor and those of us who live near it and that this change of circumstance warrants a different look at the options that -- for storage, for technology before us; and it also warrants another look at the decline in energy demand and the necessity of the uprate, which --

So thank you for your great patience.

MR. STORM: Thank you, Kristen.

Roger Cuthbertson.

MR. CUTHBERTSON: I am Roger Cuthbertson, R-O-G-E-R. C-U-T-H-B-E-R-T-S-O-N. I have no official capacity and not been a part of any study group. I'm a citizen and a concerned citizen. I want to say just as an aside, as a concerned citizen, there is another issue being brought before the public by Xcel Energy, and it's the rate increase. And I would just like to say in these hard times, it's troubling to have to face a rate increase. And I would just say to Xcel Energy, if they need to do -- if they absolutely have to do a rate increase during these hard economic times, why not have smaller rates for people that don't use very much electricity because they can't afford to

4-5

4-6

Responses

Comment 4-6

Analysis by the Office of Energy Security, Energy Regulation and Planning unit (OES-ERP) indicates that the extended power uprate (EPU) is the least-cost alternative by at least $435 million; therefore, the EPU results in the least-cost system.

OES-ERP analysis notes that considerations of recent declines in energy demand are not relevant. While the economy is currently experiencing a recession, recessions have occurred in the past. Thus, the effects of typical recessions are already included in the forecast process through historical data. OES-ERP analysis of the EPU included a scenario with no growth in either capacity or energy requirements between 2008 and 2034.

Commenter 5 - Roger Cuthbertson

have one of these humongous houses that uses up so much energy. So I would just suggest some kind of sliding scale. But that's -- I know that's a little bit off the topic. I'm sorry.

My hat says stop -- stop nuclear power. And I really -- that's where I come from. I don't think we should even have to be here today because it was about 15 years ago when there was quite a public outcry about the idea of having casks in the first place. It wasn't that casks weren't better than the storage pools, which are just an accident waiting to happen, but we -- we somehow knew that these casks would not be the answer. And even at that time they were talking about Yucca Mountain that's going to be this permanent repository for nuclear waste. And this has been the promise ever since nuclear -- the nuclear industry forced it upon us, that science was going to come up with an answer to the waste problem, and it still hasn't. And shamelessly they're before us again asking for help when the legislature in 1994 or shortly thereafter said, okay, we'll give you the casks but only -- this is -- this is just a one-time deal; you can't have any more; and if -- and this is -- and that's it. And even the legislature got into the act.

Responses

Commenter 5 - Roger Cuthbertson

Responses

And, of course, they've already violated their promise. That's another promise not kept.

Nuclear energy seems like such a good deal. I mean, you don't see any smoke coming out of stack and it seems cheap. But it's a false-end deal because it's extremely dangerous. And it's extremely immoral, in my opinion, because what it does is it let's us have our electricity and party up and let's use it up now and we don't have to pay the price; but the people that follow us, our children and our children's children and our children's children's children, on and on, for thousands of generations pay the price for our use of electricity today and our refusal to con -- our refusal to conserve or to find -- or to follow -- or to investigate other methods of producing electrical power like wind generation, which is my -- would be my favorite.

Nuclear, the -- the lady before me that spoke -- I can't remember your name. But the matter of asking for more power generation, this is dangerous. More heat, more fuel, higher temperatures, more threat to the wildlife and the rivers, more chance for accidents. And we know that accidents will happen. More routine emissions of

Commenter 5 - Roger Cuthbertson

the radioactive substances that are causing cancer and causing birth defects in human beings and affecting the wildlife too.

What's in those casks is very dangerous. We're talking about stuff that has to be kept completely out of the environment and out of reach of animals and people for thousands and thousands of years. In those casks are such things as amounts of even plutonium with a half-life of 24,000 years. I mean, think about it. Are we going to -- I mean, we're going to enjoy this electricity today and then have people for not just 24,000 years, multiply it times 10, two hundred -- 240,000 years taking care of our waste? I mean, it's like having a party on Saturday night, having people clean up after your party for 35 years. It's crazy. It's -- it's just immoral, in my opinion.

5-1

Like let's go back to plutonium. I've heard it said that it's like 2 million times more deadly than cobra venom. So after 24,000 years -- and, mind you, human history is only 8,000 years. After 24,000 years, oh, boy, it's only going to be 1 million times more deadly than cobra venom. This is not the route we should be taking. And the casks and these substances aren't just dangerous and

Responses

Comment 5-1
Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 5 - Roger Cuthbertson

aren't just dangerous in a long lasting way, these substances are corrosive and hot and chemically toxic. And these casks -- these casks are not going to Yucca Mountain because Yucca Mountain is not ready. It probably never will be. Somebody's going to have to change those casks, take the material out of those casks and put them in a new cask. You want to be a part of the labor force doing that, working in these kind of conditions? I wouldn't want that job. You couldn't pay me enough to do this. And how many times do they have to change the casks? How many times is this going to happen? Hundred times? Thousand times? What do you think the workers donning their outfits to try to keep them -- keep their health halfway safe are going to be saying -- in the year 11,000 are going to be saying about their job of cleaning up casks so that people -- you know, that -- they can't even read about it anymore in history books because it's so long ago -- enjoy their cheaper electricity?

I don't know. Maybe I'm rambling here, but I just -- I just think we should -- we should not be doing this. What we should be doing is thinking about these casks. Let's take a good look at them. They might need changing already. Start

Responses

Commenter 5 - Roger Cuthbertson

thinking about that. Start thinking about alternatives. Put our money into wind power, biomass, other things. I -- I know it's very tempting to -- especially with global warning -- warming, to go nuclear; but at least with global warming, you -- at least with coal, using coal from coal plants, the effects that are produced are witnessed by the people that create -- that use the electricity, and they can see the changes happening before their eyes, and they can do something about it to turn around their actions. But with nuclear power it's so easy to use this power today and not worry because the effects are -- the deleterious effects to humans and animals is put off to the far distant future, on and on and on. And it's just -- it's -- it's not a -- it's like a deficit spending of the worst order is what I think, using nuclear power. And I just hope we don't -- I hope we don't do this. We should not.

I thought we had a deal before. I was protesting against the casks in 1994. Like I say, I did agree that the casks were better than the storage pools. I mean, the water goes out of the storage pools, it's volatile, you've contaminated hundreds and thousands of square miles. It just

Responses

Commenter 5 - Roger Cuthbertson; Commenter 6 - Michelle Meyer

takes one little thing, you know. But -- the casks are better than that, but the casks are not a solution either. They were never meant to be a permanent solution. And we're going to end up with a permanent mess, I'm afraid, if we go this route.

MR. STORM: Thank you, Roger.

Okay. That's everybody who's preregistered to speak.

Is there anyone who would like to take the opportunity to speak now?

Please state your name and spell it for the court reporter.

MS. MEYER: My name is Michelle Meyer, M-I-C-H-E-L-L-E, M-E-Y-E-R. I am a new member of the Red Wing Sustainability Commission. And I've just received this EIS report tonight, so I haven't had a long opportunity to go over it. I do have some immediate questions, though, that I would like to see further explored.

I'm not clear on who created this report. So initially when I'm reading it, it seems to me that what I'm seeing is a report about why nothing else is possible except nuclear, and to me that's completely unacceptable.

One thing that I do see in the report on

6-1

Responses

Comment 6-1
The list of preparers appears on page ii of the EIS. A discussion of alternatives to the proposed EPU appears in Chapter 1, Section 3.0 of the EIS.

Commenter 6 - Michelle Meyer

page 34 under Alternative Energies, there is conversation about wind turbines. And it says that if wind turbines can help meet overall system energy needs. It seems to me that that's really all we're asking for or you're asking for. You're asking to increase your output. I'm unclear as to why that needs to happen as well. Maybe that's stated somewhere within here, and I haven't seen it yet. But I'm completely unclear as to why we need to increase our energy output. But if wind turbines can help meet our overall system needs, I would like to see further exploration as to how that can happen.

6-2

Some years ago there was a wind energy test done near the high school, and the land near the high school is noted as being a perfect spot for wind generation. And so, again, we have a spot. I think we need to explore that.

Also, it says wind generation must be coupled with other technologies or resources. We already have that. You are already here. I don't see the need to expand.

So I think it's important, before moving forward with expansion of a system that is highly flawed, that we look to something or explore

Responses

Comment 6-2
A discussion of the use of wind turbines as an alternative to the proposed EPU appears in Chapter 2, Section 3.4.2 of the EIS.

Commenter 6 - Michelle Meyer; Commenter 7 - Katie Himanga

something that has no consequences, that has no toxic waste and no emissions. No need to pour hot water into our river that is already flowing during the winter unnaturally.

So I guess I -- the other -- the other point I'd like to make is it's my understanding that Xcel Energy receives money from the government to explore these technologies. And I'd like to see that money put to use, you know, in order -- if we need to increase our energy capacities, isn't that where it's supposed to be going towards? Aren't we supposed to be looking at our alternatives? Why are we even looking at a third generator and looking at further storage? The licensure was supposed to end. This is stuff that's supposed to have been taken care of already. And I want to know why -- why we even -- why we have this and why we're not exploring those alternatives.

Thank you.

MR. STORM: Thank you.

Anyone else?

Please state and spell your name for the court reporter.

MS. HIMANGA: My name is Katie Himanga. Katie is spelled K-A-T-I-E. Himanga, H-I-M-A-N-G-A.

6-3

Responses

Comment 6-3

As a general rule, Xcel Energy does not receive federal funds for alternative energy research and exploration. However, from time to time the company may apply for federal grant funding for specific research/ demonstration projects. These could include specific projects such as Xcel Energy's IGCC project in Colorado or seeking federal stimulus funding for a Smart Grid project. Applications for stimulus dollars are due the end of July 2009.

Commenter 7 - Katie Himanga

Resident of Lake City and the former mayor of Lake City. Many of the speakers who preceded me shared comments. I would second their comments, especially concerns about the storages of nuclear waste on Prairie Island for what appears to be an indefinite period of time.

But I want to make just a few comments very specific to the EIS, some things that I offer for your consideration. In Chapter 1, page 36 and on Table 3.2, you discuss carbon emissions from a variety of different electricity-generating plants. And unless it is not already, it is my opinion that that should reflect life cycle carbon dioxide emissions and not just emissions at the plant site.

Then for Chapter 4.2, on page 47, in discussing fish population, the remark is included that it looks -- that it looks like fish populations -- the current fish populations look much like they did in the 1970s. And I would offer that the 1970s might not be an appropriate baseline or benchmark for fish populations. As I recall, in the 1970s the river was still very much polluted by -- from a number of factors. And I would offer that a pre-World War II benchmark is more likely appropriate.

7-1

7-2

Responses

Comment 7-1
The November 14, 2008, Scoping Decision signed by the Director of the OES specifically excluded the impacts of the nuclear fuel cycle; a description of the nuclear fuel cycle appears in Chapter 1, Section 1.1.4 of the EIS.

Comment 7-2
In its October 7, 2008, letter to the OES-EFP staff, the DNR stated that, while the operation of the PINGP has resulted in some fish redistribution towards the warm water plume during the winter, the monitoring conducted by Xcel Energy and the Wisconsin and Minnesota DNRs has not detected any substantial negative effects on the fish community to date.

Commenter 7 - Katie Himanga

7-3

In Chapter 4.2 on page 47 it mentions chlorination as being an identified problem associated with the plant, but it doesn't offer any solution.

7-4

And then two things that are a particular -- particular interest to me, in Chapter 4.6 on page 64 it describes the locations of various parks and so on. It mentions play grounds in the city of Red Wing, but it does not make mention of play grounds or ceremonial grounds that are on Prairie Island and part of the Prairie Island Indian Community, and I would ask that they be included so that it is more complete.

7-5

And then also in -- I apologize, I don't have the chapter reference here. But in talking about cultural resources and so on, you have included some maps and some inventories and so on, but nothing is offered for mitigation of the impact of disturbance of burial grounds or other sacred grounds. And I would offer that religious traditions, including my own, have strategies for the blessing and restoration of desecrated sacred places. And can't we bring some of this to the Prairie Island nuclear generating plant?

Thank you.

Responses

Comment 7-3
The text in Chapter 1, Section 4.2-*Thermophillic Organisms and Pathogens* has been modified to reflect these concerns.

Comment 7-4
The text in Chapter 1, Section 4.6-*Recreational* has been modified to reflect the subject facilities.

Comment 7-5
The activities associated with the proposed EPU will not include any work performed outside the footprint of existing buildings; no impacts to archaeological artifacts are anticipated. Construction activities associated with the request for additional dry cask storage will occur within the existing ISFSI; no impacts to archaeological artifacts are anticipated.

Commenter 7 - Katie Himanga; Commenter 8 - Michael Childs Jr.

MR. STORM: Thank you, Katie.

Anybody who hasn't spoken want to speak?

Yes, sir.

Again, state your name and spell it for the court reporter.

MR. CHILDS, JR.: Michael Childs, Jr. M-I-C-H-A-E-L. C-H-I-L-D-S. Junior. There's a couple things I think were omitted in this draft EIS pertaining to both parts, the cultural, archeological, and historic resources. It came to my light last October that -- well, I'll give you a history so you know who I am. I worked at Prairie Island for 12 years as an Xcel employee. Also I'm a tribal member, just so you know. So when I found out about some desecration of burial mounds, which doesn't seem to be added since -- since the, you know, last fall when we went through this stuff. I guess I kind of wonder why it wasn't added. Xcel Energy knows. I have a piece of paper here that I'll give to you that shows the fact that during construction of the plant that burial mounds were desecrated. And being an employee at the time of this discovery process -- this is 40 years ago during construction of the plant when some ancestral, you know, burial artifacts were removed,

8-1

Responses

Comment 8-1
Aerial photographs prior to plant construction indicated heavy cultivation of much of the potential plant site. Acknowledging the possibility of mounds and archaeological sites in the construction area, Xcel Energy provided funding to the State Archaeologist to conduct an investigation and excavation of mounds. This work was completed in accordance with acceptable archaeological practices at the time. All archaeological activities were conducted under direction of the MN State Archaeologist. The University of Minnesota (and currently the Minnesota Historical Society) house the artifacts excavated.

The mortuary artifacts and human remains excavated from mounds in the 1960s under the direction of the MN State Archaeologist were inventoried at the U of M (and MHS) and are currently undergoing the repatriation process.

Commenter 8 - Michael Childs Jr.

that basically Xcel violated some of their own procedures, diversity and code of conduct procedures. So, you know, as far as -- that kind of ties into health and safety, when you go to the psychological impacts and socioeconomic impacts of both the ISFSI and the extended power uprate because, okay, they lied to their employee, which was me -- and I had uncles and brothers and sisters that worked there -- that, you know, this lack of trust -- there's tribe -- tribal members already have a lack of trust of NSP and Xcel, whereas this ties into that socio -- sociology and the psych -- you know, the psychology because -- because after this was brought up during a tribal council quarterly meeting that this happened, the trust level of Xcel Energy is even less now. Now, that wasn't mentioned anywhere in your psychological impacts associated with either one of these, you know. And it kind of goes back again to the socio -- social aspect of it, which is when the plant was built, the Prairie Island Indian Community didn't have any money. And even though it's not said anywhere, it is rather implied that the placement of the plant and along with this desecration that was found out last fall, there's no

8-2

Responses

Comment 8-2
Thank you for your comment. It has been noted and included in the record for the EIS.

Commenter 8 - Michael Childs Jr.; Commenter 9 - Lea Foushee

mention of it. There's no mention of, you know, the betray of trust between NSP/Xcel and the tribal community and, like me, former employee.

So I just thought -- I thought both sections needed -- needed that to show that. And I got some stuff I'll give to you, Bill.

Thanks.

MR. STORM: Thank you.

Anyone else who hasn't spoken?

Okay. Andrew, you want to --

Lea. Sorry. Lea, you want to speak?

MS. FOUSHEE: Yes, please.

MR. STORM: Please state your name and spell it for the court reporter.

MS. FOUSHEE: My name is Lea Foushee. L-E-A. Foushee is F, like Frank, O-U-S-H-E-E. I would just like to support the statement of Mr. Childs because during the monitored retrievable storage contract, my organization worked for the Prairie Island Tribal Council. And I contacted the Minnesota Historical Society, and they provided me with a map and a diagram, and they circled the burial mounds that NSP destroyed. And so I as well have a copy of a map that shows those desecrations, and I provided it to the tribe at that time, which

9-1

Responses

Comment 9-1
Thank you for your comment. It has been noted and included in the record for the EIS.

Commenter 9 - Lea Foushee; Commenter 10 - Michael Childs Sr.

was before the 1994 process began.

Thank you.

MR. STORM: Thank you, Lea.

Sure.

MR. CHILDS, SR.: I'm Mike Childs, Sr. M-I-C-H-A-E-L. C-H-I-L-D-S. Senior. I'm the proud father of Mike, Jr.

Anyway, I was -- I served two terms on the Prairie Island Tribal Council. It was during the 1994 dry cask storage debate. It was my pleasure to serve with George Crocker in his position then, too. But, yeah, I just wanted to bring to light that it was the purpose of our event to create the alternative energy sources such as wind power and that -- what difficulties that we had met as opposition from then Northern States Power. And they said that -- stated the impossibilities of sustainable energy from wind energy, as this young lady brought up in the statements she outlined. And -- and it was so unusual and comical how someone stood up and said that at that time in the nuclear power industry there had been no death in building or operating nuclear power plants and how at that time someone constructing a wind generator had been killed because there was ice buildup on the

Responses

Commenter 10 - Michael Childs Sr.

propeller. And so wind generators were supposedly more deadly than nuclear power at the time.

But kind of getting back to the thing that, you know, the casks, they can't be moved in their current position. There is no transportable dry cask built as of date. And so even if there were a federal repository, there is no way of getting it there. And as this young man mentioned here about transportation, you know, the complications of transportation are just outrageous. The only thing I can under -- figure out is if we could get somebody to build a rocket that would shoot it up and land it right on Yucca Mountain. Maybe that's what they were designed for.

But it's unusual -- I mentioned in front of the Minnesota legislature at the time that it's -- it was very unusual that they had built the pads to accept 48 casks and they were applying for -- it was 14 or 16 casks at the time. And when you see it apply to the PUC for rate increases, they're always three -- they ask for three times their -- the rate they really want so when it is accepted that they get the rate that they actually wanted to begin with.

So I just wanted to remind people that

10-1

Responses

Comment 10-1
The NRC reviews and licenses spent nuclear fuel casks for transportation under 10 CFR 71. See text in Chapter 2, Section 2, describing timelines for licensing of the Transnuclear TN-40 and TN-40HT casks for transportation.

Commenter 10 - Michael Childs Sr.

that's what we're dealing with. And they're such a powerful force that I don't know how we can defeat them. But that's just the way it is. I mean, like Mike had mentioned, we were a very poor community. You know, it's unusual that at that time Red Wing annexed us. We were Burnside Township at the time, and Red Wing included us in their border. Between the time that they had this property and it was -- it had high value and they were supplying taxes to the city of Red Wing, there were no schools built. Once the plant was devalued and taxes that they were subject to were gone, we built Burnside School, elementary school and high school. And then, of course, the burden comes on to the taxpayer. And I especially notice in mine, because I built my original house in 1978 and I moved in in 1980. And every year subsequent to 1980 I had a 22 percent increase in property tax. And I don't know, it just -- it's sickening. I think these kind of things have to do with the psychological impact on people.

Thank you.

MR. STORM: Thank you.

Gentleman in the back who hasn't spoken before, you --

10-2

Responses

Comment 10-2
Thank you for your comment. It has been noted and included in the record for the EIS.

Commenter 11 - Susan Johnson

MS. JOHNSON: I am a female.

MR. STORM: Yes.

MS. JOHNSON: My name is Susan. Of course there is a boy named Sue, I guess. Susan, S-U-S-A-N. Johnson, J-O-H-N-S-O-N. And I just have to say I really appreciate seeing all these people here tonight. As a local, it's nice to see a lot of new faces on this issue as well as the old ones that have been working on it for a long time.

Back in the early '90s I had that EIS for that dry cask storage proposal probably memorized. But this is new to me, just receiving it tonight. I'm surprised at the request for additional dry cask storage, being the president of the United States has kind of condemned Yucca Mountain. And as Ms. Eide-Tollefson said, that term temporary long permanent -- what was it, permanent long-term storage is interesting to think about for our community to have in the backyard.

11-1 I have concerns also, as Mr. Crocker here, with the BEIR reports, the BEIR reports not being included, and would like to see those looked at closely.

Ms. Meyer points out things such as why are they asking for increase in power? I've never

Responses

Comment 11-1
See response to Comment 3-3 which addresses the same concerns.

Commenter 11 - Susan Johnson; Commenter 12 - Andrew Peters

heard that explained. And why is it necessary? I don't quite understand that. And as well as the need for looking at more alternative energies rather than increasing that.

11-2

I do have a fear that when you allow more dry casks, we all know the health issues concerned with that and the issue of the nuclear power plant becoming older as it's looking for relicensure.

11-3

And I'll leave it at that. Thank you.

MR. STORM: Thank you.

Anyone else who hasn't spoken?

Okay. Andrew, you can have your second shot.

MR. PETERS: Thank you, Bill. I would like to expand on Mayor Himanga's remarks on benchmarking data. And I want to address Section 4.11, Water Resources, specifically the section on Lake Pepin. I think Mayor Himanga is right, you should be -- on Table 4-5, you show ice sectors from 1999 through 2008, which is good. And I concur with Mayor Himanga, let's go back to 1940 to 1955 and look at ice thickness. And the reason I'm concerned about ice thickness, I think if you remember from the task force, I was very vocal on it. Lake City dies during the winter months, and back in the '40s

12-1

Responses

Comment 11-2
See response to Comment 4-6 which addresses the same concern. A discussion of the use of alternatives to the proposed EPU appears in Chapter 1, Section 3.0 of the EIS.

Comment 11-3
Thank you for your comment. It has been noted and included in the record for the EIS.

Comment 12-1
The text in Chapter 1, Section 4.11-*Lake Pepin Ice Cover* has been modified to reflect these concerns.

Commenter 12 - Andrew Peters

and '50s we depended on the lake for economic vitality. And I will give you a compare and contrast.

I can remember the 1940s. I was amazed the state of Minnesota, MnDOT, another sister agency, created a temporary road sign, temporary three -- I think it was 395 across Lake City to Stockholm, Wisconsin. Lake City would furnish a dump truck loaded with sand and gravel with a snowplow and plow the road out after every snowstorm. I defy you to see a snowplow going across the lake in the last couple of years. I can remember as a kid, I marveled at 25 to 45 headlights going across the lake. This last year we had three to five vehicles that went through the ice on Almere Shore. I can remember ice fishing villages off of Sandy Point, which is the Villa Maria area, 50-plus icehouses. Central Point, 50 to 75 icehouses. City Point, 50 to 75 icehouses. Russian Park, 50 to 70 icehouses. Breeze Landing, 50 to 75 icehouses. Today in all those areas, I'd be willing to bet you'd find ten. We used to have an ice fishing contest which would average anywhere from 400 to a thousand people on the ice. They can never do that. So Lake City has been impacted significantly

Responses

Commenter 12 - Andrew Peters

economically in the winter months because of water discharge. I think in the IS task force, I think they did come out -- Xcel did come out and say yes, we were given authority to raise the water temperature of water discharge on the river, and that has never changed. And I think the discussion -- and on the task force we indicated with more storage charges it's going to take more water, and there will be additional, you know, water. But, again, I think you need to look at data and compare contrast. I know the Corps of Engineers probably back then kept the data. I don't think DNR was even an entity back then. But I think you need to look at compare and contrast, because I know especially the City of Lake City, we've been economically impacted after the nuclear plant went up, because before that we've had no problems. So I'd just like to add that.

I'll put that in writing and also get it in your hands too, Bill.

Thank you.

MR. STORM: Thank you, Andrew.

Would anyone else like to speak tonight before we adjourn?

Kristen, you want a second?

Responses

Commenter 13 - Kristin Eide-Tollefson

13-1

MS. EIDE-TOLLEFSON: Thanks. One of the alternatives that was raised in the course of the study -- or the task force was the hydrokinetic power project that is the first one that has been permitted up in Hastings. You pretty much dismissed those at some point, and I would like to see that brought back in. I've been doing a little more research. Those are all being -- in the permitting process. It's not like they're ten years out. And Xcel is the utility that would be purchasing power from that alternative. So I would like to request that that not be scoped -- or not -- that that be included in the alternatives. I don't know if that's possible technically.

I -- I have to say I have tremendous admiration for the level of efficiency with which OES has amalgamated, conducted, and executed its duties so far. But I think that there is also something missing in that I think the fact that we have, you know, three meetings totally to discuss this and be part of this as a community on all three of these dockets is really challenging. It's very challenging. And I think that it would be important -- I'm going to spare everybody reading it. But under our environmental policy statute, the

Responses

Comment 13-1
A discussion of the use of hydrokinetic units as an alternative to the proposed EPU appears in Chapter 1, Section 3.4.2 of the EIS.

Commenter 13 - Kristin Eide-Tollefson

direction to the state agencies is -- no, I'm going read a couple of them. The direction of the state agencies is really much more than to just be efficient with its own resources. It's to protect the resources of the state through utilizing a systematic interdisciplinary approach that ensures the integrated use of the natural and social sciences in planning and decision making, identifying and developing methods and procedures that will ensure that all values environmental, whether quantified or not, will be given equal consideration, to study and develop and describe appropriate alternatives to recommended courses of action, to initiate the gathering and utilization of ecological information, and to undertaking contractor funds research as is needed in order to determine and clarify effects.

So I think that the -- that given the fact that this plant is likely to be with us at some time, there is a great need for this environmental impact statement to do more justice to the kind of concerns that the community has and the psychological, sociological, and long-terms affect of the uncertainties. And I don't know how you would do that. That's really a huge challenge.

13-2

Responses

Comment 13-2
See response to Comment 4-3 which addresses the same concern.

Commenter 13 - Kristin Eide-Tollefson

Responses

It's been a challenge at thinking about it. It's been a challenge all this time. And I respect how challenging that is. But I would suggest that it's essential, given the changed circumstances, the fact that we no longer have any kind of permanent repository.

Thanks.

MR. STORM: Thank you, Kristen.

Anyone else who hasn't -- anyone, I guess?

Okay. I want to remind you that written comments need to be submitted to my attention by the close of business day on May 8th. And, again, you can mail them to me, e-mail them to me, or use our electronic commenting feature that we've added to the website.

Other than that, I'd like to thank you for coming. And my cards are on the table if you need to chat with me. Please feel free to give me a call. Thank you.

(Public comments concluded.)

Commenter 14 - Xcel Energy

Responses

Xcel Energy®

414 Nicollet Mall
Minneapolis, MN 55401

May 8, 2009

Bill Storm
Minnesota Department of Commerce
85 7th Place, Suite 500
St. Paul, MN 55101-2198

RE: CERTIFICATES OF NEED FOR THE PRAIRIE ISLAND NUCLEAR GENERATING PLANT FOR EXTENDED POWER UPRATE, ADDITIONAL DRY CASK STORAGE AND SITE PERMIT APPLICATIONS – COMMENTS – DRAFT EIS

DOCKET NOS. E002/CN-08-509, E002/CN-08-510 AND E002/GS-08-690

Dear Mr. Storm:

Northern States Power Company, a Minnesota corporation ("Xcel Energy" or "Company") offers these comments on the Draft Environmental Impact Statement ("DEIS") prepared by the Department of Commerce, Office of Energy Security ("OES") for the Prairie Island Nuclear Generating Plant Additional Dry Cask Storage and Extended Power Uprate Certificate of Need dockets. We believe the DEIS provides accurate descriptions of the Additional Dry Cask Storage and Extended Power Uprate projects and a realistic and thorough review of the potential environmental impacts of the projects.

The DEIS is well organized and presents information that will assist decision makers. Xcel Energy has two primary comments regarding the DEIS and they related to the recognition of our March 20, 2009 Supplemental filing and the discussion on the Socioeconomic benefits of the proposed additional dry casks to support life extension. The remainder of our comments consist primarily of a list of specific edits/corrections with page, paragraph and line references.

Supplemental Filing

The DEIS released for comment is dated March 17, 2009 and was published in the EQB Monitor on April 20, 2009. Xcel Energy made a Supplemental filing in both the Additional Dry Cask Storage and Extended Power Uprate Dockets on March 20, 2009. Thus, any updated information provided in the Supplemental filing is not yet reflected in the DEIS. Although the Supplemental filing does not provide information that will affect the description or analysis of the potential environmental impacts provided in the DEIS, we believe information in the Supplemental filing should be referenced in the final EIS to provide updated reports on the proposed projects.

In our comments we have tried to update specific information affected by the Supplemental filing where noticed. However, we encourage the OES to review the Supplemental filing for any additional updates that may be necessary. Examples of areas where edits were made are in reference to Surplus/Deficit tables, PVRR analysis tables, DSM commitments and emission levels due to alternatives.

Socioeconomic Impacts

Extended Power Uprate (Docket 4220 E002/CN-08-509)

The socioeconomic impacts resulting from implementing the extended power uprate are significantly different than those resulting from the approval of the additional dry casks to support the continued operation of the plant. The extended power uprate will not result in a sizeable increase in workers during construction of upon implementation. Since most of the work will be done during the scheduled refueling outages, there will be many additional workers already on-site. However, the significant investment in the power uprate will provide socioeconomic benefits many years into the future. For instance, our estimate shows that the City of Red Wing alone will receive approximately $1.5 million dollars more in tax revenue from our investment in 2017 alone. (See Attachment A)

Additionally, expansion of the lowest cost generation facility Xcel Energy owns[1] will displace energy from higher cost plants, avoid the need to build new plants, and reduce air emissions. Use of the lowest cost resource option

[1] Based on expense per net kWh from FERC Form 1.

minimizes rate impacts for our customers, which in turn will help keep area and regional businesses more competitive. Also, the use of an existing generation facility located on an existing transmission system better utilizes existing assets and eliminates the need for additional investment in new transmission and generation sites. This is not only a cost saving to customers, but a land use benefit to society the power uprate provides over the alternatives. While not all of these socioeconomic benefits are easily quantifiable in dollars or otherwise, all provide significant benefits to the local, state and regional economies.

Lastly, we should also keep in mind that the socioeconomic benefits of the power uprate cannot be achieved without the approval for the Additional Dry Cask Storage Certificate of Need. Thus, when considering the socioeconomic impacts of the power uprate, we should also recognize that there are many benefits including tax revenues, employment opportunities, emission reductions, access to low cost reliable energy, and other socioeconomic impacts that will be realized by the local, state and regional economy from the continued operation of the plant.

Additional Dry Cask Storage Docket (Docket 4220 E002/CN-08-510)

The DEIS indicates that the economic impact of a shutdown of Prairie Island is "...more properly framed as economic impact to citizens of Red Wing, not citizens of Minnesota". While we agree the economic loss to the City of Red Wing would be significant, we disagree that the loss would be localized only to the City. We believe it would have more far reaching implications. The DIES goes on to indicate that the tax revenues would likely be generated elsewhere in the state. This is only true if the replacement generation were built within the state.

Both the analysis performed by the OES and Xcel Energy identified multiple benefits to the economy and society. These range from highly reliable and low cost energy production that will help businesses in Red Wing, but all Xcel Energy customers regardless of location. Additionally, the benefits of emission free extend far beyond Red Wing City limits.

There are many other economic and societal benefits to the continued operation of Prairie Island. Two of the more significant benefits are the taxes that will result from the continued operation, and the employment benefits that accrue to local and regional economies. Prairie Island currently contributes approximately $4.5 million a year in property taxes to the City of Red Wing. (See Scenario 2 of Attachment A) If the plant does not continue to operate

past 2013/2014, that tax revenue will drop to an estimated $82,000 per year by 2016. In comparison, the City would receive an estimated $6,050,0000 in 2016 tax revenue if the plant continues to operate.

The plant currently employees approximately 600 plus people full-time, with approximately 92% living within an approximate 35-mile radius of the plant. This amounts to an estimated Prairie Island payroll of approximately $47 million within a 30 to 45 minute drive from the plant.

In addition to the plants regular employees, the plant employees an additional 1,300 contractors at the plant throughout a given year. Many of the contractors are local to the area and are used during scheduled outages in various jobs including administrative, plant operations, security, inspections, engineering and management. A review of our purchase orders to contractors in the local area codes the past three years reveals that the plant spends and addition $3.8 million per year on local merchandise and services.

In addition to the tax, labor, and procurement benefits, there are also many benefits the local and regional civic economies that often go unnoticed or unrecognized. These include the charitable contributions to the local Red Wing economy from the Xcel Energy Foundation, which has averaged $15,000 per year for the last five years, or the $82,000 match the Foundation made to the local employees who donated $82,000 of their salaries to the local Unity Way's in 2008 for a $168,000 Untied Way contribution to the region.

As shown, the presence of the plant to the local and regional economies is significant. Xcel Energy contributes significantly to the local tax base and the above average incomes of nuclear employees and contracts with local vendors contribute significantly via the spending power they receive in salary and contracts with the Company. All these issues should be carefully considered when assessing the socioeconomic impact of the plant on the local and regional economies. While the continued operation of the plant may not add significant dollars other than the increased taxes that will be paid, the elimination of the plant will cause a very significant negative impact on the local and regional economies. This could affect the low rates and reliability all Xcel Energy customers now receive and would lead to increased emissions for all of society.

Commenter 14 - Xcel Energy

COMMENTS

Our suggestions are grouped by Section as titled in the DEIS. To the extent we did not include a section from the DEIS means we had no comments for consideration in that section.

Summary

14-1 Page V, paragraph 5: While the need for additional generation starts in 2010 per the Surplus/Deficit Table (Table 9-1) located on page 9-5 of our Application, the extended power uprate cannot be implemented sooner than the scheduled refueling outages of 2012 and 2015. We recommend modifying the sentence to state "Alternatives were evaluated based on Xcel Energy's stated resource deficit starting in 2010".

Chapter 1 – Extended Power Uprate

1.0 Introduction

14-2 Page 1, paragraph 2: The filing and acceptance dates should be May 16, 2008 (filing), July 15, 2008 (acceptance), and July 22, 2008 (Order).

Page 1, paragraph 3: The PUC order date should be August 15, 2008.

Page 1, paragraph 3: The correct Docket Number for the Site Permit should be: E002/GS-08-690 instead of CN.

1.1 Project Description

14-3 Page 1, paragraph 6, line 2: The second sentence should be "The initial licenses will expire in 2013 and 2014 for Unit 1 and Unit 2 respectively.

Page 2, paragraph 6: line 1: Red Wing should be Red Wing

Page 2, paragraph 6, line 2: Section should read Sections

1.1.1 Description of Power Generation…

14-4 Page 3, paragraph. 5, line 7: The last sentence should indicate that the spent fuel assemblies are stored in the spent fuel pool to cool for approximately 10-12 years.

Responses

Comments 14-1 through 14-25
Thank you for your comment. The corresponding text was reviewed and some editing may have been conducted in response to the comment(s). See the appropriate sections of the document for possible changes.

Commenter 14 - Xcel Energy

1.1.2 Description of Proposed Power ...

Page 4, paragraph 5, line 3: add "the" to "completion of 'the' power uprate..."

14-5

Page 5, paragraph 3, line 1: delete "require to"

Page 5, paragraph 4: NEED RSPONE FROM MIKE CARLSON

1.1.4 Fuel Supply

14-6

Page 8, paragraph 3, lines 1 & 2: Change "criticality" to "critical"

1.1.5 Water Use

14-7

Page 9, paragraph 5, lines 1 & 3: change "of the" to "set by the" after appropriation limits.

Page 10, paragraph 2, line 1: change 'for the generating plant" to "from the generating plant"

1.1.6 Wastewater

Page 10, paragraph. 6: line 3: delete "(when daily average upstream river temperatures fall below 43° F for five consecutive days)

14-8

Page 11, paragraph 1, line 1: change "exceed" to "exceeds"

Page 11, paragraph 2, line 1: change "operating procedure" to "operating procedures"

1.1.7 Solid and Hazardous ...

14-9

Page 11, paragraph. 4, line 4: delete "does" and change "hold" to "holds"

Page 11, paragraph. 5: drop "s" from "generators"

1.1.9 Operation and Maintenance

14-10

Page 11, paragraph 9: Change the first two sentence to read "How the PINGP is operated will not change due to the power uprate. However, the power

Responses

uprate will result in an increase in the cooling needs of the circulating water system."

Page 12, paragraph 1: Space needed between 2nd & 3rd line to create separate paragraph.

1.2 Purpose and Need

14-11

Page 12, paragraph 1, line 3: This section should also reference our March 20, 2009 Supplemental filing. To reflect the Supplemental filing, a period should be added after "...one percent per year" and the last sentence should be changed to read "By 2012, the estimated deficit is 154 MW and by 2022, the deficit grows to over 2,400 MW."

Also, the OES should consider adding a discussion addressing the need to reduce Greenhouse Gas Emissions per Minn. Stat. 216H.02 subd. 1.

2.1 Certificate of Need

14-12

Page 15, paragraph 3, line 3: Capitalize "o" in "order"

Page 15, paragraph 6, line 4: Capitalize E, I and S in "Environmental Impact Statement"

Page 16, paragraph 1, line 1: "Statute" ... Subd. 4 add a 's" to "require"

2.2 Site Permit

14-13

Page 17, paragraph 2: "certificate of need" should be "Site Permit" and correct file number should be E002/GS-08-690

Page 17, paragraph 4: Qualify Advisory Task Force (ATF) in this paragraph and delete in subsequent paragraph.

2.3 Nuclear Regulatory Commission

Page 19, paragraph 4: Xcel Energy filed for NRC approval for the use of the larger diameter fuel on June 26, 2008 and we anticipate receiving NRC approval by July 2009.

Commenter 14 - Xcel Energy

2.4 Other Permits

Page 20, paragraph 3: "215,000 Million Gallons" should read "235,000 Million Gallons". Also, the "R" in river should be capitalized

Page 20, paragraph 4, line 2: Change "Nation" to "National" Pollution Discharge Elimination System

14-14

Page 21, paragraph 4, line 1: "provide" should be "provides"

Page 21, paragraph 7, line 1: insert "the" between from and DNR

Page 22, paragraph 2, line 5: "F" in federal should be capitalized.

3.0 Project Alternatives

14-15 Page 23, paragraph 1, line 5: "Scoping Order" should be capitalized.

3.1 No-Build Alternative

14-16 Page 24, paragraph 4, line 5: Change "that this" to "it" and change "2,900 MW" to "over 2,400 MW" to reflect the updated numbers in the Supplemental filing.

3.2 Demand Side Management

Page 24, paragraph 5: Capitalize "Side Management" in line 1; in line 5 add an "s" to "Certificate" for "Certificates of Need".

Page 24, paragraph. 7: change "1.1 percent" to "1.3 percent" to reflect the Supplemental filing.

14-17 Page 25, paragraph 2, line 2: Change "Those impacts" to "The impacts"

Page 25, paragraph 5, line 5: Capitalize "Application"

Page 25, paragraph 6: DSM was previously qualified.

Page 25: Delete the last paragraph, as it does not appear to fit with the discussion.

Responses

Commenter 14 - Xcel Energy

3.3 Purchase Power: Change "Purchase Power" to "Purchase Power"

Page 26, paragraph 2: Use "PPA" as already qualified.

Page 26, paragraph 3: Hyphen "short-term"

14-18

Page 26, paragraph 4, line 5: Delete "'s" in "Xcel Energy's" and add "of" in-between "tons" and "air"

Page 26, paragraph 5: Add hyphen to "short-term" and add word "term" & a hyphen to "long-term." Also, capitalize "Certificate" and add "of Need" in last sentence.

Page 27, paragraphs. 1-3: Add hyphen to "Long-term" references.

3.4.1 Fossil-Fuel Technologies

Page 30, paragraph 1: End the first sentence after "the appropriate 164 MW scale" and start a new paragraph at the end of the following sentence.

Page 30, paragraph 2: Change "capital cost" to "capital costs" in last sentence.

14-19

Page 30, paragraph 4, line 1: Hyphenate "simple-cycle"

Page 30, paragraph 5, line 1: Remove second use of word "alternative" Change "through its screening process" to "through its evaluation process".

Page 30, paragraph 6: Change "a coal PPA" to "the natural gas CT" and change "519 million" to "433 million" to reflect the Supplemental filing.

3.4.2 Renewable Resource Technologies

Page 34, paragraph 1: Change "was burned " to "is burned"

14-20

Page 34, paragraph 3: Add 2 to "CO_2"

Page 36, paragraph 3; Change "approximately 1,179 million" to "974 million"

Page 36, paragraph 4: "coal PPA" should be "biomass plant"

Responses

Commenter 14 - Xcel Energy

Page 37, paragraph 5: add "gas" after "firing natural"

3.6 New Transmission

14-21 Page 43, paragraph 4, line 1: Change reference to "Monticello" to "Prairie Island"

Page 43, paragraph 4: The in-service date should be 2013 as the 2012 outage is a fall outage.

4.1 Biological Resources

14-22 Page 49, paragraph 4: Cottonwood should have (Populus deltoides) following it and all the scientific names should be in italics.

4.5 Health and Safety

14-23 Page 56: A sentence should be added containing the magnetic field strength at peak flow to give meaning to the percent increase. One recommendation would be "The average magnetic field strength from each of the lines, measured in milliGaus, is 107 mG directly under the power line (based on 2008 peak flow). An estimated 15 percent increase due to the power uprate would result in a reading of 123 mg.

4.6 Land Use

14-24 Page 59, paragraph's 3 & 4: Paragraph 3 references Red Wing's population of 16,116 in 2000 and paragraph 4 states Red Wing's population grew to 44,127 in 2000. These are inconsistent.

4.10 Water Resources

14-25 Page 67, paragraph 4, line 2: Delete the right parentheses ")" after ice cover.

Page 69, paragraph 4, line 4; Change "us" to Xcel Energy

4.13 Radiological

14-26 Page 75, paragraph 3: A report by the National Council on Radiation Protection and Measurements titled *"Ionizing Radiation Exposure of the Population of the United States"* indicates that the Americans' average total yearly radiation

Responses

Comment 14-26

Thank you for your comment. It has been noted and included in the record for this EIS. See Comment 18-3 and associated response for a discussion of background radiation.

Commenter 14 - Xcel Energy

exposure increased from 360 millirem to 620 millirem per year since the early 1980's due to the greater use of computed tomography and nuclear medicine.

14-26

Page 79, paragraph 3: "Samples types" should be changed to "sample types"

Page 83, paragraph 3, line 1: delete "the" before "Xcel Energy"

Chapter 2 – Additional Dry Cask Storage

2.0 Federal Regulation

Page 4, paragraph. 4: The draft SEIS is now scheduled to be release in mid June 2009.

Page 5, paragraph 2: Add a space after "Amendments" in the title

14-27

Page 5, paragraph 3: The list of NRC-approved spent fuel storage casks available on their web site corresponds to those that may be used in conjunction with a General storage license. Since the TN-40 cask design is license under the Prairie Island Site specific license, it is not included on the list on the NRC website.

Page 6, paragraph 1: Per the NRC letter Dated October 22 2008, the targeted approval date for the TN-40HT License Amendment Request is now 9/27/2009.

14-28

Page 6, paragraph 4: Based on the expected approval date of the TN-40HT storage License Amendment Request, it is not expected that the NRC will approve a TN-40HT Part 71 transportation submittal until 2010.

4.3 Water Resources

14-29

Page 19, paragraph 2: Per the SAR Section 10.4, the elevation of the top of the storage pads is 694 ft – 6 inches and not 697 ft.

4.7 Socioeconomic Impacts

14-30

Page 21, paragraph. 3: See overall comments at the beginning of this document.

Responses

Comment 14-26 (continued)
Text has been edited in Chapter 1, Section 4.13 to correct the noted grammatical errors.

Comment 14-27
Text has been edited in Chapter 2, Section 2.1 to correct dates and grammatical errors.

Comment 14-28
Text has been edited in Chapter 2, Section 2.1 to correct dates.

Comment 14-29
Text has been edited in Chapter 2, Section 2.1 to correct the elevation of the ISFSI pad.

Comment 14-30
Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 14 - Xcel Energy

5.3 Radiological Impacts – Potential Incidents and Off-Site Normal ISFSI Operations

14-31 Page 28, paragraph 6: Per the SAR Section 10.4, the elevation of the top of the storage pads is 694 ft – 6 inches and not 697 ft.

7.2 Alternative to Continued Operation of Prairie Island

14-32 Page 51: Need a blank line between the 5th and 6th paragraphs.

Tables & Figures

14-33 Table 5-3 **Skyshine Dose Estimates to the Nearest Permanent Residence and Assumptions**
In the "SAR" column; the fuel burnup should be "45,000" and the cask loading rate should be "2 casks every year".

Figure 3.3 **Transnuclear TN-40 Dry Storage Cask**
The picture is slightly distorted and doesn't indicate its true dimensions. It should be "stretched out" provide a better visual perspective of the cask diameter to its height. See figure 3-13 of the Certificates of Need for an example.

Copies of these Comments have been served on all parties on the attached service lists.

Please feel free to contact me at (612) 330-5641 with questions regarding any of the above-noted comments. We look forward to working with you throughout the Site Permit and Certificates of Need approval processes for the Prairie Island Nuclear Generating Plant Extended Power Uprate and Dry Cask Storage projects.

SINCERELY,

/s/

Brian R. Zelenak
MANAGER, REGULATORY ADMINISTRATION

Attachments
c: Service Lists

Responses

Comment 14-31
Text has been edited in Chapter 2, Section 5.3 to correct the elevation of the ISFSI pad.

Comment 14-32
Text has been edited in Chapter 2, Section 7.2 to correct the noted grammatical error.

Comment 14-33
Table 5-3 has beed edited to correct the SAR skyshine dose assumptions. Figure 3.3 has been edited to correct the perspective of the TN-40 cask.

Commenter 14 - Xcel Energy

Attachment A
Scenario 1

PROPERTY TAX ANALYSIS
Prairie Island Shutdown in 2013/2014

Pay Year	Goodhue County	City of Red Wing	SD 256	Other	Total
2004	4,043,443	4,515,593	2,110,570	1,089,934	11,759,540
2005	3,702,828	3,968,674	1,840,068	956,222	10,467,792
2006	3,747,250	4,318,291	1,979,347	961,504	11,006,392
2007	3,659,135	4,477,581	2,103,889	981,559	11,222,164
2008	3,486,281	4,466,496	1,940,553	819,164	10,712,494
2009	3,280,000	4,200,000	1,825,000	795,000	10,100,000
2010	2,852,000	3,658,000	1,593,000	683,000	8,786,000
2011	3,033,000	3,888,000	1,691,000	701,000	9,313,000
2012	3,223,000	4,132,000	1,794,000	731,000	9,880,000
2013	3,284,000	4,207,000	1,829,000	724,000	10,044,000
2014	3,411,000	4,371,000	1,899,000	735,000	10,416,000
2015	2,714,000	3,476,000	1,510,000	532,000	8,232,000
2016	66,000	82,000	37,000	15,000	200,000
2017	66,000	82,000	37,000	15,000	200,000
	40,567,937	49,842,635	22,189,427	9,739,383	122,339,382

2004-2008 are actuals.
2009-2017 are estimates.

Assumptions:
a) the certificate of need in E002/CN-08-510 is denied; and
b) the application to the U.S. Nuclear Regulatory Commission for renewed operating licenses at Prairie Island is denied.

Responses

Commenter 14 - Xcel Energy

Attachment A
Scenario 2

PROPERTY TAX ANALYSIS
Prairie Island Life Extension

Pay Year	Goodhue County	City of Red Wing	SD 256	Other	Total
2004	4,043,443	4,515,593	2,110,570	1,089,934	11,759,540
2005	3,702,828	3,968,674	1,840,068	956,222	10,467,792
2006	3,747,250	4,318,291	1,979,347	961,504	11,006,392
2007	3,659,135	4,477,581	2,103,889	981,559	11,222,164
2008	3,486,281	4,466,496	1,940,553	819,164	10,712,494
2009	3,280,000	4,200,000	1,625,000	795,000	10,100,000
2010	2,852,000	3,658,000	1,593,000	683,000	8,786,000
2011	3,033,000	3,888,000	1,691,000	701,000	9,313,000
2012	3,223,000	4,132,000	1,794,000	731,000	9,880,000
2013	3,284,000	4,207,000	1,829,000	724,000	10,044,000
2014	3,411,000	4,371,000	1,899,000	735,000	10,416,000
2015	4,523,000	5,793,000	2,516,000	887,000	13,719,000
2016	4,725,000	6,051,000	2,629,000	912,000	14,317,000
2017	5,976,000	7,655,000	3,323,000	1,076,000	18,034,000
	52,947,937	65,701,635	29,073,427	12,054,383	159,777,382

2004-2008 are actuals.
2009-2017 are estimates.

Responses

Commenter 14 - Xcel Energy

Attachment A
Scenario 3

PROPERTY TAX ANALYSIS
Prairie Island Life Extension with Extended Power Uprate

Pay Year	Goodhue County	City of Red Wing	SD 256	Other	Total
2004	4,043,443	4,515,593	2,110,570	1,089,934	11,759,540
2005	3,702,828	3,968,674	1,840,068	956,222	10,467,792
2006	3,747,250	4,318,291	1,979,347	961,504	11,006,392
2007	3,659,135	4,477,581	2,103,889	981,559	11,222,164
2008	3,486,281	4,466,496	1,940,553	819,164	10,712,494
2009	3,260,000	4,200,000	1,825,000	795,000	10,100,000
2010	2,852,000	3,658,000	1,593,000	683,000	8,786,000
2011	3,033,000	3,888,000	1,691,000	701,000	9,313,000
2012	3,223,000	4,132,000	1,794,000	731,000	9,880,000
2013	3,284,000	4,207,000	1,829,000	724,000	10,044,000
2014	4,125,000	5,286,000	2,297,000	892,000	12,600,000
2015	5,262,000	6,740,000	2,927,000	1,049,000	15,978,000
2016	5,488,000	7,029,000	3,054,000	1,060,000	16,651,000
2017	7,164,000	9,174,000	3,983,000	1,338,000	21,659,000
	56,349,937	70,060,635	30,967,427	12,801,383	170,179,382

2004-2008 are actuals.
2009-2017 are estimates.

Responses

Commenter 15 - Sierra Club

May 8, 2009

Bill Storm, Project Manager
Minnesota Department of Commerce
85 7th Place, Suite 500
St. Paul, Minnesota 55101-2198
Email: Bill.storm@state.mn.us

Re: Public Comments on Draft Environmental Impact Statement for Prairie Island Nuclear Generating Plant, Extended Power Uprate, PUC Docket Nos. E002/CN-08-509 and E002/GS-08-690; Request for Additional Dry Cask Storage, PUC Docket No. E002/CN-08-510.

Dear Mr. Storm:

Please accept the Sierra Club North Star Chapter's comments on the Draft Environmental Impact Statement (DEIS) for the Prairie Island Nuclear Generating Plant (PINGP). The North Star Chapter represents 17,000 members in the state of Minnesota who share concerns about the environmental, public health, and economic impacts of Xcel's proposal to increase and extend electricity production for at least 20 years at the Prairie Island Nuclear Generating Plant and the associated on-site nuclear waste dry cask storage. The Chapter echoes the concerns of those who spoke at the Public Hearing in Red Wing on April 21, none of whom supported the extended power uprate or the expansion of the waste storage installation.[1]

In our review of the DEIS, we have identified several important elements of analysis that were incomplete. The following is a summary of the additional analysis requested in the final EIS which is described in more detail in the text of our comments:

Chapter 1

Section 3.2: Demand Side Management
- Updated demand forecasts (page 24)
- Analysis of 1.5 percent annual conservation (24)

Section 3.4.2: Renewable-Fuel Technologies
- Assessment of wind integration (31)
- Total lifecycle greenhouse gas emissions, not just operating emissions (31)
- Alternatives to the EPU utilizing combinations of renewable resources (31)

Section 3.4.3: Developing Technologies
- Updated assessment of renewable power storage technology (38)

Section 4.2: Biological Resources
- Assessment of potential cumulative effects on invasive species (50)

Section 4.13: Radiological
- Lifecycle health costs for nuclear power, not just operating costs (74)

[1] Stephanie Hemphill, "Neighbors share concerns about Prairie Island nuclear plant," Minnesota Public Radio, available at http://minnesota.publicradio.org/display/web/2009/04/22/red_wing_nuclear/.

Responses

Commenter 15 - Sierra Club

Chapter 2

Section 5.2: Radiological Impacts
- Total health risks (page 25)

Section 5.3: Radiological Impacts – Potential Incidents
- Assessment of potential changes in river flow over the cumulative impact period (28)
- Potential flood risks to the ISFSI given changes in river flow (28)
- Potential harm to workers from cask failure (33)

Section 5.4: Cumulative Impacts
- Forecasts of effects assuming increases in local population (35)

Section 6.1: Off-site Storage Alternatives
- Cumulative impacts of storage beyond 200 years (41)

Not addressed in the EIS:
- Discussion of environmental justice issues related to increasing risk to the Prairie Island Indian Community
- Difficulties in transporting spent fuel
- Reconciling comments by the Federal Energy Regulatory Commission Chair

Extended Power Uprate

The Sierra Club chapter has concerns about the environmental and health impacts that the Extended Power Uprate (EPU) may have and requests that the final EIS consider additional alternatives.

I. The DEIS inadequately addresses alternatives.

15-1 The Sierra Club requests analysis of Xcel Energy achieving the additional .4% conservation goal of the Next Generation Act as an alternative to the EPU. In addition, we request a more comprehensive analysis of mixed source alternatives, including conservation, renewables, and distributed generation for the proposed 164 MW EPU.

Considered Alternatives

15-2 The DEIS addresses the tax implications of selecting the no-build alternative.[2] It notes that the tax loss from a no-build alternative are high and emphasizes the benefits from the EPU and continuing to operate the facility. None of the other alternative evaluations addresses the tax benefits from new or expanded facilities constructed in Minnesota. As a result, the DEIS overlooks potential benefits from the alternatives for the uprate and the alternatives to continuing operation of Prairie Island.

[2] DEIS Chapter 1, §3.1, page 23.

Responses

Comment 15-1

Analysis by the Office of Energy Security, Energy Regulation and Planning unit (OES-ERP) included in its base forecase model a 1.3 percent DSM achievement, which means that half of the additional DSM requested was built into all OES-ERP analyses. Further, the OES-ERP analyzed a scenario where no growth was assumed to occur between 2008 and 2034. The OES-ERP verified that this scenario represented an increment to DSM in excess of the 0.4 percent requested.

The OES-ERP analyzed the no-growth scenario by comparing the OES-ERP wind plus least-cost back up scenario (additional renewables) to an EPU at PINGP. The scenario resulted in additional combustion turbines (CT) being selected. This wind plus CT distributed generation scenario was less economically feasible than the proposed EPU.

Comment 15-2

Chapter 1, Section 3.0-*No-Build Alternative*, describes the potential loss of tax benefits if the EPU were not to be built. Generally when comparing a proposed alternative against other potential alternatives, these types of benefits do not change significantly; they represent funds paid to one host community or another host community. In the Strategist model, this "constant" is represented as a cost (in percent) to the utility across all alternatives and therefore is incorporated into OES-ERP's analysis.

Commenter 15 - Sierra Club

The DEIS did not address the discrepancy between the Next Generation Energy Act goal of 1.5 percent conservation and Xcel's projected demand-side reductions of 1.1 percent.[3] While Xcel's Conservation Improvement Programs will meet the mandatory minimum goal of 1.1 percent, Xcel's projections fail to include the additional overall reduction that the Act targets. Conservation improvement programs, like demand side management and energy efficiency, provide a clean and cost-effective way to ensure that Xcel is able to provide reliable power to its customers. Conservation provides an alternative to increased power and generates neither excess emissions nor solid waste while providing additional benefits; such as lower utility bills to consumers. The DEIS does not adequately address implementation of additional conservation to further reduce the need for the uprate with less environmental impact.

15-3

The no-build option discusses the PUC's role in the certificate of need process; however, the final EIS should provide the PUC with the most up-to-date information on demand to inform that decision. In September 2008, Xcel revised its demand estimates because of economic downturn,[4] and reduced the expected demand forecast by 300 MW over the next five years.[5] Since this revised forecast, the economy has continued to slow and the PUC has approved several proposed projects. The accompanying changes in demand projections coupled with implementation of the conservation goals of the Next Generation Energy Act may significantly decrease the need for the EPU and make the no-build alternative a viable option.

The possibility of reduced demand is reinforced by the decrease in Xcel's peak demand from 2006 to 2007 and 2008. The DEIS relies on forecasts provided in Xcel's Certificate of Need, filed May 16, 2008.[6] That forecast anticipated consistent growth in demand through 2020.[7] As provided on Xcel's 10-K tax form for 2008, Xcel's peak demand fell from 9,859 MW in 2006 to 8,697 MW in 2008.[8] This decrease of nearly 12 percent contradicts the assumptions of Xcel's demand forecast and does not justify the EPU. The six percent decrease from 2007 to 2008 and a potential decrease in 2009 seem to counter the argument for rejecting demand-side management.

Moreover, the Advisory Task Force requested updated demand forecasts from Xcel. The OES responded that it would seek "updated demand forecast information to be included in the EIS."[9] The DEIS contains no evidence of an updated forecast and only refers to the filing on May 16, 2008.[10] The final EIS should contain updated forecasts.

[3] The Draft Environmental Impact Statement notes that the statute provides the overall conservation goal of 1.5 percent, but does not address the potential demand decrease caused by that reduction. Instead, the DEIS only addresses the 1.1 percent reduction currently planned by Xcel. *See* DEIS at Chapter 1, page 24.
[4] Resource Plan Reply Comments, Docket No. E002/RP-07-1572, Sept. 5, 2008, at 2. Xcel noted that increased fuel prices and slowing economic indicators forced it to reconsider its demand forecast nine months after it was made.
[5] *Id.* at 3.
[6] DEIS Chapter 1, §3.2, page 25.
[7] *Id.*
[8] See Form 10-K, filed Feb. 27, 2009. Available as attachment to "EXHIBITS--AFFIDAVIT OF PAULA G. MACCABEE WITH ATTACHMENTS," Mar. 16, 2009, on PUC Docket No. CN-06-1115.
[9] "EIS Scoping Worksheets with OES Treatment," Office of Energy Security, Nov. 3, 2008, at 3. Available at http://energyfacilities.puc.state.mn.us/documents/19602/ATF-Summary-Appendix-E.pdf.
[10] DEIS Chapter 1, §3.2, page 25.

Responses

Comment 15-3

See Comment 15-1 which addresses some of the same concerns (DSM achievement, demand projections). OES-ERP included a no-build alternative in its analysis. If the no-build alternative were feasible and least cost, the economic modeling program, Strategist, would choose to add no additional units and the result would be cheaper than the EPU.

However, in the unconstrained scenario (i.e., Stragegist can pick the least-cost option from all available options, including no-build), Strategist selected additional generating units. Thus, the no-build alternative is not a least-cost option.

The text in Chapter 1, Section 3.2-*Demand Side Management* has been modified to reflect Xcel Energy's updated information.

Commenter 15 - Sierra Club

15-4

The DEIS considers the emissions of some alternatives, but fails to consider the environmental costs and emissions of the total life cycle.[11] While nuclear power does not generate carbon dioxide emissions during operation, mining and transportation of fuel do produce environmental costs. The mining, processing, and subsequent waste generate both carbon dioxide emissions and radioactive waste. Moreover, mining uranium requires processing significant quantities to achieve sufficiently enriched uranium for power generation.[12] Some of this excess waste requires special care and handling, increasing the total environmental cost of operating the facility.

In combination, renewable resources could provide sufficient power and present a feasible alternative to the EPU. The DEIS argues that wind energy cannot provide sufficient power at needed times to provide intermediate and peak load needs.[13] The 2006 Minnesota Wind Integration Study found that wind could account for twenty percent of total generation with sufficient transmission upgrades.[14] Using wind power with geographic variation will "smooth out" the variations in power generation.[15] An increase of 164 MW would be a step toward the integration of wind power that the Wind Integration Study deemed possible.

15-5

Integrating wind power does require increases in transmission capacity.[16] The DEIS's feasibility section notes that integrating wind requires building transmission infrastructure from areas that lack transmission capacity at present.[17] The combination of lower demand forecasts and the PUC's approval of CapX 2020 (with wind transmission requirements)[18] ensure the time to build infrastructure to transport renewable energy from distributed generation points.

The potential integration of wind matches current national expectations. According to the Federal Energy Regulatory Commission Chair, Jon Wellinghoff, the United States does not need additional nuclear power (or coal power for that matter).[19] Chairman Wellinghoff further stated that renewables will provide enough energy to meet baseload capacity and demand.[20] He noted that scattered wind farms can provide the kind of smooth power production that baseload capacity demands.[21] Given Xcel's decreased demand forecast and decreasing peak demands, wind power could provide a feasible alternative to the EPU. The final EIS should reconcile its analysis with Chairman Wellinghoff's statements.

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[11] *See, e.g.*, Table 3-2, which lists all emissions for Prairie Island Uprate Project as zero.
[12] U.S. Geological Survey estimates approximately three billion metric tons of solid waste result from uranium mining. "Uranium Mining Wastes," U.S. E.P.A., available at http://www.epa.gov/rpdweb00/tenorm/uranium.html.
[13] DEIS Chapter 1, §3.4.2, page 34.
[14] "Final Report – 2006 Minnesota Wind Integration Study Volume I," EnerNex Corporation for the Minnesota Public Utilities Commission, Nov. 30, 2006, at 76. Available at http://www.puc.state.mn.us/portal/groups/public/documents/pdf_files/000666.pdf.
[15] *Id.* at 2.
[16] *Id.* at 76.
[17] DEIS Chapter 1, §3.4.2, page 35.
[18] Sea Stachura, "State approves massive powerline project," Minnesota Public Radio, April 16, 2009, available at http://minnesota.publicradio.org/display/web/2009/04/16/state_approves_capx_power_line_project.
[19] Noel Straub and Peter Behr, "Energy Regulatory Chief Says New Coal, Nuclear Plants May Be Unnecessary," The New York Times, Apr. 22, 2009, available at http://www.nytimes.com/gwire/2009/04/22/22greenwire-no-need-to-build-new-us-coal-or-nuclear-plants-10630.html.
[20] *Id.*
[21] *Id.*

Responses

Comment 15-4
See response to Comment 7-1, which addresses the same concern.

Comment 15-5
The Commission's approval of the Brookings-Hampton Corners 345 kV transmission line precludes considering resources made available by that line for any purpose other than meeting the renewable energy standard (RES). Since achievement of the RES is already built into the analysis of alternatives, to consider this transmission resource would double count RES energy. While OES-ERP agrees that integrating wind energy requires building transmission infrastructure, OES-ERP's analysis of wind and the other alternatives did not include any assumptions regarding transmission costs. Therefore, to the extent that the alternatives are dependent upon transmission costs, such alternatives are less cost effective than shown in OES-ERP's analysis once the cost of transmission is added.

Commenter 15 - Sierra Club

Additional alternatives

15-6

The DEIS considered the option of combining natural gas and wind power to create a diversified replacement power, but failed to consider other combinations of power sources. Combining natural gas with additional small sources may provide a more suitable alternative. This approach increases diversity of sources while relying on renewable energy that meets the state's energy portfolio goals. Using wind, solar, and biomass can provide consistent power while reducing the waste impacts of a pure biomass alternative.

New storage technologies to capture renewable energy make renewables feasible. The development of energy storage in batteries and other forms (such as compressed air) can allow baseload power from wind and solar power sources. An additional alternative is using wind power to convert carbon dioxide emissions into methane for natural gas facilities.[22] These new technologies allow for greater reliance on wind and lower base load requirements from non-renewable sources. Wind may also be a more viable consideration because of the decision of the Public Utilities Commission to require the CapX 2020 transmission lines to carry 700 MW of wind power to the metro area.[23] This line is expected to be open by 2013, allowing increased transmission at a time when Xcel expects demand may increase.

15-7

The development of a new hydrokinetic power source provides an alternative that the DEIS identifies but does not assess.[24] In sufficient numbers, these in-stream uses of water could provide baseload power to offset the need for the EPU. The Federal Energy Regulatory Commission licensing of a hydrokinetic project in Minnesota[25] shows that the opportunity to implement and expand hydrokinetic power may be possible by the time demand rises.

II. The environmental impacts of the EPU are understated.

The EPU may have several negative impacts on aquatic life. The final EIS should address these concerns fully to ensure that the project does not undermine federal environmental protection with the increased power generation.

The DEIS states that the increased water flow will have no effect on the entrainment or impingement of aquatic life. However, the EPU will require an increased water intake of approximately ten percent. This increased intake will likely cause an increase in entrainment through either a higher rate of flow or a larger area of intake. The DEIS only makes a conclusory statement that the increased intake will have no significant effect on aquatic impingement or entrainment because no physical changes will be made.[26] For endangered

[22] For additional information, see "(WO/2008/100659) RELIABLE CARBON-NEUTRAL POWER GENERATION SYSTEM", World Intellectual Property Organization, available at http://www.wipo.int/pctdb/en/wo.jsp?WO=2008100659.
[23] See Stachura, "State approves massive powerline project," Minnesota Public Radio, April 16, 2009, available at http://minnesota.publicradio.org/display/web/2009/04/16/state_approves_capx_power_line_project.
[24] DEIS Chapter 1, §3.4.2 at 37.
[25] "Hydrokinetic Projects – Issued and Pending Licenses," Federal Energy Regulatory Commission, Dec. 13, 2008, available at http://www.ferc.gov/industries/hydropower/indus-act/hydrokinetics/licences.asp.
[26] DEIS, Chapter 1, at 48.

Responses

Comment 15-6

The OES-ERP analyzed the economics of the option of combining natural gas and wind resources. Solar is a variable resource similar to wind, but with a substantially higher cost. Therefore, adding solar resources to the analysis would create another renewable alternative that is more expensive than the OES-ERP renewable alternative. The OES-ERP analyzed a biomass alternative to the EPU at PINGP. The biomass alternative had a cost penalty of $763 million relative to the EPU; the wind mixed with non-renewables alternative had a cost penalty of $617 million relative to the EPU. Adding biomass would only serve to make the wind mixed with non-renewables alternative even less cost effective.

Energy storage technologies were considered and subjected to a screening analysis by Xcel Energy. None of the alternatives passed the screening tests. The OES-ERP concurred with Xcel's screening analysis. Therefore, energy storage technologies are not feasible at this time in the sense of being able to pass reasonable screening criteria.

Comment 15-7

See response to Comment 13-1 which addresses the same concern. The City of Hastings, Minnesota, the licensee for the 4.4-megawatt (MW) Mississippi Lock and Dam No. 2 Hydroelectric Project No. 4306, filed an application to amend its license to install two 35-kilowatt (kW) hydrokinetic turbines in the project's tailrace. This alternative would require approximately 4,685 turbines of 35 kW each to equal the capacity of the 164 MW EPU at PINGP. It is not likely that a sufficient number of turbines could be sited/installed, especially within the time frames considered in this proceeding.

Commenter 15 - Sierra Club

species like the Higgins Eye Pearlymussel, increased intake could lead to higher larvae mortality rates.[27]

15-8 The increased heat of the reactor triggers the increased need for cooling water. The DEIS concedes that the thermal plume near the water outlet may allow the growth of thermophilic organisms such as parasitic bacteria, but assesses the likelihood as "small." With increased water discharge and potentially increased temperature, the final EIS should address this issue more thoroughly.

15-9 The Higgins Eye Pearlymussel, a federally endangered species found near the facility,[28] has suffered from significant habitat loss including changes in river flows.[29] Further altering the river flow could harm the reproductive process. The Higgins Eye has also suffered from the invasion of zebra mussels, with a population particularly affected near Prairie du Chien, Wisconsin.[30] Increased water temperature in the winter may encourage the growth of Zebra mussels by increasing the thawed water in which the mussels may survive.[31] This would further harm the Higgins Eye's chances of survival.

15-10 The increased likelihood of significant drought events increases potential negative effects from water withdrawal. The effects of climate change may increase the incidence of heat waves and droughts in the region.[32] While the water withdrawal may constitute a small portion of the river under normal circumstances, with decreased water flow the withdrawal and heated effluent increase the impacts on aquatic life.

III. The DEIS insufficiently addresses health risks.

15-11 Health impacts of the EPU are addressed briefly in the DEIS, but the document provides little explanation for the conclusions it reaches. The EPU will require additional radioactive waste to be stored on-site and will increase the radiation levels at the facility. To demonstrate the full effects of the increased radiation levels, the FEIS should directly address and distinguish studies indicating an increased risk of cancer near nuclear facilities.[33]

15-12 The DEIS also fails to consider the broader health costs of operating a nuclear facility. Mining uranium ore may have additional health effects if workers are exposed to the ore, increasing the

[27] The Higgins Eye Pearlymussel larvae are sent with the river current to attach to fish. Increasing the intake would increase the larvae entrained by the screens. U.S. Forest Service, "Higgins eye pearlymussel fact sheet," available at http://www.fws.gov/Midwest/endangered/clams/higginseye/higgins_fs.html.
[28] DEIS Chapter 1, § 4.2, at 50.
[29] *Id.*
[30] *Id.*
[31] "Water Temperature," Zebra Mussel Information System of the U.S. Army Corps of Engineers, available at http://el.erdc.usace.army.mil/zebra/zmis/.
[32] UN News Centre, "Heat waves and extreme drought will increase with climate change, UN agency says," Feb. 19, 2009, available at www.un.org/apps/news/story.asp?NewsID=29957&Cr=climate+change&Cr1. For an example, see Moises Velasquez-Manoff, "Heat sends Southwest climate back in time," Christian Science Monitor, available at http://features.csmonitor.com/environment/2009/01/08/dry-us-southwest-is-growing-drier/.
[33] DEIS Chapter 2, § 4.13, at 85. The DEIS does not address why these studies would not have significance for PINGP.

Responses

Comment 15-8
A discussion of the effect of the proposed EPU on thermophilic organisms and pathogens appears in Chapter 2, Section 4.2 of the EIS.

Comment 15-9
In general, both native and introduced species of mussels respond positively to thermal plumes. Whether the thermal discharge is more advantageous to one species over another is uncertain; however, the Sturgeon Lake Higgins Eye Pearly mussel restoration project is located approximately 0.5 miles upstream of the PINGP and would not be impacted by the plume.

Comment 15-10
While the likelihood of significant drought events in the future is an unknown factor, the water appropriation program, established in 1937 and administered by the DNR, provides a water policy for the state that balances the use of the State's water resources and sets priorities for its use and protection. The PINGP's water appropriation permit contains provisions that allow the permitting authority the flexibility to accommodate these uncertainties. See Chapter 1, Section 2.4-*Other Permits* for a more detailed description.

Comment 15-11
Potential health impacts from the extended power uprate (EPU) are based on estimated dose levels and concomitant health impacts (primarily, cancer incidence). These impacts are not anticipated to be significant because dose levels are within NRC regulations and health impacts are not significant with respect to state policies.

The EPU will not require additional casks for storage of spent nuclear fuel. There will be an additional volume of spent fuel associated with the larger fuel pellets; however, these pellets will not require more or larger fuel assemblies. The larger fuel pellets will increase fuel loadings, and this increase, along with higher fuel burnup, will increase the thermal and radiological output of fuel assemblies that are stored in casks (see discussion of the TN-40HT cask; Chapter 2, Section 3). Potential radiological exposures and health impacts due to storage of the TN-40 and TN-40HT casks is discussed in Chapter 2, Section 5.

Commenter 15 - Sierra Club

potential health risks.[34] The health impacts of the facility's total lifecycle exceed the localized cancer risks cited in the DEIS.

Increased Dry Cask Storage

The North Star Chapter has several concerns for the increased storage requested by Xcel Energy. The most significant concern is for the long-term solution for waste storage. In the shorter term, the Chapter has additional concerns for the potential health impacts and the scope of alternatives the DEIS considered.

I. The DEIS failed to consider cumulative impacts of storage.

15-13 The DEIS considers the effects of storage for the next 200 years.[35] There is no guarantee that the federal government will provide an alternative storage site within that time. The only planned federal facility at Yucca Mountain has stalled.[36] As the DEIS notes, the amount of nuclear waste will exceed the capacity of the Yucca Mountain facility before the facility would even open.[37] The final EIS should consider the possibility of longer-term storage on site in the absence of a permanent storage solution in a federal repository.

15-14 Potential changes to the flow of the Mississippi River may also present a risk for the ongoing storage of waste even within the 200-year period. Lengthy on-site storage increases the potential for significant flood events. Given that the facility is less than half a mile from the river and is directly next to Sturgeon Lake, major flood events might flood the facility and the independent spent fuel storage installation (ISFSI). While the earthen berm is 17 feet high,[38] the entrance to the ISFSI is at equal height with the surrounding land and provides no flood protection. The DEIS notes that in extreme flood conditions, water would reach more than halfway up the casks.[39] The DEIS states that the casks would be able to withstand the water height and flow, but provides no explanation.

15-15 The proximity of the Prairie Island Indian Community (PIIC) presents a further consideration for the ISFSI expansion. Any accident in an expanded ISFSI may have a greater impact because of the corresponding increase in radiation. The nearby residents would suffer greater effects because of the ISFSI expansion. The disparate effects on the Prairie Island Indian Community also raise issues of environmental justice. Environmental justice holds that no group "should bear a disproportionate share of the negative environmental consequences."[40] The radiation effects from the facility have a significantly greater effect on the PIIC than on others, given the Community's proximity.

[34] See L.S. Gottlieb and L.A. Husen, "Lung Cancer Among Navajo Uranium Miners," *Chest* 81 (4): 449-452, Apr. 1982, available at http://www.chestjournal.org/content/81/4/449.full.pdf+html
[35] DEIS Chapter 2, §4.10, at 23.
[36] *See, e.g.*, "Yucca Mountain Plan for Nuclear Waste Dies," The Caucus Blog on The New York Times, Mar. 31, 2009, available at http://thecaucus.blogs.nytimes.com/2009/03/31/yucca-mountain-plan-for-nuclear-waste-dies/
[37] DEIS Chapter 2. §6.1, page 41.
[38] DEIS Chapter 2, §3.1, page 9.
[39] DEIS Chapter 2, § 5.3, page 28-29.
[40] "MPCA and Environmental Justice," Minnesota Pollution Control Agency, available at http://www.pca.state.mn.us/assistance/ej.html.

Responses

Comment 15-11 (continued)
Text in Chapter 1, Section 4.13 has been modified and supplemented to augment the discussion of public health studies which have analyzed cancer risks near nuclear power plants. The EIS notes that uncertainty and differences of opinion remain, despite such studies. Those studies which show a heightened risk near nuclear power plants and those that do not show a heightened risk may both be applicable to the PINGP. The studies, to some degree, appear to be irresolvable in the public health community. To the extent they are, they cannot be resolved in this EIS.

Comment 15-12
Potential impacts related to the nuclear fuel cycle (e.g. mining ore) are outside the scope of this EIS (Chapter 1, Appendix A).

Comment 15-13
See response to Comment 1-1, which addresses the same concerns.

Comment 15-14
Potential radiological impacts from the probable maximum flood at Prairie Island are discussed in Chapter 2, Section 5.3. Cumulative impacts, reflecting storage of casks at the Prairie Island ISFSI for up to 200 years are discussed in Chapter 2, Section 5.4. Use of the probable maximum flood to project potential flood impacts, as opposed to a 500-year or 1000-year flood, is intended to bound such impacts. Accordingly, assuming monitoring and maintenance of the ISFSI, the passage of time does not increase the probability that a flood-induced radiological impact will occur.

The flood analysis in Chapter 2, Section 5.3 is based on the Safety Analysis Report (SAR) for the Prairie Island ISFSI (noted in Chapter 2, Section 5.2, Sources of Information). The SAR uses probable maximum flood data to estimate water heights and velocities. These heights and velocities are compared to cask seal heights and the ability of the casks to resist associated hydrostatic forces, e.g., forces that could cause the cask to slide or tip. Analysis in the SAR indicates that flood waters will not enter the casks or move them.

Comment 15-15
Text has been added in Chapter 2, Sections 5.4 and 7.3 describing potential environmental justice concerns related to the Prairie Island Indian Community.

Commenter 15 - Sierra Club

15-16

The DEIS overlooks transportation issues that will arise if a federal location can take the casks. The PUC's scoping decision excludes transport to Yucca Mountain, but does not explicitly exclude all transportation considerations.[41] As Andrew Peters noted at the public hearing in Red Wing on April 21, the DEIS does not address how Xcel intends to remove the waste from the ISFSI. Increasing the number of casks that have to be move compounds the problem. The DEIS does note that it will not address movement of material to Yucca Mountain, which is appropriate given Yucca Mountain's current status; however, failing to address the movement of waste undercuts the assumption that the storage is only temporary. The inability to move the casks could render the ISFSI more permanent than Xcel intends.

II. The DEIS gave insufficient consideration of health impacts from storage.

15-17

No exposure to radiation is considered entirely safe. The increased storage of waste at the facility will increase the risk of cancer to facility workers and nearby residents. The Sierra Club supports additional analysis of health impacts based on the comments in section nine of the PINGP Study Group's DEIS comments written by Paula Maccabee. In addition, we have additional concerns about workers and growing populations.

15-18

The impacts will be greatest on the plant personnel, who will be exposed to increased skyshine radiation and handling radiation. The combination of uprate and ISFSI expansion combines these negative impacts. Allowing these combined increases exposes the plant personnel to unacceptably high levels of radiation.

15-19

The DEIS notes that 450 residents live close enough to the facility to have potential exposure to radiation. The city of Red Wing has grown from less than 10,000 residents to more than 15,000 in the last forty years. The DEIS should consider the impacts on additional nearby residents resulting from the growing population base in the 200-year period of analysis. An increase in nearby residents – and the additional waste at the ISFSI – would increase the risk of cancer beyond the presently projected risks.

In considering the scope of the effects, the DEIS does not sufficiently address the potential impacts beyond the Red Wing area. With the increased level of skyshine radiation, the significantly larger population within 50 miles would make one-in-two million probabilities lead to cancer cases and deaths. If an incident occurred at the ISFSI that led to greater exposure, such as mishandling of a cask or failure of a cask seal, the effects could be significantly greater.

15-20

The final EIS should address the potential harm to workers following the failure of casks in the ISFSI. The DEIS notes that recovery workers "would experience relatively greater health impacts" and fails to assess what those impacts because of substantial uncertainties in projections.[42] At a minimum, the final EIS should provide possible effects based on reasonable ranges of assumptions. To understand the full impacts of the facility, these costs must be assessed and considered.

[41] William Glahn, "Environmental Impact Scoping Decision," State of Minnesota Office of Energy Security, Docket Nos. E002/CN-08-501, E002/GS-08-690, E002/CN-08-509, Nov. 13, 2008, at 6.
[42] DEIS Chapter 2, §5.3, page 33.

Responses

Comment 15-16
Movement of spent nuclear fuel from commercial reactor sites remains a federal obligation, to be undertaken by the U.S. Department of Transportation, NRC and DOE, in cooperation with state and local governments. Potential impacts related to cask handling that facilitates transportation from the Prairie Island ISFSI are discussed in Chapter 2, Section 5.4. The timelines for licensing of the Transnuclear TN-40 and TN-40HT casks for transportation are discussed in Chapter 2, Section 2. Potential impacts related to transportation of the storage casks to a federal repository are outside the scope of this EIS (Chapter 1, Appendix A).

Comment 15-17
The EIS uses a linear no-threshold model to assess potential radiological health impacts (i.e., no exposure is without some risk). Increased risks of cancer to plant personnel and the general public from the proposed expansion of dry cask storage at the Prairie Island ISFSI are discussed in Chapter 2, Section 5. See responses to Commenter 16 (PINGP Study Group).

Comment 15-18
Potential radiological impacts to plant personnel are discussed in Chapter 2, Section 5. Tables have been added to assist in visualizing cumulative impacts to plant personnel; see Chapter 1, Table 4-10 and Chapter 2, Table 5A-2. Radiological doses to plant personnel are managed by the Prairie Island radiation protection program and are projected to be within federal regulatory guidelines.

The Minnesota Department of Health notes that there is a concern that the current occupational radiological dose limit is higher than it should be. The U.S. Nuclear Regulatory Commission (NRC) is currently soliciting comments from stakeholders and interested parties on the regulatory issues and options to achieve greater alignment between NRC's radiation protection regulations and the 2007 recommendations of the International Commission on Radiological Protection (ICRP) contained in ICRP Publication 103, which recommends a lower occupational limit. However, the process is not expected to be completed for several years. In the interim, licensees are required to maintain exposures as low as is reasonably achievable and within current established limits

Commenter 15 - Sierra Club

Conclusion

The DEIS should consider a broader range of alternatives, additional environmental impacts, and cumulative effects of the proposed changes to Prairie Island. As Red Wing's city council and the public hearing in Red Wing showed, residents have significant concerns about the effects of the proposed changes. The Sierra Club North Star Chapter appreciates the effort that OES staff have made in the DEIS, and respectfully request the above-mentioned additions to the final EIS to provide a more thorough analysis of this proposal which will have a significant impact on Minnesotans long into the future.

Sincerely,

Co-Chair, Clean Air and Renewable Energy Committee
Sierra Club North Star Chapter

Responses

Comment 15-19

It is likely, over a 200-year timeframe, that there would be population growth in the greater Prairie Island area, specifically in and about the City of Red Wing. This growth would increase the number of persons who could receive exposure from the Prairie Island ISFSI (skyshine radiation), and thus the annual collective dose (person-mrem/yr). However, the estimated exposure rate for the Red Wing area due to skyshine radiation is very low, roughly on the order of 0.01 mrem/yr (the exposure rate from the ISFSI decreases approximately tenfold with each doubling of distance from the ISFSI; see Chapter 2 Section 5.2). Thus, the estimated dose and associated public health risk is insignificant in comparison to federal regulations and state policies. Thus, it is not discussed in the EIS.

Because the exposure rate from skyshine radiation drops significantly with distance from the Prairie Island ISFSI, impacts beyond the Red Wing area, even with increased population levels, would not be significant. Thus, they are not discussed in the EIS. The collective annual dose due to skyshine radiation could be significant if population growth occurred very near the Prairie Island ISFSI, e.g., growth within one mile of the ISFSI. Text in Chapter 2, Section 5.4 has been modified to reflect this possibility.

Potential exposures and health risks from incidents at the Prairie Island ISFSI are discussed in Chapter 2, Section 5.3. Population growth in the Red Wing area and beyond would increase the number of persons who could receive exposure from an incident at the Prairie Island ISFSI. However, it is assumed that emergency response plans, which are designed to protect public health should an incident occur at the ISFSI, would continue over the 200-year timeframe and be appropriately scaled for the population at risk. Thus, if there is a population increase, emergency response plans would take this into account and develop measures to appropriately protect the public. Thus, an increase in population does not directly lead to an increase in dose or public health risk.

Comment 15-20

There are substantial uncertainties in estimating exposures and doses to plant personnel and emergency responders due to a hypothetical cask confinement failure (Chapter 2, Section 5.3). Exposures and doses would vary with the type of incident (i.e., what caused the cask confinement failure) and emergency response job functions.

Commenter 15 - Sierra Club

Responses

Comment 15-20 (continued)
NRC regulations limit the total effective dose to plant personnel to 5 rem/yr (10 CFR 20). Personnel wear thermoluminescent dosimeters (TLDs) to record actual exposures. Exposures and doses are limited by several strategies, including time, distance, and shielding. If we assume that exposure-limiting strategies are employed during a cask confinement failure such that individual doses are limited to 5 rem, and if we assume that 100 persons receive this dose in responding to the incident, then the collective dose would be 500 person-rem. This dose would result in an estimated 0.5 additional cancer diagnoses and 0.25 additional cancer deaths among responders over their lifetimes. Again, these estimates contain uncertainty, and potential health impacts would vary with the type of incident, the number of responders, and emergency response job functions.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

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May 8, 2009

William Cole Storm, Project Manager
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RE: Environmental Impact Statement
Xcel Energy Prairie Island Nuclear Generating Plant
Extended Power Uprate Project, PUC Docket No. E002/CN-08-509, E002/GS-08-690
Request for Additional Dry Cask Storage, PUC Docket no. E002/CN-08-510

Dear Mr. Storm:

The following comments pertaining to the March 17, 2009 Draft Environmental Impact Statement ("DEIS") for the Xcel Energy Prairie Island Nuclear Generating Plant Extended Power ("PINGP") Uprate Project ("Uprate") and the Request for Additional Dry Cask Storage for high-level nuclear waste ("Cask Increase") are submitted on behalf of the Prairie Island Nuclear Generating Plant Study Group. The PINGP Study Group includes members of the Advisory Task Force appointed to comment on the scope of environmental review of the nuclear uprate and nuclear cask increase who have continued to meet after the completion of their formal report. The Study Group represents the concerns of citizens, environmental protection groups and local governments.

In order to extend its license for the Prairie Island Nuclear Generating Plant until 2034, Xcel Energy has proposed to expand storage of high-level nuclear waste, the nuclear spent fuel generated by the plant. Xcel currently stores nuclear spent fuel in 24 casks at the PINGP, and is authorized for 29. Xcel has applied for a certificate of need and site permit for 35 additional casks at the PINGP, which would more than double the amount of high-level nuclear waste stored on site at the Prairie Island Nuclear Generating Plant, bringing the total casks to 64 by 2034. (*DEIS, Ch. 2, pp. 1, 8*). There is no foreseeable prospect for a federal repository that would permit removal of this high-level nuclear waste.

In addition, Xcel has filed a certificate of need to increase by 164 MW the nuclear power produced by the Prairie Island Nuclear Generating Plant. This uprate would be obtained by increasing temperature, pressure and the amount of uranium in the reactor core to maintain the same fuel cycle length. The Nuclear Regulatory Commission hasn't yet approved the safety of the design. (*DEIS, Ch.1, pp. 2, 4*)

These proposals to continue reliance on non-renewable nuclear generation, more than double storage of high-level nuclear waste and increase the temperature and use of uranium at the

Responses

Commenter 16 - PINGP Study Group (via Paula Maccabee)

Prairie Island Nuclear Generating Plant create significant environmental impacts and raise serious economic and policy concerns, which both the Minnesota Public Utilities Commission and the Minnesota Legislature are required by law to consider. The purpose of an EIS is to provide sufficient analysis to allow decision-makers to select alternatives and mitigation to minimize adverse impacts and address policy concerns. From the perspective of the Study Group, the DEIS for the above-described Prairie Island Nuclear Generating Plant projects is so incomplete that it fundamentally fails to serve its function under law. It is respectfully requested that the additional analysis, alternatives and mitigation proposed in these comments be included in the Final EIS for the PINGP projects to ensure both compliance with law and effective decision-making.

By law, an EIS must be a "detailed" and "analytical" document prepared by the responsible governmental unit, which "describes the proposed action in detail, analyzes its significant environmental impacts, discusses appropriate alternatives to the proposed action and their impacts, and explores methods by which adverse environmental impacts of an action could be mitigated." (Minn. Stat. 116D.04, Subd. 2a). Under either the Minnesota Environmental Policy Act (MEPA) or the National Environmental Policy Act (NEPA) law on which it was based, "grudging, pro forma compliance will not do. . . the courts can, and should require full, fair, bona fide compliance." *No Power Line v. MEQC*, 262 N.W. 2d 312, 327 (1977 Minn.), citing *Lathan v. Brinegar*, 506 F.2d 677, 693 (9 Cir. 1974). A number of courts have held that it is an abdication of agency responsibility to rely solely on information prepared by a project's proponent. *See e.g., Greene County Planning Bd. v. Federal Power Comm.*, 455 F.2d 412, 420 (2 Cir. 1972).

The Prairie Island Nuclear Generating Plant DEIS unduly relies on inaccurate assertions made by Applicants, fails to consider critical alternatives, disregards applicable Minnesota policies regarding demand side management, renewable energy and environmental justice, inappropriately excludes consideration of substantial economic costs and environmental externalities pertaining to the Request for Additional Dry Cask Storage for nuclear spent fuel and the Extended Power Uprate, fails to evaluate mitigation measures that are within State jurisdiction and provides incomplete health risk assessment analysis. In addition, the DEIS fails to take into account substantial new information regarding the failure of plans for a federal nuclear waste depository at Yucca Mountain and regarding declines in energy demand of Xcel Energy.

The DEIS fails to provide either the public, the Minnesota Public Utilities Commission or future Legislative decision-makers with appropriate information from which to determine the critical decisions that are within State jurisdiction in connection with the Prairie Island nuclear power generating plant:

16-1

- Is Xcel's proposal to more than double cask storage for high-level nuclear waste prudent given the lack of any prospect for a federal depository for spent fuel from the Prairie Island Nuclear Generating Plant and the likelihood that nuclear waste will be stranded indefinitely in the Mississippi River floodplain, immediately adjacent to the Prairie Island Indian Community and within 50 miles of Minnesota's primary population center?

Responses

Commenter 16 - PINGP Study Group (via Paula Maccabee)

- Are there feasible and prudent alternatives to Xcel's proposal to increase nuclear waste cask storage and continue operation of the PINGP for at least another 25 years, given the full range of economic costs implicated by this proposal, State policies favoring demand side management and renewable energy and opportunities presented by recent declines in energy demand?
- If nuclear spent fuel cask storage will be needed for decommissioning and other purposes, what sites and criteria would mitigate environmental and human health risks of long-term radioactive waste storage consistent with environmental justice?

16-1

- Is Xcel's uprate proposal to obtain 164 MW of additional nuclear power from the Prairie Island Nuclear Generating Plant through increases in heat, pressure and uranium in the reactor core needed at all, once current electric demand information is considered?
- What measures would mitigate adverse non-radiological impacts of Xcel's proposal to increase heat and production at the Prairie Island nuclear generating plant?
- What are the cumulative cancer risks from all sources (air emissions, releases to water, skyshine radiation from casks, food source contamination) to employees and to the public presented by each aspect of Xcel's proposals?

The Final EIS should include at least the following analysis:

1. The economic and policy implications of the cask increase and continued operation of the PINGP through 2034 should be analyzed given circumstances precluding any realistic consideration of a federal nuclear waste depository, without imposing any arbitrary limit on the duration that casks will be stranded at the nuclear plant site.

2. The economic and policy implications of the cask increase and continued operation of the PINGP through 2034 should be analyzed including all economic costs of nuclear wastes and all health and environmental impacts of continued operation of the PINGP.

16-2

3. Alternatives to the cask increase and continued operation of the PINGP through 2034 should be analyzed in light of State policy preferences for demand side management and renewable energy, recent changes in electric demand and approvals of transmission.

4. Alternative sites for nuclear waste storage for decommissioning and other purposes should be considered, along with an analysis of the criteria that affect risks of nuclear spent fuel storage, such as location on a flood plain or near population centers.

5. Environmental justice implications of restricting consideration of additional nuclear waste cask storage to the area immediately adjacent to the Prairie Island Indian Community reservation should be evaluated.

Responses

Comment 16-1

Whether the proposed projects of this EIS are ultimately prudent is a consideration to be addressed by the Minnesota Public Utilities Commission. Questions regarding potential impacts, risks, and alternatives are addressed in this EIS. Responses in this section are directed to the more detailed comments provided by the Commenter which follow.

Comment 16-2

Responses in this section are directed to the more detailed comments provided by the Commenter which follow.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

Responses

6. Need for the 164 MW PINGP uprate should be reevaluated, using current information on Xcel's energy demand and reasonable forecasts.

7. Feasible and prudent alternatives to the 164 MW PINGP uprate should be reevaluated consistent with State policy preferences for demand side management and renewable energy, considering emissions reduction, smart grid and purchased power.

16-2

8. Mitigation measures to reduce thermal and other non-radiological impacts of the proposed uprate should be explicitly discussed, consistent with comments made by the Minnesota Department of Natural Resources.

9. Cumulative cancer risks from all PINGP sources of radiation to employees and to the public should be analyzed consistent with State health policies to evaluate impacts of Xcel's proposals for continued operation of the PINGP, spent fuel storage increases and power uprate increases.

1. Economic and Policy Analysis of Indefinite Storage of Stranded Nuclear Waste

Indefinite storage of stranded nuclear wastes is a critical economic and policy consideration in these proceedings. As the United States Court of Appeals for the District of Columbia Circuit recently explained in *Nuclear Energy Institute, Inc. v. EPA, 373 F.3d 1251, 1257-1258 (U.S. App. D.C. 2004):*

> Having the capacity to outlast human civilization as we know it and the potential to devastate public health and the environment, nuclear waste has vexed scientists, Congress, and regulatory agencies for the last half-century.
>
> Although nuclear power burns without emitting harmful greenhouse gases, it produces a potentially deadly and long-lasting byproduct: highly radioactive spent nuclear fuel.
>
> At massive levels, radiation exposure can cause sudden death. National Institutes of Health, Fact Sheet: What We Know About Radiation, *at* http://www.nih.gov/health/chip/od/radiation (last visited May 28, 2004). At lower doses, radiation can have devastating health effects, including increased cancer risks and serious birth defects such as mental retardation, eye malformations, and small brain or head size. *See Environmental Radiation Protection Standards for Yucca Mountain, Nevada, 64 Fed. Reg. 46,976, 46,978 (Aug. 27, 1999).*
>
> Radioactive waste and its harmful consequences persist for time spans seemingly beyond human comprehension.

The Court of Appeals for the District of Columbia Circuit upheld the State of Nevada's challenge to a United States Environmental Protection Agency decision to limit consideration of the effects of the proposed Yucca Mountain federal nuclear waste depository to "only" 10,000 years. The Court determined that radiation exposure risks and the need for geological stability could extend to several hundreds of thousands of years. *NEI v. EPA, supra, 373 F. 2d at 1270-1271.*

Commenter 16 - PINGP Study Group (via Paula Maccabee)

The budget released by President Barack Obama at the end of February 2009 cut off almost all funding to create a permanent federal repository burial site for radioactive nuclear waste in Nevada. As reported in the *Washington Post* on March 4, 2009, the Department of Energy stated, "Yucca Mountain is not an option and the budget clearly reflects that." *(http://www.washingtonpost.com/wp-dyn/content/article/2009/03/03/AR2009030303638.html)*

16-3

Any evaluation of additional cask for high-level nuclear waste at the Prairie Island Nuclear Generating Plant must consider the fact that nuclear waste must be managed indefinitely to prevent harmful radiation consequences, certainly more than 10,000 years. The recent elimination of funding for Yucca Mountain precludes any assumption that new nuclear waste stored at the PINGP will be transported to a federal repository within any foreseeable time frame. Based on current information, analysis of the consequences of nuclear waste storage at the Prairie Island Nuclear Generating Plant must consider the possibility that the nuclear waste will be stranded there indefinitely

The DEIS in these proceedings at best minimizes and, at worst, distorts the implications of increased long-term indefinite storage of nuclear wastes at the nuclear power plant site. The DEIS states that "spent fuel is in interim storage" since neither a reprocessing facility nor a federal waste repository is "currently approved." *(DEIS, Ch.1, p. 9)* The DEIS admits that "there is uncertainty" as to the storage alternatives that will be available in the future, but then suggests that "a likely scenario is temporary long-term storage of spent nuclear fuel at the Prairie Island ISFSI until the dry storage casks can be transported to a federal repository" *(DEIS, Ch. 2, pp. 22 -23)*. The DEIS then arbitrarily assumes for purposes of its analysis that up to 98 nuclear waste casks will be at the PINGP for a period not exceeding 200 years. *(DEIS, Ch. 2, p. 23)*. There are several flaws in this analysis.

16-4

First, the DEIS fails to discuss the implications of even its arbitrary 200-year time limit on weathering, degradation, maintenance and security of increased nuclear spent fuel storage. The DEIS states that the minimum design life for the TN-40 series of nuclear spent fuel casks is 25 years *(DEIS, Ch. 2, p.13)*, but provides no information as to the period of time for which casks have been warrantied or tested. The DEIS notes that the NRC's waste confidence rule is 60 years beyond the licensed life for operation *(DEIS, Ch. 2, p. 36)*, without explaining the difference between this temporary limit and potential indefinite storage at the Prairie Island site. The DEIS does note,

> Confidence at the NRC that temporary, long-term storage of dry casks at ISFSIs nationwide can be effected safely does not provide or supplant an independent decision by the State of Minnesota regarding the risks of long-term storage of dry casks at the Prairie Island ISFSI. *(DEIS, Ch. 2, p. 37)*

The current cask storage system at PINGP relies on a 7.25-inch thick steel cylinder welded to a bottom shield plate. Casks are sealed with an O-ring system and pressurized with helium, so

Responses

Comment 16-3
See response to Comment 1-1, which addresses the same concerns.

Comment 16-4
See response to Comment 4-2, which addresses the same concerns (monitoring, maintenance, assurance over a 200-year timeframe). Text in Chapter 2, Section 5 has been modified and supplemented to include information on the projected costs of assuring institutional control such that ISFSIs function as designed and protect public health. The nuclear decommissioning trust fund, which includes funding for on-going ISFSI operations, is discussed in Chapter 2, Section 3.4.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

that a drop in pressure may be monitored to determine failure of either inner or outer seals of the cask. (*DEIS, Ch. 2, p. 12*) The first dry storage cask was installed at the PINGP in 1995, only fourteen years ago. Since that time, there have been 8 low-pressure alarms. Upon investigation, leaks in monitoring system tubing or pressure transmitters have been identified, rather than cask seal leaks. Xcel has no experience with removal of casks for repair or replacement of seals. (*DEIS, Ch. 2, p. 13*). The DEIS provides no information regarding the likelihood of alarms, leaks in the monitoring system or in cask seals over 200 years given the increased number of nuclear spent fuel casks proposed by Xcel Energy.

16-4 The DEIS notes that casks are visually inspected periodically for "signs of weathering" and that casks are painted with a "corrosion-inhibiting coating" which is "inspected and touched up as necessary." (*DEIS, Ch. 2, p, 13*). The DEIS contains no information as to the likelihood of steel or weld corrosion and weathering under various conditions for a period extending to 200 years or beyond. The DEIS discusses security provided by an intrusion detection system and a security force (*DEIS, Ch.2, p. 13*) but provides no indication of how fences, electronic systems or human patrols will be assured for 200 or more years.

The DEIS makes conclusory statements rather than analyzing the significance of radiological and non-radiological risks of continued operation given time, weathering, deterioration and natural and man-made phenomena. Although the DEIS admits that, "The risk that is introduced by storing the casks for 200 years is time itself," (*DEIS, Ch. 2, p. 35*), the DEIS then assumes that the integrity of materials, seals and welds is unaffected by time, so that the ability of casks to withstand an earthquake, a flood and a tornado within a 200-year period is unaffected by time or deterioration. (*DEIS, Ch. 2, pp. 23, 35*). The DEIS also assumes, without requiring any mechanism for assurance, that monitoring and maintenance will be unaffected by more than doubling of nuclear waste storage casks, decommissioning and a time frame extending 200 years into the future. (*DEIS, Ch. 2, p. 35*).

16-5 The DEIS does not explicitly discuss the cumulative radiological impacts of continued operation of the Prairie Island Nuclear Generating Plant through 2034, the increase in waste storage on site needed for this extension or the radiological risks of indefinite on-site storage of nuclear wastes, all of which information is required to evaluate the policy and economic risks of Xcel's proposals. The DEIS merely states, "The potential radiological impacts of the continued operation of the PINGP are discussed in Chapter 1 of this DEIS. It's anticipated that no new or additional impacts, beyond those discussed in Chapter 1, would occur if the PINGP continued operations through 2034." (*DEIS, Ch. 2, p. 33*). In hypothesizing cask confinement failure, the DEIS does not discuss the possibility of multiple releases over a time frame of decades or centuries or estimate cancer risks from exposures. (*DEIS, Ch. 2, pp. 32-33*).

16-6 The PINGP Study Group believes that far more information should be contained in the Final EIS pertaining to potential failure of nuclear spent fuel casks over time due to extreme weather, terrorism, accident, long-term materials degradation, failures of maintenance and combinations of the above variables. The Final EIS should evaluate the projected lifespan of waste storage casks, including both the existing TN-40 and proposed TN-40HT based on warranties and tests of materials, welds and seals and analyze risks of radiological exposure

Responses

Comment 16-5
Radiological impacts related to continued operation of PINGP (normal operations) are discussed in Chapter 1, Section 4.13. See response to Comment 3-1, which addresses potential radiological impacts due to incidents at the PINGP. Radiological impacts related to expanded dry cask storage and the temporary, long-term storage of spent fuel to facilitate decommissioning are discussed in Chapter 2, Section 5. Tables have added to aid in visualizing cumulative impacts (Chapter 1, Table 4-10; Chapter 2, Table 5A-2).

Cask confinement failure and associated probabilities, public health impacts, and uncertainties over a 200-year timeframe are discussed in Chapter 2, Sections 5.3 and 5.4. Text has been added in Chapter 2, Section 5.4 to include information from the Yucca Mountain EIS on ISFSI incident response when institutional control is lacking.

Comment 16-6
See response to Comment 4-2 which addresses the same concerns.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

16-7 under Xcel's proposal and under no-action alternatives. The Final EIS should also develop a timeline and funding plan for facility and cask maintenance and repairs according to the timelines suggested in the Yucca Mountain EIS and EPRI dry cask reports. Much of this information was specifically requested by the Advisory Task Force (*ATF Summary, EIS Scoping Worksheet/Exclusions, p.16, EIS Scoping Worksheet, p. 9; Meeting #3, p. 4*), but was disregarded by the Office of Energy Security in preparing the DEIS.

16-8 Consistent with the Court of Appeals decision in *NEI v. EPA*, the Final EIS should not be allowed to arbitrarily assume a 200-year limit on the risks of cask failure, security failure or radiological exposure from nuclear waste storage at the Prairie Island Nuclear Generating Plant. There is no evidence or assurance in the Application or the DEIS demonstrating either that casks will be removed by that time or that the highly radioactive spent fuel contained within them will cease to pose human and environmental risks within the brief time window of 200 years.

Even with the profound limitations in the analysis provided in the DEIS, the Study Group believes that sufficient concerns have been raised that risks of indefinite nuclear cask storage may outweigh potential benefits. As noted in the DEIS:

> It is possible that armaments could be used to attack the casks, creating damage or a fire that causes a cask seal failure. An airplane could be commandeered to attack the casks. These risks are difficult to assess and include substantial uncertainties. (DEIS, Ch. 2, p. 31)
>
> Time is also a consideration for risks posed by man-made phenomena that, unlike cask handling, will exist for the full 200 years and may change over time, e.g., risk of explosion, terrorism, airplane impact. . . Compared with natural phenomena and well-regulated cask handling systems, risks posed by these man-made phenomena are likely the more uncertain. (DEIS, Ch. 2, p.36)

2. Economic Costs and Risks of Cask Storage, Continued Nuclear Plant Operation

The United States Supreme Court has determined that it is within a State's jurisdiction to determine, as a matter of economic costs and risks, that a nuclear power plant should not be constructed or operated. *Pacific Gas & Electric Co. v. State Energy Resources Conservation & Development Commission, 461 U.S. 190 (1983)*. Specifically, the United States Supreme Court has upheld a state judgment imposing a moratorium on nuclear power due to the economic costs and risks of further development of nuclear power plants before adequate spent nuclear fuel facilities had been provided. *Id., at 216*. The Court concluded that the moratorium did not conflict with the objectives of federal law. Although the primary purpose of the Atomic Energy Act is the promotion of nuclear power, that power is not to be developed "at all costs." *Id., at 222*. Congress has left to the states to determine whether, as a matter of economic costs and risks, continued reliance on nuclear power should be authorized.

Responses

Comment 16-7

See response to Comment 16-4 which addresses the same concerns. Text in Chapter 2, Section 5 has been modified and supplemented to include discussion of funding plans to ensure institutional control of the ISFSI. The nuclear decommissioning trust fund, which includes funding for on-going ISFSI operations, is discussed in Chapter 2, Section 3.4.

Comment 16-8

Text has been added in Chapter 2, Section 5.4 discussing the availability of the Yucca Mountain repository and the use of a 200-year timeframe in this EIS to bound the uncertainty of its availability. The EIS does not assume that the public health risks associated with spent nuclear fuel at the Prairie Island ISFSI end 200 years from the present. Rather, it acknowledges that these risks continue for millions of years, but are assumed by the federal government, in accordance with current Minnesota and federal law.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

The DEIS clearly states that the State of Minnesota "decides as an economic and policy matter whether it is in the public interest to allow additional storage of spent nuclear fuel at the Prairie Island ISFSI in order to allow the PINGP to continue operating until 2034." (DEIS, p. vi, see also Ch. 2, p. 3). However, the DEIS provides an insufficient analysis of the economic and policy considerations in allowing additional storage of spent nuclear fuel at the nuclear plant.

Minnesota's certificate of need law provides, "Any certificate of need for additional storage of spent nuclear fuel for a facility seeking a license extension shall address the impacts of continued operations over the period for which approval is sought." Minn. Stat. § 216B.243, Subd. 3b(b). The DEIS' analysis of the impacts of continued operations of the Prairie Island Nuclear Power Plant is incomplete and fragmented.

Section 9 of these comments addresses gaps in the human health risk assessment of impacts of increased storage of spent fuel and continued operations at the Prairie Island Nuclear Generation Plant. This Section suggests that the Final EIS and further proceedings in this matter should quantify the economic costs and risks associated with the cask increase and continued operation of the PINGP, including costs and risks associated with health externalities and costs and risks of indefinite long-term maintenance on site of highly radioactive nuclear wastes.

16-9

The DEIS suggests that the primary sources of information regarding the cask increase were the applications filed by Xcel Energy. (*DEIS, Ch. 2, p.1*). Xcel's present value revenue requirements ("PVRR") analysis of the economic benefits of its proposed nuclear license extension and cask increase included no externality values either for continued operation of the nuclear plant or for increases high level radioactive waste storage. Costs for carbon dioxide were attributed to coal and natural gas alternatives, but no greenhouse gas impacts or other externalities were allocated to the process of uranium mining, milling, enrichment or fuel fabrication for nuclear power. (*Application to the MPUC for Certificates of Need for the PINGP for Additional Dry Cask Storage and Extended Power Uprate "Application," Table 4-4, p. 4-16*). Xcel's PVRR analysis effectively excludes the risks and economic costs associated with Xcel's proposals.

Read carefully, the DEIS suggests some of the economic risks and costs associated with Xcel's proposed cask increase in reliance on nuclear power, but a more detailed and thorough analysis is required to guide public decision-making. First, it is clear that storage and disposal of radioactive wastes incurs substantial costs. The DEIS notes that in 2008 dollars, the current cost estimates for decommissioning the Prairie Island Nuclear Generating Plant are $1.026 billion for radiological removal, $83.7 million for site restoration and $404 million for operation of the spent nuclear fuel cask installation. (*DEIS, Ch. 2, p. 15*). Though to date receiving no benefit from this cost, by December 2006 Xcel Energy's customers had paid approximately $620 million into the federal Nuclear Waste Fund to finance nuclear waste management. (*DEIS, Ch.2, p. 42*).

Responses

Comment 16-9

Text in Chapter 2, Section 7.3 has been modified and supplemented to include economic analysis by the Department of Commerce, Office of Energy Security, Energy Regulation and Planning (OES-ERP) unit, comparing continued operation of the PINGP with alternatives under a variety of costs and externality scenarios. Public health externalities and the costs of long-term operation and maintenance of the Prairie Island ISFSI are included in this analysis. The OES-ERP's analysis used externality values and carbon regulation cost estimates established by the Commission in conjunction with other externality factors – in this case, nuclear externalities.

Costs for on-going ISFSI operations are discussed in Chapter 2, Section 3.4 (nuclear decommissioning trust fund). These costs are also discussed in Chapter 2, Section 5.4; the text has been supplemented to include costs estimates from the Yucca Mountain EIS and from OES-ERP.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

The DEIS does not provide information from which it could be determined whether these projected costs reflect a minimum or maximum expenditure and over how many years it is projected that costs would be incurred for indefinite long-term storage of nuclear wastes. The DEIS states that if the cask increase is approved, from April 15, 2008 through 2034 nearly double the amount of spent fuel assemblies will be discharged from Prairie Island's reactors (3,895) as have been discharged from the time the nuclear power plant began operation through April 15, 2008 (2,109). *(DEIS, Ch. 2, p. 14)* However, no information is provided as to the degree that the sheer volume of spent fuel would affect costs for radiological removal and nuclear waste management in future decades or centuries.

16-10

The DEIS, similarly, provides insufficient information regarding the risks and externalities associated with the uranium fuel cycle. It is noted that conversion of uranium yellowcake to uranium hexafluoride results in chemical and radiological risks and "extremely corrosive" chemicals and that there is only one uranium conversion plant operating in the United States. The DEIS further explains that the primary hazard in the uranium enrichment process is the chemical and radiological hazard of uranium hexafluoride release and that there is only one gaseous diffusion uranium enrichment plant in the U.S. The DEIS further notes that the next stage in producing nuclear fuel, fuel fabrication, has similar "chemical, radiological and criticality hazards." *(DEIS, Ch. 1, pp. 6-8)*. No information is provided as to the chemical and radiological externalities, the consumption of fossil fuel energy and CO_2 required in the uranium fuel cycle or the risks that may be entailed by the scarcity in production resources.

The DEIS notes that, if the continued operation of the Prairie Island Nuclear Generating Plant avoids the uncertainties of greenhouse gas emissions at the time of combustion, it does so by trading them for uncertain costs related to the safe handling, storage, and eventual placement in a federal repository of spent nuclear fuel (SNF) generated at the PINGP. *(DEIS, Ch. 2, p. 54)*. If these economic risks and uncertainties were fully analyzed in light of the failure to secure a federal repository for wastes at Yucca Mountain, decision-makers might conclude that neither the Prairie Island Nuclear Generating Plant nor the proposed expansion of indeterminate long-term radioactive waste cask storage is in the public interest.

3. Energy Policy Analysis of Cask Increase, Prairie Island Nuclear Generating Plant

The DEIS provides an analysis of alternatives to granting the certificate of need for a nuclear waste cask increase, describing several different alternative scenarios that could replace 1,100 MW of generating capacity from the Prairie Island Nuclear Generating Plant. *(DEIS, Ch. 2, pp. 47-56)*. The DEIS also acknowledges that potential human and environmental impacts of each of these scenarios could be proportionately reduced by demand side management *(DEIS, Ch. 2, p. 48)*.

This analysis is helpful, but incomplete. Not only must costs and externalities of continued reliance on nuclear power be evaluated *(Section 2, supra)*, but State certificate of need policies and new information regarding electric demand and transmission must be analyzed in the Final EIS to evaluate feasible and prudent alternatives to Xcel's nuclear proposals. The

Responses

Comment 16-10

The uranium fuel cycle is discussed in Chapter 1, Section 1.1. The potential impacts of the uranium fuel cycle are outside the scope of this EIS (Chapter 1, Appendix A).

Commenter 16 - PINGP Study Group (via Paula Maccabee)

16-11

Study Group believes that an updated analysis could demonstrate that demand side management and renewable energy backed up by natural gas or purchased power provide feasible and prudent alternatives which are more consistent with State policy and create fewer adverse environmental impacts than continued operation of PINGP and increased nuclear waste storage. New information regarding declines in electric demand and the availability of transmission to support large wind energy conversion systems across Minnesota to the Buffalo Ridge area should be included in this updated alternatives analysis.

First, the assumptions regarding electric demand in Xcel's Application and in the DEIS are out-of-date and thus inaccurate. Xcel stated in its Application, based on a December 14, 2007 Resource Plan filing, that annual energy demand and energy would grow at a rate of about 1.1 percent per year, or 133 MW per year, so that Xcel would have a 126 MW energy deficit by 2012 and a deficit of over 2,800 MW by 2022. (*Application, 1-6, 1-7, 9-4*). These projections were accepted in the DEIS. (*DEIS, Ch.1, pp. 12,24*). The base line for this energy need was provided in the Application in Figure 9.1, which represented net 2008 summer peak demand at approximately 9,250 MW. (*Application, 9-5*)

More recent information indicates that projections from this base line would overstate demand and energy deficits. According to Xcel's Form 10-K filed with the SEC on February 27, 2009, (*http://www.secinfo.com/dVut2.s1Uy.htm#1stPage, p. 10*), Xcel's peak demand declined 11.79 percent from 2006 through 2008, and actual summer peak demand in 2008 was 8,697 MW, more than 500 MW lower than what was assumed in the Application and DEIS.

In its February 9, 2009 Resource Plan Update, Xcel proposed to delay several resources due to the "economic downturn" and the need "to address the effects of this recession." (*Resource Plan Update, 2/9/09, MPUC Docket No. E002/RP-07-1572, p. 2*). In conversations with industry media shortly after this filing, Xcel reported that Minnesota was seeing sales decline in its service territory, mainly with residential customers. As a result of the slumping economy, Xcel projected peak load declines of 374 MW in 2012 and of 613 MW by 2023 as compared with its December 2007 Resource Plan. (*Global Power Report, February 12, 2009*).

Declines in Xcel's peak demand provide a greater opportunity to evaluate feasible and prudent alternatives to increased nuclear waste storage and continued operation of the Prairie Island Nuclear Power Plant, consistent with the policy priorities of Minnesota's certificate of need law. The Final EIS should base its assessment of feasible and prudent alternatives to the PINGP on accurate demand information and Minnesota certificate of need policy.

Minnesota's certificate of need law states a clear preference for demand side management as an alternative to any large energy generation facility:

> No proposed large energy facility shall be certified for construction unless the applicant can show that demand for electricity cannot be met more cost effectively through energy conservation and load-management measures and unless the applicant has otherwise justified its need. (*Minn. Stat. § 216B.243, Subd. 3*)

Responses

Comment 16-11

Text in Chapter 2, Section 7.3 has been modified and supplemented to include economic analysis by the Department of Commerce, Office of Energy Security, Energy Regulation and Planning (OES-ERP) unit, comparing continued operation of the PINGP with alternatives under a variety of costs and externality scenarios. This analysis is based on updated demand information and projections. The analysis takes into account strategies to reduce and manage demand, i.e., demand side management (DSM).

Commenter 16 - PINGP Study Group (via Paula Maccabee)

Smart grid technology, as well as incentive programs historically implemented by utilities, should be explicitly evaluated in the Final EIS and in further proceedings to determine whether demand side management provides a cost-effective alternative, in whole or in part, to a large energy facility. A number of communities are already applying smart grid technologies to substantially reduce peak demand. In addition to the Xcel project in Boulder, Colorado, the large metropolitan area of Austin, Texas has begun implementation of smart grid technology. Approximately $4.5 billion has been allocated in the current federal stimulus package to support smart grid technology. (*The Wall Street Journal, April 1, 2009*).

Minnesota certificate of need law also states a clear preference for renewable energy, rather than non-renewable nuclear generation:

> The commission may not issue a certificate of need under this section for a large energy facility that generates electric power by means of a nonrenewable energy source, or that transmits electric power generated by means of a nonrenewable energy source, unless the applicant for the certificate has demonstrated to the commission's satisfaction that it has explored the possibility of generating power by means of renewable energy sources and has demonstrated that the alternative selected is less expensive (including environmental costs) than power generated by a renewable energy source. For purposes of this subdivision, "renewable energy source" includes hydro, wind, solar, and geothermal energy and the use of trees or other vegetation as fuel. (*Minn. Stat. §216B.243, Subd. 3a*)

16-12

The Final EIS as well as further proceedings in this matter should provide more detailed analysis of a wholly or predominantly renewable energy alternative to replace the PINGP. Although the DEIS improved upon the Application, which gave no serious consideration to renewable energy, reliance on information prepared for the for the 2006 Monticello Project Final EIS is insufficient to analyze alternatives to Xcel's current PINGP proposals. (*See DEIS, Ch. 1, p. 50, note 128*).

First, in reviewing the impacts and costs of gas combustion to back up intermittent wind energy pending development of cost-effective storage technologies, the Final EIS should consider both the alternative of using capacity at existing natural gas plants and the alternative of repowering coal plants to natural gas to reduce greenhouse gas externalities. Although Xcel deferred consideration of repowering Black Dog coal combustion Units 3 and 4 in its February 9, 2009 Resource Plan Update (*Update, 2/9/09, MPUC Docket No. E002/RP-07-1572, p. 3)* repowering of the coal plant units could produce several hundred megawatts of generation, while reducing emissions and externalities. Minnesota policy supports the repowering of coal plants with natural gas to reduce mercury, nitrogen oxides, sulfide dioxide and particulates as well as carbon dioxide emissions, as reflected in the emissions reduction rider legislation, Minnesota Statutes § 216B.1692.

Second, in addition to the alternative of large wind energy conversion systems backed up with natural gas, the Final DEIS should analyze alternatives providing support for wind energy through smart grids and distributed generation or through transmission and purchased power

Responses

Comment 16-12

Text in Chapter 2, Section 7.3 has been modified and supplemented to include economic analysis by the Department of Commerce, Office of Energy Security, Energy Regulation and Planning (OES-ERP) unit, comparing continued operation of the PINGP with alternatives under a variety of costs and externality scenarios.

OES-ERP analyzed an alternative that included 1,000 MW of wind, approximately matching the capacity of PINGP, along with least-cost fossil fuel back-up ("renewable plus least-cost back up"). This alternative was about $400 million more expensive than the least-cost alternative (i.e., without forced renewables). The least-cost alternative was more expensive than continued operation of the PINGP by about $1.3 billion. Wind is generally acknowledged to be the least-cost, widely available (in terms of new sites) renewable resource. Thus, a wind or renewable alternative ("renewable plus least-cost back up") is approximatly $1.7 billion more than continued operation of the PINGP.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

through the MISO market. This alternative becomes particularly salient after certification of the CapX2020 Brookings Project, which will connect to significant new generation capacity.

Current information and policy, including the 2007 Renewable Energy Standards, the 2008 Distributed Renewable Generation report, 2009 information regarding declines in demand and smart grid implementation, and the April 2009 approval of the CapX2020 Brookings transmission for wind energy should be used in the Final EIS to provide a robust analysis of alternatives to Xcel's PINGP consistent with Minnesota renewable energy and demand management policies.

4. Site Locational Issues, Cask Storage for Decommissioning and Alternative Sites

The independent spent fuel storage installation at the Prairie Island Nuclear Generating Plant has environmental and human site issues that should raise concerns in considering increased storage of highly radioactive nuclear wastes. PINGP is located on Prairie Island, an island terrace associated with the Mississippi River flood plain. (*DEIS, Ch. 1, p. 72*) The probable maximum flood at Prairie Island has been calculated to be 706.7 feet above mean sea level (MSL), while the surface of the nuclear spent fuel installation at the PINGP is only 697 feet above MSL. (*DEIS, Ch. 2, p. 28*).

The Prairie Island Nuclear Generating Plant is also located immediately adjacent to the Prairie Island Indian Community Reservation (*DEIS, Ch. 1, p. 57*) within the city limits of Red Wing and approximately 30 miles from the Capitol City of St. Paul (*DEIS, Ch. 1, p.2*). The estimated total permanent population within 50 miles of the PINGP is 2,949,234 - nearly three million people. (*DEIS, Ch. 1, p. 59*).

16-13 Despite these site factors, the DEIS included no analysis of seismic activity, weather, wind or geologic features that could affect long-term storage of nuclear wastes, or transmittal of radioactive materials through water or air. The DEIS did not compare security issues and maximum risks from cask failure at the PINGP site as compared to other locations.

16-14 Federal law does not prohibit the State from selecting nuclear waste storage sites within its borders. The DEIS did not evaluate the potential for spent fuel storage sites outside the PINGP boundaries due to an understanding that the Commission's authority is limited by State law to the storage of spent nuclear fuel generated by an existing Minnesota nuclear generation facility and stored on the site of that facility. (*See DEIS, Ch. 1, p. 16*). The DEIS assumed that at the end of the 2034 license renewal period the nuclear spent fuel installation at the Prairie Island Nuclear Generating Plant would store 34 additional casks for decommissioning, creating a total of 98 casks on the spent fuel storage pad at the PINGP upon removal of all spent nuclear fuel from the plant. (*DEIS, Ch. 2, pp. 22-23*).

It is interesting to the PINGP Study Group that, even when discussing decommissioning and the storage of nuclear waste for up to 200 years, the DEIS did not consider the possibility of another site for nuclear waste other than the PINGP site. We read applicable Minnesota statutes to explicitly authorize the Commission to grant certificates of need for dry cask storage for decommissioning a nuclear power plant at other locations within the State.

Responses

Comment 16-13
Factors that could affect long-term storage of casks at the Prairie Island ISFSI, including seismic events, weather, and natural features are discussed in Chapter 2, Section 5. The EIS does not compare these factors at the Prairie Island ISFSI with other possible long-term storage locations as such locations are not considered available for consideration under current Minnesota law (see response to Comment 16-14).

Comment 16-14
Energy facility permitting staff of the Office of Energy Security interprets Minnesota law to limit additional dry cask storage within the state of Minnesota, regardless of the reason for the storage, to the site of the facility which generates the spent nuclear fuel and associated storage casks. Thus, under current law, the only site within Minnesota available for spent nuclear fuel generated by the PINGP is the Prairie Island site. Storage sites outside of Prairie Island would not be in accordance with current Minnesota law and consideration of such sites is outside the scope of this EIS (Chapter 1, Appendix A). Accordingly this EIS does not discuss storage sites outside of Prairie Island. Additionally, it does not discuss criteria by which alternate sites might be evaluated or identity alternates sites.

Minnesota Statute 116C.771, enacted in 1994, gave initial state authorization for storage of spent nuclear fuel on site at Prairie Island. The statute provides for a total of 17 dry storage casks and notes that this number may not be increased except for additional storage that may be required for the decommissioning of a nuclear power plant within the state (Minn. Stat. § 116C.771(e)). Subdivision (e) is silent on the location of additional storage for decommissioning.

Minnesota Statute 116C.83, enacted in 2003, provides that "any additional dry cask storage... is subject to approval of a certificate of need by the Public Utilities Commission" (Minn. Stat. 116C.83, Subd. 2). The authority of the Commission is constrained such that "authorization for storage capacity pursuant to this section is limited to the storage of spent nuclear fuel generated by a Minnesota nuclear generation facility and stored on the site of that facility" (Minn. Stat. § 116C.83, Subd. 4(b)).

Commenter 16 - PINGP Study Group (via Paula Maccabee)

Minnesota Statutes 116C.771, enacted in 1994, states:

> (d) Except as provided under paragraph (e), dry cask storage capacity for high-level nuclear waste within the state may not be increased beyond the casks authorized by section 116C.77 or their equivalent storage capacity.
>
> (e) This section does not prohibit a public utility from applying for or the Public Utilities Commission from granting a certificate of need for dry cask storage to accommodate the decommissioning of a nuclear power plant within this state.

The Legislative authorization for additional dry cask storage enacted in 2003 does not eliminate this authority. The statute states, "The authorization for storage capacity *pursuant to this section* is limited to the storage of spent nuclear fuel generated by a Minnesota nuclear generation facility and stored on the site of that facility." (*Minn. Stat. 116C.83, Subd. 4(b), emphasis added*). The Commission's authority to certify dry cask storage for decommissioning a nuclear power plant is in a different section of statutes, enacted to balance a different set of competing policies.

16-14 The PINGP Study Group acknowledges that legislative change would be needed to authorize the siting of cask storage at a site other than the PINGP site absent the need to accommodate decommissioning of the nuclear power plant. However, when the long-term storage of nuclear wastes, including wastes from decommissioning, is proposed, the comparative unsuitability of the Prairie Island site becomes evident. An EIS need not conclude that another site will be chosen by decision-makers, some of whom may be elected officials, but it should explain the environmental and human risks that could be mitigated through consideration of alternative sites.

It is highly likely that the Yucca Mountain EIS, among other documents, provides a wealth of information as to criteria that make a site more or less suitable for the indeterminate long-term storage of highly radioactive nuclear wastes. It is also likely that the particular site characteristics of the spent fuel installation at the Prairie Island Nuclear Generating Plant would conflict with most reasonable criteria for site selection. Absent Xcel's requirement for transmission to the Twin Cities and abundant water to cool its nuclear reactor, it is unlikely that the best site alternative would be to locate radioactive materials below projected flood levels on the flood plain of the State's major river, the waters of which are used for public drinking water. It is also unlikely that the best site alternative would be to locate long-term storage of highly radioactive wastes within 30 miles of the State's capitol city and within 50 miles of its primary population center.

16-14 The Final EIS for Xcel's proposed cask increase project should propose criteria by which locations for nuclear waste decommissioning sites would be evaluated and, if possible, identify an alternative location to mitigate risks from storage of radioactive materials at the PINGP site. The Final EIS should also discuss, in its review of various canister and vault

16-15 systems of storage (*DEIS, Ch. 2, pp. 44-45*) whether any of the alternatives would entail greater or lesser difficulty in removal and transportation off-site than would the proposed TN-40 and TN-40HT casks.

Responses

Comment 16-14 (continued)
Read together, these two statutes indicate that the Commission cannot, absent further legislation, authorize the storage of spent nuclear fuel at sites within Minnesota other than the facilities which generate the spent fuel. To the extent that these statutory provisions are irreconcilable, Minnesota Statute 645.26 provides guidance. Subdivision 1 provides that the specific controls over the general; subdivision 4 provides that the later-passed law prevails over the earlier (Minn. Stat. § 645.26, Subd 1, Subd 4).

Minnesota Statute 116C.771 was enacted in 1994 and addresses generally the storage of spent fuel to facilitate the decommissioning of a nuclear power plant, without mention of siting. Minnesota Statute 116C.83 was enacted in 2003 and specifically addresses the question of siting for additional dry cask storage, regardless of the reason for additional storage. Because section 116C.83 was enacted after section 116C.771 and because it specifically provides for additional storage of any type, which would include storage for decommissioning, and because it speaks specifically to the siting of additional storage, it is, in this instance, controlling.

Comment 16-15
Text had been added to Chapter 2, Section 6.3 discussing the relative ease of handling and removal of casks to a federal repository.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

5. Environmental Justice Analysis

The nearest neighbors to the Prairie Island Nuclear Generating Plant are members of the Prairie Island Indian Community who live on the reservation. (*DEIS, Ch. 2, p. 9*). The Prairie Island Indian Community are part of a larger group called the Dwellers of the Spirit Lake (Mdewakanton) who have lived in this area of Minnesota for hundreds of years. They refer to themselves as Dakota or Lakota, words that mean "allies" or "friends" in several dialects. (*http://www.prairieisland.org/History.htm*) In 1936, the federal government officially recognized Prairie Island Indian Community (PIIC) as a reservation for the Mdewakanton, awarding them 534 acres. The Prairie Island Indian Community is a Federally Recognized Indian Tribe organized under the Indian Reorganization Act (*25 U.S.C. 476*).

In addition to living near the nuclear plant, the Prairie Island Indian Community operates its most significant business and recreational enterprises near the PINGP. The Community owns and operates Treasure Island Resort and Casino, employing about 1500 people. The Treasure Island Resort and Casino includes a 250-room hotel and convention center that is currently being expanded to include an additional 230 rooms. The expansion would include a 24-lane bowling center and a multi-use event center with a maximum seating capacity of 2,800. Treasure Island Resort and Casino offers gaming, dining, live entertainment, a 95- space RV park, a 137-slip marina to accommodate visitors arriving by the Mississippi River, and sightseeing and dinner cruises on their riverboat. (*DEIS, Ch. 1, p. 58, Ch. 2, p. 9*)

The DEIS mentions the fact that the persons most closely exposed to the human health risks of PINGP are members of Prairie Island Indian Community, but the DEIS contains no discussion of the environmental justice implications of increasing nuclear waste cask storage, increasing radiological impacts from the nuclear uprate or continuing a nuclear power land use in proximity to reservation lands, homes and businesses. In fact, even where the DEIS has an opportunity to evaluate whether the proposed action would have a disproportionate adverse impact upon the Prairie Island Indian Community, the DEIS fails to provide this analysis.

For example, in discussing the potential for cancer incidence related to the PINGP, the DEIS reports inconclusive information about Goodhue County, an area comprising 764 square miles, and then states, "This report was not able to address cancer rates in the Prairie Island Indian Community members who reside near the plant." (*DEIS, Ch. 1, p. 87*) The DEIS also discusses the "sociological impacts" of continued operation and increased cask storage at the Prairie Island Nuclear Generating Plant as compared with alternatives that would permit closure and decommissioning of the plant without even mentioning the Prairie Island Indian Community or the information provided through the Advisory Task Force regarding adverse social, psychological and spiritual impacts upon the Community from the presence of the nuclear power plant. (*ATF Summary, EIS Scoping Worksheet, p. 10*). Excluding all context or community input, the DEIS blithely concludes, "Continuing operations of the PINGP (no new land use) would likely have a neutral aesthetic and sociological impact." (*DEIS, Ch. 2, p. 56*).

Responses

Commenter 16 - PINGP Study Group (via Paula Maccabee)

The failure to analyze environmental justice impacts violates federal policy, state policy and legal precedent pertaining to environmental review. Federal policy is reflected on the U.S. EPA web site:

> Environmental Justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.
> (*http://www.epa.gov/compliance/basics/ejbackground.html*)

State policy, similarly is reflected in the commitment posted on the Minnesota Pollution Control Agency web site to ensure that minority and economically disadvantaged communities in Minnesota "do not bear a disproportionate share of the involuntary risks and consequences of environmental pollution." (*http://www.pca.state.mn.us/publications/p-gen5-01.pdf*)

Case law pertaining to environmental review consistently requires analysis of environmental justice. *DOT v. Public Citizen, 541 U.S. 752, 761 (2004).* As stated in *Mid States Coalition for Progress v. Surface Transp. Bd., 345 F.3d 520, 541 (8th Cir. 2003),* "The purpose of an environmental justice analysis is to determine whether a project will have a disproportionately adverse effect on minority and low income populations."

16-16

The Final EIS for Xcel's proposed cask increase and uprate at the Prairie Island Nuclear Generating Plant must include an analysis of environmental justice, including whether a disproportionate share of the negative environmental consequences of the nuclear plant and nuclear waste storage installation are borne by the Prairie Island Indian Community. In this context, the PINGP Study Group suggests that an analysis of site criteria for potential alternative nuclear waste storage sites be included in the Final EIS, irrespective of the fact that an alternative location might require legislative action.

The past fifteen years of legislative history has demonstrated that the apparent limitation on casks in Minn. Stat. § 116C.771(d) did not prevent the Legislature's approval of additional high-level nuclear waste storage when it suited Xcel Energy's interests. The provisions of Minn. Stat. 116C.83 cited in the DEIS were the result of Xcel's 2003 lobbying in connection with those interests. If the failure of the responsible governmental unit to consider other locations for nuclear waste were based on an assessment that the only place that the Legislature might authorize storage of PINGP highly radioactive waste is adjacent to the Prairie Island Indian Community, this itself would be evidence of environmental injustice, potentially rising to the level of violation of civil rights and equal protection.

6. Demand Decline, Lack of Need for 164 MW Uprate

Factual information pertaining to the decline in Xcel's energy demand and preferences for demand management and renewable energy in Minnesota's certificate of need statutes (*see*

Responses

Comment 16-16

See responses to Comment 15-15 (environmental justice) and Comment 16-14 (consideration of alternate sites and site criteria), which address the same concerns.

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Section 3, supra) create an even more compelling need to review alternatives to the Extended Power Uprate in rigorous detail.

Demand information provided by the DEIS in connection with the need for the uprate is inaccurate and inconsistent with Minnesota Rules 7849.7030 which provides, "The commissioner [of the Department of Commerce] shall be responsible for the completeness and accuracy of all information in the environmental report." It appears to be a cut-and-paste from some other document, reflecting inapplicable circumstances. An excerpt is provided herein:

> The only information reviewed for this document regarding the feasibility of DSM is that information provided by Xcel Energy in its Certificate of Need Application, dated May 16, 2008. Xcel Energy concludes in its application that DSM is not a feasible alternative to the proposed project.
>
> According to Xcel, the demand for electrical power will continue to grow at an average rate of 2.6 percent per year or an average of an additional 240 MW for the Xcel Energy service area each year. . . Also, Xcel maintains that the additional power will be required in the summer of 2005. It is not practical to expect that the results of the program can be doubled or tripled in less than a year, the time remaining after the result of the Commission's Need decision. (*DEIS, Ch. 1, p. 25*)

16-17

A corrected analysis of potential alternatives to the nuclear power uprate in the Final EIS would begin with assertions of demand in Xcel's Application in this proceeding, which claims a 1.1 percent per year demand growth or an average of 133 MW per year. (*Application, 1-6, 1-7, 9-4*). The updated analysis would then examine more recent evidence of decline in demand in Xcel's SEC filings, February 9, 2009 Resource Plan Update and contemporaneous communications to the media. These sources identify a potential decline in electric demand through 2012 of at least 374 MW and potentially as much as 500 MW, as compared with the data in Xcel's Application. (*see Section 3, supra, pp. 9-10*).

Reviewing the projected energy deficits in Xcel's Application in light of this current information on energy demand, the urgency of the uprate disappears. The 2012 "deficit" of 228 MW projected by Xcel (*Application, Table 9-1, p. 9-5*) is more than met by the actual decline in Xcel's peak energy demand. Even if no other new resources are brought on line, Xcel will have a surplus of energy through at least 2012, providing ample time to consider energy alternatives that are more consistent with Minnesota energy policies.

7. Feasible Alternatives to Increased Non-Renewable Nuclear Generation

The DEIS discusses Xcel's proposed nuclear power uprate as if in a vacuum. Neither adverse environmental and health consequences nor economic externalities are considered. State energy policies favoring other alternatives are similarly ignored.

Xcel's proposed nuclear power uprate would require a higher thermal power level, more steam being produced by steam generators, more uranium loaded into the reactor core to

Responses

Comment 16-17

See response to Comments 15-1 and 15-3 which addresses the same concerns (updated DSM achievement, updated demand).

The comment confuses capacity [measured in megawatts (MW)] with energy [measured in megawatt-hours (MWh)]. With baseload power plants, such as the PINGP, issues of peak capacity (demand measured at the highest-use moment each year) are not the determining factor. Baseload power plants are constructed to provide energy on an "around the clock" basis. Therefore, the utility's load shape (demand considered chronologically) and existing fleet of power plants are the important factors. A utility could have sufficient resources to meet peak capacity and yet still have a need for baseload energy depending upon the load shape and the existing power plants.

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maintain the same fuel cycle length, larger diameter fuel pellets and fuel assemblies that would operate at higher temperatures than current Prairie Island Nuclear Generating Plant fuel assemblies. (*DEIS, Ch. 1, pp. 2, 4*). As a result the uprate would require major modifications including: upgrade high-pressure turbines, replace or rewind main generators, replace generator step-up transformers, replace moisture separator reheaters, upgrade isophase bus duct cooling. (*DEIS, Ch. 1, p. 2*). Although the Nuclear Regulatory Commission ("NRC") will analyze whether the uprate temperatures and pressures and the new fuel design are safe, no such analysis has yet been completed. (*DEIS, Ch. 1, p. 4*)

Even if the new uprate designs meet NRC safety requirements, the uprate would proportionately increase radionuclide releases from the Prairie Island Nuclear Generating Plant by at least 10 percent. (*DEIS, Ch. 1, p. 81*). The DEIS notes that this impact on exposure to members of the public would be most noticeable at times of refueling and maintenance, when the primary reactor system is opened:

> [D]uring refueling and maintenance operations, when the primary reactor system is open to the building atmosphere, small quantities of noble gases, halogens, tritium, and particulates are removed by the ventilation systems. . . Xcel Energy projects that the concentration of radionuclides in the gaseous radioactive effluents streams would, at most, increase linearly with power as a result of the proposed uprate, i.e., by approximately 10 percent. (*DEIS, Ch. 1, p. 81*)

16-18 The DEIS contains no independent analysis to evaluate whether radioactive releases would increase linearly or by some other function as heat and pressure increase. Further, while the DEIS emphasizes that radiological doses will be within federal regulations, this conclusion is insufficient to assess cumulative impacts on human health risks (*see Section 9, infra*) and insufficient for a policy analysis of feasible and prudent alternatives to an energy project.

16-19 In conducting a policy analysis of energy alternatives to a coal plant, for example, the ability of the plant to comply with regulations is assumed. Calculation of environmental externalities assists decision-makers in determining whether a project that might be legally permitted is, in fact, in the public interest. The DEIS adopts without any independent analysis Xcel's misleading present value of revenue requirements analysis. (*DEIS, Ch. 1, p. 30*). Xcel's arguably self-serving PVRR includes no externalities for the uranium fuel cycle, no externalities for emissions or waste resulting from nuclear power uprate and no alternatives based on demand side management, renewable energy or the repowering of coal plants with natural gas to reduce emissions.

16-20 The statement in the DEIS that replacing any of the energy provided by the nuclear power uprate with natural gas will increase carbon emissions and impact Xcel's ability to meet legislated carbon initiatives (*DEIS, Ch. 1, pp. 44-45*) is inaccurate. As the State's experience with the Metro Emissions Reduction Project (*MPUC, Docket No. E-002/M-02-633*) demonstrates, repowering of coal-fired units with natural gas substantially reduces carbon dioxide emissions, among other adverse impacts, while increasing dispatchable generation. Similarly, statements in the DEIS that purchased power is not a viable alternative due to the lack of transmission and generating capacity (*DEIS, Ch. 1, pp. 26, 43*) are obsolete, if they

Responses

Comment 16-18
OES energy facility permitting staff consider the assumption that radioactive emissions will increase linearly with the proposed power uprate to be appropriate.

The EIS estimates potential radiological exposures, doses, and health risks in Chapters 1 and 2. These potential radiological impacts are discussed independent of whether they fall within federal regulations. That is, even if the impacts fall within federal regulations, they are discussed and examined as potential public health risks (e.g., risk of cancer incidence, number of cancer incidences). Tables have been added to assist in visualizing cumulative impacts to plant personnel and the general public (Chapter 1, Table 4-10; Chapter 2, Table 5A-2).

Comment 16-19
The OES-ERP analysis in direct testimony includes calculation of the economic benefits and costs of continued operation of PINGP, including (nuclear and other) externality values that include values for the health and environmental impacts. The costs of long-term storage are discussed above and in OES-ERP rebuttal testimony. The analysis demonstrates that every feasible alternative: 1) relies more on coal-generated electricity; 2) produces more of every pollutant monitored; and 3) costs more.

The OES-ERP's analysis used the externality values and carbon regulation cost estimate established by the Commission in conjunction with other external factors--in this case nuclear externalities. The Commission's externality values and carbon regulation cost estimate along with the OES-ERP's nuclear externality value were applied to electricity generation in a manner consistent with the statute.

Comment 16-20
The referenced EIS statement (Chapter 1, pages 44-45) refers to replacing the proposed 164 MW EPU with a new natural gas facility on a one for one basis and does not include the elimination of an additional fossil-fuel facility.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

were ever accurate. Approval of the CapX 2020 Brookings Project will permit Xcel to purchase new generation capacity, including renewable generation, to meet future energy demands.

16-21 The Final EIS pertaining to the uprate should not only reevaluate the need for an additional 164 MW of nuclear energy based on current electric demand information. The Final DEIS should analyze the cumulative impacts of the proposed uprate and externalities of increased reliance on nuclear generation.

16-22 The Final EIS should evaluate whether the proposed uprate is consistent with Minnesota certificate of need preferences for demand side management and renewable energy (*Minn. Stat. § 216B.243, Subd. 3 and Subd. 3a*) as opposed to the non-renewable nuclear generation proposed in the uprate. The Final EIS should provide a detailed analysis of alternatives to the uprate focused upon smart grid demand management and renewable generation. This analysis should evaluate backing up wind power with distributed generation or purchased power as well as the most economical back-up with natural gas in order to provide robust alternatives to the uprate reflecting Minnesota law, policy and public interests.

8. Mitigation of Non-Radiological Impacts of Uprate

Mitigation of the non-radiological impacts of the proposed uprate is a matter wholly within State jurisdiction. There will be no NRC evaluation of thermal impacts of the uprate on aquatic organisms or ice on Lake Pepin.

Given the clear articulation of concerns regarding thermal impacts of the uprate by the Minnesota Department of Natural Resources ("MDNR") (*Scoping Comments letter of M. Langan, MDNR Division of Ecological Resources 10/7/08 "MDNR Scoping Comments"*), it is puzzling to the PINGP Study Group that the DEIS both accepted the Applicant's claims regarding the insignificance of the thermal impact virtually verbatim (*Compare Application 8-12 to 8-16 and DEIS, Ch. 1, pp. 48-49*) and failed to consider mitigation specifically requested by the MDNR.

The DEIS' reliance on the Applicant's assertions rather than the expertise of the MDNR within its field of specialization is inconsistent with Minnesota Statutes 116D.03, Subd. 2 (2) which provides that state agencies shall use a "systematic, interdisciplinary approach" in decision-making that may have an impact on the environment and consult "with persons in appropriate fields of specialization so as to ensure that the latest and most authoritative findings will be considered in administrative and regulatory decision-making as quickly and amply as possible."

As excerpted below, the MDNR Scoping Comments proposed an auxiliary dry cooling tower to mitigate thermal impacts if the uprate were to be approved in order to reduce mortality of aquatic organism and risks to winter recreational users of Lake Pepin:

> Based on the proposed uprate, and increase in rejected heat, DNR requests that Xcel provide companion discussion of expanded cooling tower capacity that addresses the

Responses

Comment 16-21

The EIS describes the incremental impacts arising from the proposed EPU in the context of the existing and ongoing operations at PINGP, including existing permits and monitoring (MPCA, DNR, MDH).

Testimony from OES-ERP (Rakow, Davis, Ham) include information on externalities associated with nuclear generation and the potential alternatives.

Chapter 16-22

The issues of whether the proposed EPU is consistent with Minnesota Statute 216B.243, Subd. 3 and Subd. 3a are more appropriately reviewed by and ultimately determined by the OES-ERP and the Commission, respectively. The reader is directed to the testimony from OES-ERP (Rakow, Davis, Ham) in these dockets.

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additional increment of thermal load to the river. The 10% increase in rejected heat, and maximum of 3 degrees F. increases at the discharge canal should be process treated through the use of an additional 10% (plus margin of safety) of cooling tower capacity. We suggest that an auxiliary dry cooling tower should be evaluated, which could address this new increment of thermal loading to the river, and eliminate any concerns of impairment to aquatic biota. This type of design would provide the partial cooling necessary during winter operation when the existing wet cooling towers would be subject to severe maintenance issues. This would prevent further deterioration of ice cover on Lake Pepin. A dry tower would also be able to provide backup capacity for those periods of low river flow and high atmospheric temperatures when PINGP is at or approaching an energy emergency.

In order to maintain the established design proportions of cooling capacity to thermal output for PINGP, an additional (10%) of cooling capacity must be included in the uprate design. Without this action, the Exceedances of the 86 degree Fahrenheit summer temperature maximum will increase. While there are permit provisions (with MPCA notification) for these extreme periods and temperature violations, DNR does not want future plant operation to contribute any additional thermal pollution during these periods of high stress with potential mortality for aquatic organisms. . .

The MDNR also has concern with increased thermal loading, during open cycle winter operation, contributing to the loss of fish life from cold shock. . . With an emergency shut down, there is a high degree of certainty that mortality will occur. We noted briefly a minimum of nine cold shock events since 1985, with loss of fish. Our communications with Xcel indicate that dead fish are generally counted within the discharge canal and that river currents do not make it conducive to account for fish that may have died in the river thermal plume. Again, addressing the increased potential for cold shock with an auxiliary tower would eliminate this resource concern. (*MDNR Scoping Comments, p. 2*)

16-23 The PINGP Study Group requests that the Final EIS include a detailed discussion of the mitigation measures proposed by the MDNR above. In addition, the Final EIS should evaluate measures to improve monitoring of fish mortality as a result of PINGP operations, including cold shock. This evaluation should consider methods to locate and count dead fish beyond the PINGP discharge canal.

9. Cumulative and Differential Analysis of Cancer Risk

Information regarding human health risk assessment for cancer as a result of the proposed radioactive waste cask increases, extension of reliance on the Prairie Island Nuclear Generating Plant and uprate increase in temperature and uranium are scattered throughout the DEIS. Although some important information is provided, it is neither complete nor assembled in such a way as to permit decision-makers to review the cumulative impacts of the Applicant's proposals on either workers or members of the public exposed to radiation.

The basic facts pertaining to the Prairie Island Nuclear Generating Plant and cancer are relatively clear-cut. High doses of radiation delivered in a short period of time, as in an atomic

Responses

Comment 16-23

The text in Chapter 1, Section 4.2-*Cold Shock* and Chapter 1, Section 4.11-*Water Discharge Temperature* has been modified to reflect the DNR's concerns in these areas.

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Responses

bomb explosion or substantial release of radiation in the Chernobyl reactor incident, create substantial and immediate health effects due to irreparable cell death and damage. (*DEIS, Ch. 1, pp. 75-76*). Low-level radiation causes cancer, and the risk of cancer from low-level radiation is expressed as a probability. The best scientific evidence, cited in the DEIS, is that the relationship between dose and risk for low-level radiation exposure is linear, even at very low doses. "There is no *de minimis* does for which risks need not be considered; all doses present some level of risk." (*DEIS, Ch. 1, p. 18*).

Licensed activities utilizing radioactive materials require that licensees must achieve doses to workers and the general public that are as low as reasonably achievable (ALARA). (*Minn. R. 4731.2020*) External and internal doses of radiation should be summed for most occupational exposures. (*Minn. R. 4731.2030*). Minnesota law recognizes the vulnerability of the embryo/fetus to radiation. The dose to an embryo/fetus is the sum of the dose equivalent to the pregnant woman and the dose equivalent to the embryo/fetus from radionuclides in the embryo/fetus and radionuclides in the pregnant woman. (*Minn. R. 4731.2080*).

Minnesota rules and policies provide numeric guidance for carcinogenic risks (e.g. chemicals in groundwater or air) to which Minnesota citizens are involuntarily exposed. (*Minn. R. 4717.7100, Minn. R. 4717.8000*). These risks are considered in permit applications for air and water discharge and to determine the scope of voluntary actions to remediate pollution. Where a proposed action will result in carcinogenic exposure through more than one medium or chemical, these risks are cumulated in health risk assessment. (*Minn. R. 4717.7700, Minn. R. 4717.8550*). As stated in the DEIS, citing Minnesota Rules, the "acceptable level for additional lifetime carcinogenic risk" from contaminants is 1 in 100,000 (1 E-05)." (*DEIS, Ch. 1, p. 77, Minn. R. 4717.7300, Minn. R. 4717.8050, Subp. 3*).

Research cited by the DEIS demonstrates that there is an elevated risk of childhood cancer near nuclear facilities. As concluded in the *Archives of Environmental Health* study cited in the DEIS,

> Numerous reports document elevated cancer rates among children living near nuclear facilities in various nations. Little research has examined U.S. rates near the nation's 103 operating reactors. This study determined that cancer incidence for children < 10 yr of age who live within 30 mi (48 km) of each of 14 nuclear plants in the eastern United States (49 counties with a population > 16.8 million) exceeds the national average. The excess 12.4% risk suggests that 1 in 9 cancers among children who reside near nuclear reactors is linked to radioactive emissions. If cancer incidence in 5 western states is used as a baseline, the ratio is closer to 1 in 5. Incidence is particularly elevated for leukemia. Childhood cancer mortality exceeds the national average in 7 of the 14 study areas. (*Elevated Childhood Cancer Incidence Proximate to U.S. Nuclear Power Plants, Archives of Env. Health, 2/1/2003, cited in DEIS, Ch. 1, p. 85, fn. 58*)

16-24 Cancer studies conducted by the Minnesota Department of Health from 1988-1992 in a large 10-county region and from 1988-1996, using the entire 764 square mile Goodhue County area as a data base (*DEIS, Ch. 1, pp. 85-88*), do not provide sufficient information to evaluate the

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16-24

degree to which the Prairie Island Nuclear Generating Plant may or may not be increasing cancer rates. MDH studies may have been performed too soon to identify long-term effects. More important, the breadth of the geographic areas studied precludes analysis of effects near the source of low-level radiation. The MHD information cited by the DEIS adds little to the analysis of the potential health risks of Xcel's nuclear proposals. It does not relieve state agencies from the obligation to evaluate cumulative cancer health risks from an increase in casks storing nuclear spent fuel for the indefinite future, the long term extension of PINGP operations, and the increase in heat and uranium use for a proposed nuclear power uprate.

Even the incomplete information provided by the DEIS raises serious concerns about the increased cancer risks from Xcel's proposal to increase cask storage of radioactive waste. Without considering the probability of degradation over time, untoward weather or man-made events, the low-level radiation impacts to members of the public and to PINGP personnel from "skyshine radiation" alone would exceed Minnesota's 1 in 100,000 policy threshold for acceptable lifetime carcinogenic risk.

As noted in the DEIS, the cancer risk to the general public from "skyshine radiation" with 64 nuclear spent fuel casks is 2.8 in 100,000 (*DEIS, Ch. 2, p. 26*). The cancer risk to PINGP personnel from "skyshine radiation" alone is estimated at 98 in 100,000 for 48 casks (*DEIS, Ch. 2, p. 27*). Once the maximum exposure and dose rate occurs, when the 98th cask is placed on the pad at the PINGP, the cancer risk to nearest member of the public is projected to be 35 in 100,000. (*DEIS, Ch. 2, p. 35*). These risk levels to workers and to members of the public are an order of magnitude above what the DEIS has characterized as an "acceptable risk" under Minnesota Rules and policies. (*DEIS, Ch. 1, p. 77*)

The chart below summarizes the information in the DEIS (*DEIS, Ch. 2, pp. 26, 27, 34, 35; Ch. 1, pp. 81, 84*) concerning cancer health risk assessment.

PERSONS EXPOSED	Route of Exposure	Casks	Cancer Risk per 100,000
CASK INCREASE			
GENERAL PUBLIC	"skyshine radiation"	64	2.8
		98	35
PINGP PERSONNEL	"skyshine radiation"	48	98
USUAL OPERATION - PINGP			
GENERAL PUBLIC	Gaseous effluents		0.07
	Groundwater releases		0.28

16-25

It is recommended by the PINGP Study Group that a complete and cumulative assessment of human cancer risks be performed and set forth clearly in the Final EIS. A cumulative assessment of human cancer risks from the proposed cask increase and continued operation of PINGP would analyze at least the following risks of exposure to PINGP personnel and the public: risks from maintenance and repair of storage casks; releases from casks due to

Responses

Comment 16-24

Cancer studies conducted by the Minnesota Department of Health (MDH) are discussed in the EIS. These studies were not conducted to determine whether cancer risks were higher because of Minnesota's nuclear power plants. Rather these studies were conducted to respond to (1) allegations that breast cancer mortality rates were elevated in ten specific counties that are proximate to either the Prairie Island or the Monticello nuclear plants, and (2) public concerns about cancer rates in Goodhue County or the city of Red Wing. The MDH studies were conducted to determine if cancer risks were higher in these specific areas, independent of the cause of such risks.

The use of a ten-county region to examine cancer risks would preclude identifying an increased cancer risk related to close proximity (as a surrogate for exposure) to nuclear power plants. A very different study design would be required and there would be an insufficient number of cases to conduct such a study in Minnesota (see response to Comment 17-11, which also discusses this limitation). With respect to whether cancer studies may have been performed too soon to identify long-term effects, this is a valid concern for studies attempting to link radiation exposure and cancer risks. It is well established that increased cancer risks typically do not become apparent until 15-30 or more years after the start of exposure to a cancer-causing agent (radiation, cigarette smoke, asbestos, etc). This period is referred to as the "latency" period. Leukemias and thyroid cancers, especially in children, however, appear to have a much shorter latency period. Minnesota's nuclear power plants came into operation in 1971 and 1973, so latency would not be a limitation on a study attempting to link radiation exposures to cancer risks. Study design and sample size would be limitations on such a study.

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16-25

degradation of materials, weather events, and man-made accidents or incidents over the indefinite period of time during which the casks would remain at the PINGP site; risks from continued operations of the PINGP including regular gaseous effluents, releases during maintenance and refueling, groundwater releases and food contamination; and some risk factor reflecting the potential of man-made accidents or incidents to increase radioactive releases from plant operations to air or groundwater. In addition, a cumulative assessment of the risks from Xcel's nuclear proposals would estimate the increased cancer risk to PINGP personnel and the general public from additional predictable releases from the proposed uprate and any increased risks of untoward releases that may result from the changes in reactor design.

In order to permit decision-makers to evaluate costs and risks of the proposed nuclear projects, the assessment should explain cumulative risks to both PINGP personnel and the nearest members of the general public if either or both the cask increase and the uprate are authorized. These risks should be expressed in terms of the 1 in 100,000 risk factor, which represents the upward bound of acceptable risk under Minnesota law. Increased lifetime cancer risks to members of the public should be identified for an embryo, fetus or child as well as for an adult.

16-26

In addition to requesting a comprehensive assessment of human cancer risks, the PINGP Study Group would repeat the requests made by the Advisory Task Force that the Final EIS identify best practices for radiological monitoring, including continuous monitoring of releases to air and groundwater, identification of dispersion plumes of radioactive isotopes and analysis of tritium contamination of wells. (*See ATF Summary, Meeting #3, p. 3, EIS Scoping Worksheet, p, 5*). For however long the Prairie Island Nuclear Generating Plant continues to operate and no matter how many casks of nuclear wastes are allowed on site, communities near the nuclear plant are entitled to the best available technology for monitoring radioactive releases that may affect their health.

Conclusion

Xcel's proposals to more than double cask storage of highly radioactive nuclear waste, extend operations of the Prairie Island Nuclear Generating Plan through 2034 and increase temperature, steam pressure and uranium usage for a 164 MW nuclear power uprate create the potential for significant adverse environmental and human health impacts and substantial economic costs and externalities. These proposals may conflict with Minnesota laws and policies regarding conservation, renewable energy, environmental justice and protection from unacceptable cancer health risks. New information undermining the likelihood that a federal nuclear waste depository at Yucca Mountain increases the probability that any additional nuclear waste stored at the Prairie Island Nuclear Generating Plant will be stranded there indefinitely. New data regarding declines in demand for electricity by Xcel Energy customers as well as recent approvals for transmission to support renewable generation capacity underscore the need for a robust analysis of alternatives to Xcel's nuclear proposals to determine if there are alternatives which are more consistent with State policies and the public interest.

Responses

Comment 16-25
The EIS discusses and estimates potential radiological health risks to plant personnel and the general public from the proposed power uprate and expansion of dry cask storage. This discussion is "cumulative" in that it examines radiological risks and impacts from, as best can be determined, all known and potential exposure pathways. Tables have been added to assist in visualizing cumulative impacts to plant personnel and the general public (Chapter 1, Table 4-10; Chapter 2, Table 5A-2). The discussion and tables express potential radiological health risks (risk of cancer incidence) in an "X by 100,000" format.

Text has been added in Chapter 1, Section 4.13 to discuss radiological risks for subsets of the general public, e.g., children.

Comment 16-26
Xcel Energy undertakes monitoring for radionuclide emissions at the PINGP to satisfy NRC requirements. Xcel's equipment and protocols are designed to provide monitoring that meets NRC standards. Accordingly, the appropriateness of monitoring technology and protocols used by Xcel Energy is a consideration for the NRC and outside the scope of this EIS (see Chapter 1, Appendix A).

The Minnesota Department of Health (MDH) conducts an independent monitoring program to identify and quantify longer-lived radionuclides (e.g., Cesium-137, Cobalt-60) and to verify, if not replace, calculation of doses with empirical data obtained using radiation monitors, air sampling equipment, and sampling methods. In some instances, Xcel Energy and MDH monitoring efforts overlap (e.g., the air sampler at Lock and Dam #3, water sampling at Lock and Dam #3). The appropriateness of the MDH program is a consideration for the State of Minnesota.

MDH believes its current monitoring program for the PINGP is reliable, accurate, and appropriate, given the level of resources available for the program. The only advanced technology available not currently employed by MDH would be air sampling technology that provided real-time data. Although the advanced technology would indicate the date and time of any measured emission, it does not provide any additional environmental information than the continuous air samplers employed by the MDH and Xcel Energy. Each real time unit costs approximately $70,000 as compared to $3,000 for the air samplers that are currently deployed around the plant and, as stated, afford no additional advantage.

Commenter 16 - PINGP Study Group (via Paula Maccabee)

The Prairie Island Nuclear Generating Plant DEIS contains substantial gaps that would prevent its compliance with applicable laws pertaining to environmental review and prevent it from serving to assist decision-makers in reviewing alternatives and mitigation measures that would protect the environment, reflect environmental justice and preserve human health. The PINGP Study Group respectfully requests that the additional analysis described in these comments be included in the Final DEIS for these projects to comply with law, aid decision-making and protect the public interest.

Sincerely yours,

Paula G. Maccabee
Counsel for the PINGP Study Group

Responses

Comment 16-26 (continued)
Procedures have been developed to perform real-time and in situ measurements for water velocities, discharge, temperature, dissolved oxygen, chlorophyll, turbidity, pH, and nitrate concentrations in lakes and rivers. However, there is no technology that can be used to measure real-time tritium levels in water bodies. The standard for analyzing tritium concentrations in water remains the periodic collection of samples.

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May 8, 2009

William Cole Storm, Project Manager
Office of Energy Security
85 - 7th Place East, Suite 500
St. Paul, MN 55101-2198

Ref: Environmental Impact Statement - XCEL Energy Prairie Island Nuclear Generating Plant Extended Power Uprate Project, PUC Docket No. E002/CN-08-509, and Need for additional Dry Cask Storage, PUC Docket No. E002/CN-08-510.

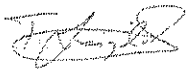
Dear Mr. Storm:

This letter is in response to a request from citizens of the Goodhue and Wabasha Counties who cited concerns about public health and environmental impact of the proposed increase of generating capacity and storage of spent fuel on the Mississippi floodplain.

The Saint Anthony Falls Laboratory, University of Minnesota, has an international reputation and 70 years of experience in designing state of the art water quantity and quality monitoring systems. Our most recent technologies include in situ real-time measurements in aquatic environments with wireless data transfer and assessment over the Internet. The real-time data assessment is crucial in quantifying the impact of the range of emissions of power plants in the environment. The new technology provides data transparency and can be made readily available to the public, policy makers, and plant operators.

Our laboratory will be happy to take the lead in this interesting initiative. In addition to designing the monitoring system, we will be able to transfer the technology to the State agencies involved in this project as well as provide training to the personnel who may be engaged in data interpretation.

Sincerely,



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Responses

Commenter 17- Prairie Island Indian Community

Prairie Island Indian Community
Legal Department

May 8, 2009

William C. Storm, Project Manager
Minnesota Department of Commerce
85 7th Place East, Suite 500
Saint Paul, Minnesota 55101-2198

Re: Comments on the draft EIS for PUC Docket E002/CN-08-509 (Extended Power Uprate) and PUC Docket E002/GS-08-690 (Site Permit Application)

Dear Mr. Storm:

The Prairie Island Indian Community ("Community" or "Tribe") would like to offer the following comments regarding the draft Environmental Impact Statement (EIS) prepared by the Minnesota Department of Commerce, Office of Energy Security (OES), for the above-referenced PUC dockets. At this time we are providing comments on the draft EIS for the extended power uprate docket (PUC No. E002/CN08-509, E002/GS-08-690).

The Community is limiting its EIS comments to the uprate and site permit dockets. By consolidating the dry cask storage and uprate dockets, Xcel Energy has placed the Prairie Island Indian Community in an untenable position. Although treated separately in the draft EIS, the Community finds it difficult to separate cumulative and integrated health and safety concerns, including cumulative and integrated and environmental and health impacts, that could be related to either the uprate or the expansion of dry cask storage, such as increased radiation.

Proceeding is Premature

17-1 We remain concerned that the uprate CON and site permit applications are premature. As you are aware, Xcel Energy submitted its license renewal application to the NRC in April of 2008. The license renewal application contains two elements, the safety Analysis Report (SAR) and the Environmental Report (ER), which forms the basis of the NRC's supplemental EIS (SEIS). In fact, the NRC is currently in the process of developing the draft SEIS; a draft SEIS is expected by June 11, 2009. The NRC's draft

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Thank you for your comment. It has been noted and included in the record for this EIS.

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Safety Evaluation Report (SER), which is an engineering analysis of the PINGP, will be issued June 7, 2009; a final SER is expected October 22, 2009.

17-1

As was correctly stated in the draft EIS, the NRC will be completing a detailed evaluation of environmental impacts, health and safety impacts, and mitigation options for the license extension review. Furthermore, the draft EIS states that the NRC has "sole regulatory authority" over radiation and safety issues of continued plant operation. Since the NRC's review and SEIS and SER are not expected to be final until November 2009, we maintain that it is prudent to complete the State EIS and CON process after the NRC has completed its environmental, health, and safety (which includes aging management) reviews.

According to the Minnesota rules, in order for the Commission to grant the Certificate of Need for the proposed extended power uprate, the Commission must determine, among other things, that the extended power uprate "will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments, including human health." The draft EIS, however, lacks the critical and essential analysis and review of the NRC that the OES acknowledges is with the "sole regulatory authority" of the NRC. How can the Commission make a determination that the proposed power uprate "will provide benefits to society in a manner compatible with protecting the natural and socioeconomic environments, including human health," without the NRC's analysis of the environmental, health and safety impacts?

Final approval from the NRC, for license extension, could come between April/May 2010 and November/December 2010, depending on whether there is a hearing. It should be noted that the Prairie Island Community has been admitted as a party to the licensing proceedings. In December 2008, the Atomic Safety and Licensing Board panel ruled that the Prairie Island Indian Community had identified seven issues (contentions) with Xcel's ER and/or SAR that required further information and analysis. Of the seven issues, two environmental and one safety have been addressed by Xcel. There are still three safety-related contentions to be addressed by Xcel.

There is an underlying presumption in the EIS that the LRA will be approved. As stated above, the Prairie Island Indian Community has successfully intervened in the NRC proceeding and has requested a hearing. We believe that the State proceeding should wait until the NRC has completed its process to evaluate whether the PINGP can operate safely for another twenty years. This is even more important as the ER submitted to the NRC, as part of the license renewal application, contained no information about the environmental impacts of the uprate. The SAR contains some information about the uprate. The Community believes that the environmental impacts from the uprate must be fully evaluated by the NRC before the application moves forward at the state-level.

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If the NRC approves the license renewal for the PINGP, the earliest date for approval would be February 15, 2010 (no hearing) or October 15, 2010 (hearing). According to the draft EIS, Xcel plans to submit its license amendment for the uprate in 2010.

We are concerned that approval of the uprate CON will be used as leverage to support the NRC license amendment request.

As we stated in our scoping comments, we wonder which state agency will do an engineering analysis to determine if the plant can handle the increased heat load resulting from the uprate. The state is being asked to approve the uprate before the NRC has determined that the plant can safely operated for an additional 20 years, at the current power level, let alone at an extended power uprate.

EIS is Inadequate

Too much of the information in the EIS is copied verbatim from either Xcel's Certificate of Need (CON) application to the Public Utility Commission (PUC) or its Environmental Report (ER) submitted to the NRC as part of its License Renewal Application.

According to the EIS scoping Decision, "the EIS will verify, summarize, supplement and/or incorporate by reference existing information as outlined in the Scoping EAW ad OES Treatment of Scoping Comments." We understand that there is a large body of existing information available that helps to support the State's EIS. We believe that existing data sources should have been summarized (not copied) and properly referenced. The fact that so much of the draft EIS is copied from the Applicant's sources (ER and/or CON application) casts doubt on the State's conclusions regarding unavoidable impacts from the uprate.

17-2

This draft EIS is also misleading to members of the public who have expectations about the independence and objectivity of the State's environmental review. There are too few references. There are some footnotes used, but not always and often not until the end of several paragraphs. There are even references in parentheses that were carried over from the copied sections (from the ER) that should have been removed. It seems that the draft EIS, like this proceeding, has been rushed.

Many of the conclusions made in the draft EIS are the same conclusions made by Xcel in their ER or CON application. Statements made regarding conducted studies mislead the reader into thinking that the studies were conducted by the State, when in fact they were conducted by Xcel and is stated so in the ER or CON application.

There are no consultation or concurrence letters in the draft EIS from other state agencies, such as the Minnesota Pollution Control Agency (MPCA) or the MN Department of Natural Resources (MDNR). There are conclusions made about thermal

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Comment 17-2

Thank you for your comment. It has been noted and included in the record for this EIS.

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impacts or impacts to mussels, but no supporting documentation from the agencies with expertise.

This draft EIS does not meet the requirements of Minnesota Rules 7849.5300 (EIS Preparation) or Minnesota Statutes 116D.04 (Environmental Impact Statements). This draft EIS should either be scrapped altogether or significantly revised to reflect true authorship and independent analysis. For example, where the draft EIS copies or substantially restates the statements or analysis provided by Applicant in its ER or CON application, such statements and analysis should include the introductory clause, "According to the Applicant," or other similar phrase. Likewise, the draft EIS should also clarify which portions of the draft EIS contain no independent review or analysis, such as, for example, "The OES relies on the statements and analysis provided by Applicant and has made no independent review or analysis."

Advisory Task Force

17-3 The Advisory Task Force (ATF), comprised of representatives from the Prairie Island Indian Community, the City of Red Wing, Lake City, Florence Township, and the public met three times during the fall of 2008. The ATF developed an exhaustive set of scoping recommendations, many of which have been ignored. The Community incorporates by reference the comments submitted by the Prairie Island Nuclear Generating Plant Study Group regarding this docket.

Prairie Island Indian Community

17-4 The draft EIS still contains inaccurate information about our community (land holdings, populations), because it relies on incorrect information from Xcel's 2008 ER submitted to the NRC. As we stated in our scoping comments, the tribe's land holdings total over 3,000 acres (land and water).

As we stated in our scoping comments, the CON application discusses land use planning for Goodhue and Dakota counties (MN) and Pierce County, Wisconsin, but makes no mention of the Prairie Island Indian Community. The draft EIS makes no mention of the tribe's land use-planning activities.

Section 4.6 of the draft EIS (Demographics) makes no mention of the Prairie Island Indian Community, even though we are right next door. Other population centers are mentioned (i.e., Red Wing); 250 members of the Prairie Island Indian Community reside within 3 miles of the PINGP.

Demand Decline and Alternatives

17-5 The alternative analysis (Section 3.0) does not adequately discuss the effect State's wind energy mandate of 2600 MW by 2020. The result of the 2020 wind mandate, 2600 MW,

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Comment 17-3
Thank you for your comment. It has been noted and included in the record for this EIS. See reponses to Commenter 16 (PINGP Study Group).

Comment 17-4
Text in Chapter 1, Section 4.6 has been modified and supplemented to incorporate additional information on the PIIC.

Comment 17-5
See response to Comment 15-1 which addresses the same concerns (DSM achievment, projected demand). Analysis by the Office of Energy Security, Energy Regulation and Planning (OES-ERP) unit has analyzed alternatives to the EPU under a number of scenarios, inlcuding a no-demand growth scenario. Analysis by OES-ERP indicates that the proposed EPU is the least-cost alternative.

Whether increased DSM achievement is not practical or "unreasonably risky" as an alternative to the EPU is ultimately a consideration for the Minnesota Public Utilities Commission.

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is greater that two PINGP's (at current level of 1044 MW's).

The Next Generation Energy Act mandates a statewide goal of 1.5 percent annual energy savings. There is no information regarding Xcel's total energy portfolio and what effect a 1.5 percent energy savings would have on that total portfolio (i.e., total number of MW's) and how it relates to the 164 MW uprate application.

Furthermore, the conclusion reached on page 24 of the draft EIS, stating that it may be "unreasonably risky to rely on increased DSM in order to replace the energy and capacity from the PINGP EPU project" is Xcel's conclusion, not the State's (CON page 4-9).

17-5

Section 3.2 (DSM) is concluded with the statement that "it would not be practical to expect the results of the [DSM] program to be doubled or tripled in less than a year, the time remaining after the result of the Commission's Need decision." Why is this so? Does a Need decision have an expiration date? Xcel is choosing to submit its license amendment in 2010; we should not forgo an exhaustive review of alternatives to meet Xcel's timetable.

In addition, the analysis of potential alternatives to the extended power uprate in the final EIS should include actual and anticipated decline in demand reflected in Xcel's SEC filings, February 9, 2009 Resource Plan Update, and communications with the media. These sources project a decrease in demand through 2012 of at least 374 MW and as much as 500 MW as compared to Xcel's Application. The final EIS should independently and objectively review the need for the proposed power uprate and the available alternatives.

The Community also incorporates by reference Sections 6 and 7 of the Comments of the PINGP Study Group.

Environmental and Health Concerns

As set forth above, much of the information, including some conclusions, in the draft EIS is copied either from either Xcel's CON application to the PUC or its ER submitted to the NRC as part of its License Renewal Application. We remain concerned that there has been very little independent or objective analysis of the important environmental issues.

Thermal impacts

As we stated in our EIS scoping comments, the state must conduct thorough evaluation of thermal impacts to the Mississippi River resulting from the increased temperature of the circulating water discharge. There have been studies (in the early 1980's) that demonstrate that the surface waters of the river actually flow back upstream (back to Sturgeon Lake) when winds are out of the S, SE, SW, E or W (varying with the speed of the wind) – instead of distributing and disbursing water discharged from PINGP

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downstream, it would actually be pushed back upstream. This would certainly impact not only the thermal pollution but also the radiological effluents from the PINGP.

The Applicant constructed a discharge channel in the 1980s. How has the discharge channel affected, if at all, the thermal discharge? The PINGP continues to discharge thermal and radioactive effluent into the Mississippi River *above* Lock and Dam No. 3. However, according to the National Pollutant Discharge Elimination System (NPDES) and State Disposal System (SDS) Permit MN00004006, PINGP's heat discharge or thermal load to the river is limited by mixed river temperature ***immediately below*** Lock and Dam No. 3. The Community continues to question the effectiveness and logic of a monitoring scheme that does not adequately monitor and assess the thermal impacts above Lock and Dam No. 3. The draft EIS makes no effort to examine much less evaluate the sufficiency of the existing monitoring equipment and methodologies. Knowing that the uprate will increase the thermal and radioactive effluent, the EIS should include a comprehensive review and analysis of the monitoring equipment and methodologies to ensure Applicant's use of the best available technology for monitoring and its ongoing compliance with its permit.

17-6

As we noted in our scoping comments, the US Army Corps of Engineers (St. Paul District) is also contemplating a draw-down of Pool 3 (Sturgeon Lake) to improve habitat conditions. This ecosystem restoration project would target goals to improve water quality, emergent and submersed aquatic plants, and fish and wildlife. The effects of the uprate, relative to increased withdrawals, a drawdown of Pool 3, increased thermal discharges and its effects on aquatic life were not evaluated in the draft EIS and should be included in the final EIS.

Information about increased water appropriations and consumption by the PINGP is identical to Xcel's CON application. The conclusion in the draft EIS that "the EPU will slightly increase the temperature of the circulating water discharged to the Mississippi River (3°F maximum)" can be found on page 8-6 of the CON application. Why is there no concurrence from the MPCA, the agency with the regulatory authority? We would like to see a letter from the MPCA that includes an independent verification of the temperature increase and assurances that the 3°F increase will not have an adverse impact on aquatic life.

The Community also incorporates by reference Section 8 of the Comments of the PINGP Study Group.

Threatened and Endangered Species

17-7

In our EIS scoping comments, we stated our concerns about impacts to the Higgins eye pearlymussel (*Lampsilis higginsii*), an endangered species listed by both the USFWS and the MN Department of Natural Resources (MN DNR), from both the increase in water withdrawals and thermal impacts. As stated above, there have been studies that

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Comment 17-6
Comments received during both the scoping process and the EIS review process from the DNR and the MPCA are contained within the public record for this docket. Certain portions of the EIS text have been modified to incorporate the concerns of these agencies (see response to Commenters 19 and 20).

The text in Chapter 1, Section 2.4-*Water Level Management Task Force* has been modified to reflect the interest in this subject.

Comment 17-7
The DNR has been directly involved with the negotiations and consultations for the licensing, permitting and general operating procedures of the PINGP. The DNR has coordinated with Xcel, MPCA, WDNR and other interested parties in matters relating to the operation of the PINGP. The required monitoring (biological, physical and water chemistry) has been conducted to provide assurance that any impairment to aquatic biota of the river is avoided or reduced to the lowest practical level.

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17-7 demonstrated that the surface waters of the river actually flow back upstream (back to Sturgeon Lake) when winds are out of the S, SE, SW, E or W. The Higgins eye restoration site is only 0.5 miles upstream of the PINGP's intake. The final EIS should evaluate whether increased thermal discharges impacts the survival of the Higgins eye.

With regard to possible entrainment, the draft EIS states, "It is conceivable that some larval *higginsii* will be carried downstream into the power plant's intake screenhouse. It should be noted, however, that mortality rate of early life stages of mussels is very high under the best of circumstances, and glochidia that do not attach to fish hosts soon after being released have a very low probability of survival." This statement was made by Xcel in the ER and there is no footnote or reference indicating that this conclusion was made by the applicant, not the State. There is no concurrence from the MN DNR indicating that they agree that there will be no impacts to the Higgins eye from the thermal discharge or increased water use resulting from the uprate.

Radiological Concerns

As the closest neighbors to the PINGP, the Prairie Island Indian Community is concerned about health impacts from radiological releases.

17-8 The discussion in the draft EIS about exposure pathways and the State's and Xcel's monitoring efforts fails to adequately address the need to use best available technology to monitor releases, verify exposure pathways, and calculate accurate dose levels to ensure that doses to the workers and the general public are as low as reasonably achievable.

17-9 There is nothing in the draft EIS, moreover, about the unique exposure pathways of Community members and potential impacts. Many tribal members consume native plants for traditional purposes (direct consumption, medicines, teas, ceremonies) that are not typically part of Xcel's or the State of Minnesota's monitoring programs. We remain concerned about the increased radiolonuclide releases from the uprate.

17-10 Particularly troubling is the statement on the page 87 that past cancer incidence reports "were not able to address cancer rates in the Prairie Island Indian Community members who reside near the plant." There is no further explanation. To our knowledge, the MN Department of Health has never offered to discuss cancer rates in our community, to study our community, or offer possible explanations as to why past studies and reports were not able to address cancer rates in our community.

17-11 The draft EIS fails to reference, much less discuss, recent studies raising troubling questions about increased rates of childhood cancers for residents in close proximity to nuclear power plants. *See, e.g.*, Direct Testimony of Gregg S. Wilkinson on behalf of the Prairie Island Indian Community and Preliminary Report of Capability of Environmental Radiological Monitoring Data to Support Radioepidemiologic Studies of Leukemia filed on April 22, 2009, and the numerous studies referenced therein which post-date those cited in footnotes 56-65 of the draft EIS. For example, peer-reviewed studies in Germany have reported increased rates of leukemia and childhood cancers for residents who live

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Comment 17-7
As discussed in Chapter 1, Section 4.2-*Higgin Eye Pearly Mussel*, the larvae (glochidia) of the mussel that do not attach to a fish's gills downriver will experience almost immediate mortality regardless of whether they are drawn into the PINGP intake or not. The host fish will be protected from entering the plant by the fine mesh screens that are in place during this time of year in the intake screen house.

Also, see response to Comment 15-9 which addresses the same concern.

Comment 17-8
See response to Comment 16-23 which addresses the same concerns.

Comment 17-9
The PIIC expressed concern, both in scoping comments and through ATF participation, regarding unique exposure pathways that the community may be subject to due to the use of native plants. OES-EFP staff attempted to obtain information on the types and uses of these materials, via telephone discussions with Tribal counsel (Phillip Mahowald), and was informed that that information would most likely be proprietary. In the absence of this specific information, OES-EFP reviewed the MDH Radioactive Materials Unit environmental (milk, air, groundwater, food crops and sediments) monitoring data for summation in the EIS as a surrogate for these items.

Comment 17-10
The Minnesota Department of Health (MDH) analyses of cancer rates in Goodhue County did not and could not address cancer rates specifically in the Prairie Island Indian Community (PIIC). There were several reasons why this could not be done.

(1) The analyses were based primarily on data from the Minnesota Cancer Surveillance System (MCSS). MCSS receives cancer data from hospitals and pathology laboratories. Unfortunately, racial/ethnic information is frequently missing from these records, and particularly information identifying a person's status as an American Indian. In 2003 (several years after the completion of the Goodhue report in 2000), MCSS participated in a project to more completely characterize cancer rates among American Indians through a joint linkage project with the Indian Health Service. The number of American Indians identified in the MCSS database increased by 37% as a result of this linkage.

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17-11

closest to nuclear power plants compared with those who live further away from these facilities. A recent National Institute for Occupational Safety and Health study of nuclear workers reported increased risks for leukemia among workers who had a cumulative whole body dose of at least 3 rem compared with those who had lower cumulative doses. These findings are consistent with many other studies in Europe and the United States in which elevated rates or risks of leukemia and cancers associated with low doses of ionizing radiation or operations at nuclear facilities were reported. The results from these studies and the public health tenet of prevention indicate that a study similar to those previously conducted in Germany and currently being conducted in Switzerland of populations who reside in the vicinity of nuclear power plants should be carried out for residents of Prairie Island and surrounding communities, using latest and best available technology, including genetic epidemiology and genomic profiling differential diagnosis. The radiation and environmental (including human health) monitoring data currently available is not adequate to assess the PINGP impacts on the natural and socioeconomic environments, including human health, with acceptable certainty. Such a study is necessary in order to determine, using the best available technology, whether the proposed Extended Power Uprate at the PINGP provides benefits to society in a manner compatible with protecting the environment, including public health.

Tritium

17-12

The Prairie Island Indian Community remains concerned about tritium releases from the PINGP. Since the late 1980's tritium has been found in the tribe's groundwater. The draft EIS discusses spikes in tritium levels in certain wells and attributes the spikes to "plant operations." The draft EIS further states that the spikes are within EPA standard and are short-lived (short duration). This statement implies that it is okay to contaminate the groundwater, as along as the contamination is lower than the drinking water standard or if the event is short-lived. We do not want tritium or any other radiological contaminant in our groundwater. Instead of dismissing the issue, why not investigate the cause of the problem and require that Xcel address it? Will the proposed power uprate at an aging power plant result in even more planned and unplanned releases of tritium and other radiological contaminants? This issue should be fully addressed in the final EIS.

Tritium is still detected in observation wells on our land. We did not ask for the tritium to enter our groundwater. Community members are still concerned about the health impacts. Even though the Radiological Environmental Monitoring Program (REMP) reports states that the tritium results are far below the EPA drinking water standard of 20,000 pCi/L, the BEIR VII 2006 on radiation health effects state that Linear-No-Threshold standard should apply to chronic low dose exposure for potential cause of cancer and other radiation-induced diseases. This evaluation should be in the final EIS.

Psychological Impacts

17-13

The draft EIS minimizes the psychological impacts associated with living next to a

Responses

Comment 17-10 (continued)
(2) Even with more accurate counts of cancer occurrence among American Indians, cancer rates also require census population data. As with medical records, accuracy and completeness of census data by racial/ethnic categories – including status as an American Indian – is variable. Furthermore, it is ascertained differently (list of choices on a census questionnaire) compared to how this information is ascertained for cancer patients (noted on a medical record, name on an Indian Health Service roster, etc.).

(3) One way to access cancer occurrence in the PIIC directly would be to conduct a linkage study in which a roster of Community members would be compared to the MCSS database to look for matches. That possibility was offered by MCSS staff to the PIIC prior to completion of the Goodhue report but that option was not pursued by the PIIC. Prior to release of the Goodhue report, MDH staff met with PIIC leaders to apprise them of the findings and limitations of the report.

(4) Even had accurate counts of cancer occurrences and census data been available for the PIIC, or a record linkage study had been conducted, the small number of individuals residing near the plant (apparently only about 250) would have resulted in a statistically highly unreliable cancer rate. Thus, while it would have been possible to state quite accurately how many cancers had occurred among the PIIC during some period of time, it would have been very difficult and possibly misleading to compare that rate of occurrence with other Indian populations or with county or statewide rates. Statistically reliable cancer rates typically require data on thousands of individuals.

Comment 17-11
Text in Chapter 1, Section 4.13 has been modified and supplemented to augment the discussion of public health studies which have analyzed cancer risks near nuclear power plants. The EIS notes that there are studies on all sides of the issue, i.e., some studies indicate an elevated risk of cancer near a nuclear facility; some studies indicate no increased risk. The EIS includes discussion of studies conducted by the Minnesota Department of Health on cancer rates near nuclear power plants.

With respect to European studies, a recent study by Kaatsch and colleagues (*International Journal of Cancer, Volume 122, pages 721-726, 2008)* evaluated the incidence of leukemia among children under the age of 5 living in the vicinity of nuclear power plants in western Germany.

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Comment 17-11 (continued)
The study included 593 cases of leukemia living near one of the 16 nuclear power facilities at the time of diagnosis. The time period covered was 1980-2003 (24 years). The investigators found a statistically significant increased risk for all leukemias combined and for acute lymphoblastic leukemia --the most common sub-tupe of childhood leukemia.

This increase in risk occurred within 5 kilometers (3 miles) of nuclear power plants, while a statistically significant decreased risk of leukemia in young children was also found with increasing distance from nuclear power facilities.

These results again raised the question of childhood leukemia rates around nuclear power plants. Many results since the mid-1980s and extensive literature reviews indicate that globally there is no excess risk for children aged 0 -14 near nuclear power facilities. However, there are few results specifically for very young children under the age of 5.

This report was quickly embraced by some groups within Sweden (not Switzerland). However, the Swedish Radiation Safety Authority has not launched additional investigations of childhood cancer risks around nuclear power plants. The concern generated in Sweden over the German study has been combined to be referenced as the "German - Swedish studies" in the popular literature. The German study did not measure or model exposure to ionizing radiation and it did not control for other factors that might increase the risk of leukemia. The only proxy for exposure was the distance from the facility.

In response to the German study, other European investigators recently analyzed data directly comparable to the German data *(Journal of Radiological Protection, Volume 28, pages 201 - 203, 2008)*. Their results were inconsistent with the German findings, but again the only measure of exposure was distance from the facility. No measure of exposure or organ dose of ionizing radiation was available or modeled. The French findings were limited by the small number of cases (114) of leukemia in children under five.

The Minnesota Cancer Surveillance System (MCSS) has been in operation since 1988. Data are currently available through 2007. The MCSS is a high quality statewide registry of all cancers diagnosed in Minnesota residents. The MCSS would be the source of cancer cases for a study attempting to replicate the European analyses. The European studies also employed government run cancer registries for case identification.

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Comment 17-11 (continued)
For the period 1988 – 2007, 9 leukemias of all types were diagnosed (8.7 expected based on statewide rates) in children less than 15 in all of Goodhue County. For children less then 5, six were diagnosed (4.5 expected) in the entire county. A small percentage of the population of Goodhue County lives within 3 miles of the Prairie Island plant. Thus, the number of leukemias diagnosed in young children available for analysis (less then 5) is at least an order of magnitude too small to meaningfully replicate the European studies (the Kaatsch study included 593 leukemias).

Comment 17-12
The EIS discusses tritium concentrations in groundwater in an attempt to characterize tritium concentrations and the potential radiological exposure to the general public from drinking water. This characterization is based on the results of several monitoring programs. The EIS does not condone or otherwise judge tritium concentrations, but rather discusses them in context of federal drinking water standards.

As monitored tritium concentrations are within federal standards, it appears that mitigation related to groundwater and tritium releases from the PINGP is not necessary. This said, the EIS does not recommend permit conditions, but rather provides information on potential impacts and identifies uncertainties to facilitate a thorough consideration of whether or not the proposed project is permittable by the Minnesota Public Utilities Commission and other appropriate state agencies. Whether mitigation is an appropriate permit condition is a determination to be made by these agencies.

The proposed power uprate will increase tritium releases (curies) from the PINGP, based on an assumed linear increase with power, by approximately 10%. This increase in radiological liquid effluents is discussed in Chapter 1, Section 4.13.

The EIS adopts and uses the linear, no-threshold model suggested by the BEIR VII report to estimate potential radiological impacts from long-term, low dose exposures, including those from drinking water (Chapter 1, Section 4.13)

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17-13 nuclear power plant. Many of our youth experience increased levels of stress and anxiety because of health and safety fears related to the power plant. These are the same youth who will be our leaders in the future, the people with whom future Xcel, State and NRC representatives will be working over the re-licensing period and until the plant is fully decommissioned.

Northern States Power chose to build the PINGP next to our communality; we did not choose to develop our community next to the power plant. Most Community members have lived with the PINGP as their neighbor for all of their lives, with no hope that it will ever be shut down. Unless one has lived in the shadow of a nuclear power plant, one cannot possibly understand how frightening the consequences of a severe accident are, especially to the youth.

Emergency preparedness concerns (one entrance/exit road)

17-14 We remain concerned about an incident at the PINGP. There is only one road that would serve as an evacuation route in the event of a radiological emergency. This aspect was not included in the draft EIS.

Socio-economic impacts

17-15 The Prairie Island Indian Community is the largest, most diverse and culturally significant population immediately adjacent to the Prairie Island Nuclear Generating Plant. Since we bear the greatest risks from PINGP operation, it is our responsibility to ensure that the impacts of operation of PINGP on our Community and the surrounding environmental resources are fully evaluated. Unlike other jurisdictions, the Community does not enjoy the tax benefits generated by the PINGP.

Conclusion

For the foregoing reasons, the Community respectfully requests that the additional analysis set forth in these comments be included in the final EIS.

We appreciate this opportunity to provide these comments on the draft EIS for the extended power uprate for the PINGP. We look forward to participating in this process.

Respectfully submitted,

Philip R. Mahowald
General Counsel for the
Prairie Island Indian Community

Responses

Comment 17-13
See response to Comment 4-3 which addresses the same general concerns.

Comment 17-14
In addition to the road in and out of the Prairie Island Indian Community, there is a second road from the Prairie Island Nuclear Generating Plant that could provide an alternate route out of the PIIC in the event of a radiological emergency and the PIIC's road is blocked by a rail accident.

As part of the 2003 Settlement Agreement between Xcel Energy and the PIIC, Xcel Energy paid $25,000 to the Tribal Community to conduct a preliminary engineering study or for other activities to help facilitate construction of an overpass over the railroad that crosses Sturgeon Lake Road. The PIIC completed the study but does not appear to be pursuing an overpass at this time.

Comment 17-15
While the PIIC does not receive taxes for being located next to the Prairie Island Nuclear plant, they do receive financial benefits.

Per the 2003 Settlement Agreement with Xcel Energy, the PIIC receives $2.25 million annually for the operation of the plant, storage of the casks and other uses.

Commenter 18- North American Water Office

NORTH AMERICAN WATER OFFICE
PO BOX 174 LAKE ELMO, MN 55042
PHONE: 651-770-3861

May 8, 2009

William Cole Storm,
State Planning Director
Department of Commerce
85 7th Place East
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St. Paul, MN 55101-2198

RE: Environmental Impact Statement
Xcel Energy Prairie Island Nuclear Generating Plant
Extended Power Uprate Project, PUC Docket No. E002/CN-08-509, E002/GS-08-690
Request for Additional Dry Cask Storage, PUC Docket no. E002/CN-08-510

Dear Mr. Storm:

As a member of the Citizen's Advisory Task Force on Xcel Energy's Prairie Island Nuclear Generating Plant Uprate and Dry Cask Storage proposal I am submitting the following comments on the Draft Environmental Impact Statement (DEIS) on behalf of the North American Water Office.

18-1 1. The current liquid and gaseous radionuclides released from the Prairie Island Nuclear Generating Plant (PINGP) characterized as indistinguishable from background radiation (page 81), are not based on monitoring that defines the dispersion plumes of said radioactive releases that are reported as part of the PING permit and license.

18-2 2. There is no cumulative total for the number of curies emitted from plant operations and are charted in scientific notation when a special request was made for language that was understandable by the public. (Table 4-7,4-8,4-9).

18-3 3. Background radiation levels in Minnesota as defined in the original Environment Statement (p. V29, 1973) for the PINGP were 150 millirem per year. Background radiation today has been defined as 360 millirem each year in the current DEIS (p.75). Every additional radioactive release adds to this level. BEIR VII states there is no safe dose of ionizing radiation and every dose is an opportunity for cancer.

www.nawo.org email: gwillc@nawo.org

1

Responses

Comment 18-1

Radionuclide releases during normal operations at the PINGP are at very low concentrations and are diffused into the atmosphere and Mississippi River. Accordingly, there is no definable plume related to the releases. Three separate monitoring programs (Xcel Energy, MDH, WDHS) provide a network of radiation monitors that surround the plant on all sides at a variety of distances (Chapter 1, Section 4.13). These programs have not detected radionuclides releases above background levels. This may be a function of the monitors themselves, i.e., we do not currently possess technology capable of distinguishing and measuring radionuclide releases at such low levels. However, it is likely not due to a gap in monitoring coverage. That is, monitors surround the plant such that if there were a definable plume, it would be detected.

Hypothetical release plumes are used in emergency response exercises for the plant. These plumes are based on hypothetical incidents at the plant which would release identifiable plumes.

Comment 18-2

Text and a table have been added to Chapter 1, Section 4.13 providing a summary of estimated annual radiological releases in curies (see Table 4-11).

Scientific notation, also known as standard form or as exponential notation, is a way of writing numbers that accommodates values too large or small to be conveniently written in standard decimal notation. Most calculators and many computer programs present very large and very small results in scientific notation. Because superscripted exponents like 10^7 cannot always be conveniently represented on computers, typewriters, and calculators, an alternative format is often used: the letter "E" or "e" represents "times ten raised to the power," thus replacing the " x 10" ".

Comment 18-3

Background radiation, independent of medical procedures and radon in homes, has remained fairly stable over the last 40 years. Medical procedures that create radiation exposure have increased for most all members of the U.S. population, e.g., CT scans, x-rays. The National Council on Radiation Protection (NCRP) in a report issued in Spring 2009 (NRCP 160), estimates that average exposure in the United States has increase to approximately 630 mrem/yr. due primarily to increased use of medical imaging technology. Radon exposure in homes has increased slightly due to changes in home construction, i.e., less air movement through energy-efficient homes, and improved monitoring.

Commenter 18- North American Water Office

18-4 4. The DEIS does not calculate the health risk exposure from the solid wastes that are collected, processed, packaged and temporarily stored prior to shipping (p. 84).

18-5 5. The recent Code Yellow violation (February 10, 2009, NRC Finding) of standards for levels of radiation allowable in transportation of such radioactive solid waste materials from Prairie Island was "more than five times, but less than ten times" the allowable limit of 200 millirems/per hour, and instead was determined to be 1630 millirems/per hour. There is no mention of this violation in the DEIS.

18-6 6. The dispossession of radioactive solid materials affords a pathway of exposure and must be considered within the DEIS. Affects of exposure to this radiation cannot be determined to be insignificant just because the waste is shipped elsewhere, and no rational is provided as to why shipping the waste off-site justifies a finding that heath risks due to these wastes will be insignificant.

18-7 7. The DEIS does not calculate totals for the number of cancers and deaths from all sources of radioactive exposures and uses every means to minimize and obfuscate from the public those that will be sickened and die from the project. These cancers and deaths are numerous, as the following chart taken from various pages of the DEIS, demonstrates.

Source	new cancer	death
Ch 1		
Tritium in well water p.84	1	1
Gaseous radioactive wastes p.81	1	1
To the Mississippi River p.82	1	1
Solid wastes p.84	?	?
Ch 2		
ISFSI skyshine public p.26	2.8	1
ISFSI skyshine workers p.27	0.9	0.45
Plant operations workers p.27	0.32	0.16
98 casks Local p.35	0.16	0.08
Cask Failure TN-40 p. 32	0.005	0.003

Responses

Comment 18-3 (continued)
Average exposure to the U.S. population drawn from two NRCP reports is summarized here:

Source of Exposure	1987 (NCRP 93)	2006 (NCRP 160)
Cosmic and Cosmogenic	28	33
Ingestion	40	29
Terrestrial	28	21
Radon	200	228
Total Background	**300**	**311**

These reports indicate little or no change in backgound radiation. If medical procedures and home radon exposure are removed as radiation exposures, background radiation, based on 1987 data, is approximately 107 mrem (360 – 253 = 107 mrem; NCRP 93). Background radiation around Prairie Island in 2008, as measured by MDH thermoluminescent dosimeters, was approximately 108 mrem/yr. This indicates that there has been no significant change in background radiation over the last 20 years.

Comment 18-4
The potential health risks from solid radioactive wastes processed at the PINGP are insignificant and thus are not addressed in the EIS. Solid radioactive wastes are collected, processed, and stored according to NRC regulations. These regulations ensure protection of plant personnel and the environment. In contrast to controlled releases of gaseous and liquid effluents to the environment, there are no controlled releases to the environment of solid wastes. All wastes are sent to a licensed low-level waste facility. There is minimal exposure and potential health risk to the general public from solid wastes, as they are low-level wastes, their handling occurs within the plant, and they are disposed of in an appropriate waste facility (see response to Comment 18-6 discussing potential impacts to the general public from the disposal of solid wastes).

Comment 18-5
Violation of NRC regulations concerning transport of radioactive materials is an important matter. However, this violation is not relevant to the proposed projects examined in the EIS. The violation does not change the potential non-radiological or radiological impacts of the projects or alternatives to the projects. The preliminary yellow (substantial safety significance) finding was reduced to a white (low to moderate safety significance) finding by the NRC on May 6, 2009.

Commenter 18- North American Water Office

Cask Failure TN-40HT p.32	0.005	0.002
Transport Federal Repository p.35/6	0.005	0.003
Other abnormal releases and incidents	?	?

18-8 8. Many of the pathways of exposure are far in excess of the 1 in 100,000 (p.26, p27, p. 35) so called "Acceptable level of risk" as cited Chapter 1 on page 77 of the DEIS.

18-9 9. The original 1973 Environment Statement, by comparison, discusses the potential for at least 29 or 30 accidents and reactor component failures (Table VI-2 p VI-4) and assigns a radiation dosage for such events. The current DEIS provides only 13 scenarios, none of which include multiple tube rupture within the steam generators themselves, for example, or any other component failures in this aging nuclear plant.

This omission is particularly egregious as there was an undetected gaseous leak from the waste gas system in 2007 that lasted for six months, as well as an additional abnormal release due to failure in the steam generator relief valve.

A simple review of the Annual Radioactive Effluent Release Reports for the PINGP depicts a mounting assortment of breaking reactor parts and unscheduled multiple radioactive releases. Such a review was not completed by the Responsible Unit of Government.

18-10 10. The North American Water Office incorporates the comments filed by The Prairie Island Study Group as a whole.

18-11 11. The historic psychological, spiritual, cultural, health and safety abuses heaped upon the Prairie Island Mdewakanton Dakota Community in relationship to nuclear operations is a matter of public record including legislation, litigation, rulemaking, a corporate shareholder resolution, news media which called the project environmental racism in 1994, anthropological and archeological educational research, and is grossly mischaracterized by the DEIS as an economic benefit to a marginalized community (Chapter 1, p. 57).

18-12 12. If a catastrophic worst case scenario occurs at Prairie Island and all 450 residents are exposed as theorized (Ch.2 p.33), the DEIS only considers a scenario that may damage a few cask seals and is described as no significant threat to the Dakota Community. The worst-case scenario is described as fractions of a person, not even one additional cancer or death. The DEIS fails to mention, however, a very real threat, which is a terroristic

Responses

Comment 18-6
Low-level radioactive wastes (solid wastes) generated by the PINGP are shipped off-site for disposal at a federally licensed low-level waste facility. The transfer of low-level radioactive waste to such facilities is governed by the federal Low Level Radioactive Waste Policy Act (LLRW). The NRC, or states that have assumed NRC responsibilities with respect to low-level radioactive waste, license these facilities. This EIS assumes the proper and long-term functioning of disposal facilities such that exposure to the general public from low-level radioactive wastes is insignificant. This assumption is appropriate as the wastes in question are reaching their federally-determined proper locations in a timely manner. The low-level radioactive waste facilities provide exclusion from the environment similar to what a timely, properly functioning Yucca Mountain would provide for spent nuclear fuel.

Comment 18-7
See response to Comment 16-25 which addresses the same concerns.

Comment 18-8
Three radiological exposure pathways in the EIS are projected to increase the risk of cancer incidence by more than 1 in 100,000 – (1) risks to plant personnel from on-going plant operations (Chapter 1, Section 4.13), (2) risks to plant personnel from the proposed dry cask storage expansion (Chapter 2, Section 5.2), and (3) risks to the general public from the cumulative impact of 98 casks on the ISFSI pad (Chapter 2, Section 5.4).

Comment 18-9
See response to Comment 3-1 which addresses the same concerns.

Comment 18-10
See responses to Commenter 16.

Comment 18-11
Text has been added in Chapter 2, Section 8.0 describing unavoidable impacts of the proposed dry cask storage expansion. Text has been added in Chapter 2, Sections 5.4 and 7.3 describing potential environmental justice concerns related to the Prairie Island Indian Community.

Commenter 18- North American Water Office

18-12

attack for example using anti-tank ground warfare (ATGW) weapons on the spent fuel pool, with its exposed exterior wall outside of containment and not hardened, or a cascading steam tube rupture event. In addition the same ATGW would completely penetrate a dry cask not just cause the seal to be broken. Such an attack could mean evacuation and abandonment of who ever survived such a catastrophe.

18-13

13. The DEIS does not consider dispersed renewable alternatives that can combine wind with biofuels or other renewable generation for dispatch purposes, and that could be strategically located in communities and not require additional transmission lines. There are Minnesota Public Utilities Commission studies that document at least 600 MW of dispersed generation, in increments of 10 to 40 MW, are possible without any new transmission. The DEIS completely ignores the least cost least harm to the people of Minnesota and the environment (Chapter 2. p. 54).

Conclusion

The DEIS does not fulfill its intended purpose, which is to inform the public and decision-makers about costs, benefits, and consequences of the proposed activity. Instead it attempts to manufacture consent for the proposed activities by excluding obvious costs, liabilities, and alternative, viable electric utility management options. If public interests are to be served, this DEIS must be rejected in is entirety, and the Agency ordered to start over at the beginning.

Sincerely,

Lea Foushee

Lea Foushee

Responses

Comment 18-12

Potential impacts due to terrorist attacks (e.g., using armaments to attack nuclear plant facilities) are discussed in Chapter 2, Section 5.3. The NRC has provided guidance to licensees regarding security requirement against terrorism, specifically to address concerns raised by events of September 11, 2001.

The NRC has evaluated the vulnerability of spent fuel pools (e.g., Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants, NUREG-1738, February 2001). Analyses indicate that spent fuel pools are difficult to damage, and that if damage does occur potential releases are slower to begin than previously estimated. Impacts from potential releases are expected to be mitigated by emergency response measures. There are differences of opinion as to the hazards posed by spent fuel pools and their relative susceptibility to terrorist attacks. These differences concern primarily (1) the probability of spent fuel damage occurring (terrorist attack, sabotage), (2) the estimated radiation release should damage occur, and (3) the estimated consequences of such a release (see, NRC Review of Paper on Reducing Hazards From Stored Spent Nuclear Fuel, http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/reducing-hazards-spent-fuel.html).

See response to Comment 3-1 which addresses potential incidents related to on-going operations at the PINGP (e.g., steam generator tube rupture).

The hypothetical worst-case cask confinement failure scenario discussed in Chapter 2, Section 5.3 assumes that half of the casks on the ISFSI pad (49) suffer confinement failure due to impact by a commercial airliner. The scenario assumes that Krypton gas (Kr-85), the only nuclide in the fuel assemblies in a gaseous state, is released instantaneously from the casks and is not mitigated in any way. This scenario likely bounds impacts from a hypothetical terrorist attack using anti-tank armaments. First, such weapons, if they could be obtained and successfully employed against the casks in the Prairie Island ISFSI, would likely impact a few casks at most. That is, use of the weapons would create an emergency response that would likely limit damage to far fewer than 49 casks. Second, the worst-case scenario assumes immediate and unmitigated release of gaseous radionuclides. Weapons could not affect a release faster than "immediate."

Commenter 18- North American Water Office

Responses

Comment 18-12 (continued)
There are substantial uncertainties in estimating the risk and impacts of cask confinement failure for multiple casks, regardless of the initiating event. Fire resulting from airliner impact or armaments would hamper emergency response measures. As noted in the EIS, plant personnel and emergency responders would experience health impacts greater than those estimated for the general public (Chapter 2, Section 5.3).

Comment 18-13
Renewable resource technologies that could serve as an alternative to continued operation of the PINGP are discussed in Chapter 2, Sections 7.2 and 7.3. Text in Chapter 2, Section 7.3 has been modified and supplemented to note that dispersed renewable generation does not necessarily require new transmission facilities. Text in Chapter 2, Section 7.3 has been modified and supplemented to include economic analysis by the Department of Commerce, Office of Energy Security, Energy Regulation and Planning (ERP) unit, comparing continued operation of the PINGP with alternatives under a variety of costs and externality scenarios.

The OES-ERP cover letter to the Dispersed Renewable Generation Study cited by the commenter notes that dispersed generation (DG), individually and in aggregate, can have substantial impacts on the grid overall. However, 600 MW of DG is not sufficient to be a feasible alternative to the PINGP on either a capacity or energy basis.

Commenter 19- Minnesota Pollution Control Agency

Minnesota Pollution Control Agency
520 Lafayette Road North | St. Paul, MN 55155-4194 | 651-296-6300 | 800-657-3864 | 651-282-5332 TTY | www.pca.state.mn.us

May 8, 2009

Mr. Bill Storm
Minnesota Department of Commerce
85 7th Place, Suite 500
St. Paul, MN 55101-2198

RE: Xcel Energy Prairie Island Nuclear Generating Plant
Draft Environmental Impact Statement for Proposed Extended Power Uprate Project
and Request for Additional Dry Cask Storage

Dear Mr. Storm:

Thank you for the opportunity to review and comment on the Draft Environmental Impact Statement (DEIS) for the proposed extended power uprate (EPU) project and request for additional dry cask storage for Xcel Energy's Prairie Island Nuclear Generating Plant (PINGP). Regarding matters for which the MPCA has regulatory responsibility and other interests, MPCA staff has the following comments on the DEIS.

National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Permit

19-1 PINGP holds an individual NPDES/SDS Permit from the MPCA (MN0004006), which regulates the discharge of wastewater from plant operations to the Mississippi River. References in the DEIS to this permit characterize it as the "NPDES permit" (e.g., under **Chapter 1, Section 2.4 Other Permits, Wastewater Discharge Permit**); please correct future references to this in the final EIS. Also, for clarification, the issuance date for the facility's current NPDES/SDS Permit was September 23, 2005. The permit was modified twice in 2006 – on January 23, and again on June 30.

19-2
- **Chapter 1, Section 4.2 Biological Resources, Aquatic Communities**
  In this section, the DEIS indicates that the MPCA has listed the portion of the Mississippi River between the St. Croix and Chippewa Rivers in Wisconsin as impaired waters for 2006 for aquatic consumption, due to the presence of mercury and polynuclear chlorinated biphenyls (PCBs), and for aquatic life due to turbidity. The current (2008) 303d List of Impaired Waters identifies these impairments, as well as an impairment for aquatic consumption due to Perfluorooctane Sulfonate (PFOS) in fish tissue. The final EIS should reference the most current impairment list, and should identify the PFOS impairment. The current List of Impaired Waters may be found on the MPCA's Web site at: http://www.pca.state.mn.us/water/tmdl/tmdl-303dlist.html.

Responses

Comment 19-1
The requested correction has been made to Chapter 1, Section 2.4-*Other Permits.*

Chapter 19-2
The requested correction has been made to Chapter 1, Section 4.2-*Aquatic Communities.*

Commenter 19- Minnesota Pollution Control Agency

19-3

The ***Impingement and Entrainment*** portion of this section details water appropriation limits in the facility's current individual NPDES/SDS Permit. These limitations restrict the volume of cooling water that is drawn from the Mississippi River during the April 15 to June 30 period. The DEIS does not make note of the fact that the permit allows the facility to exceed these volumes in order to maintain an 85°F condenser inlet temperature, provided that flow is minimized and cooling towers are operated to the maximum practicable extent. The final EIS should specifically address the fact that the facility is currently authorized to exceed the flow restrictions in order to maintain their ability to meet thermal limitations, and should discuss any potential increase in the frequency of such exceedances resulting from the EPU.

19-4

- **Chapter 1, Section 4.11 Water Resources, Surface Water**
  The ***Water Discharge: Temperature*** portion of this section details the temperature limitations found in the facility's individual NPDES/SDS Permit. The DEIS indicates in this section that operation of the cooling system in open-cycle mode could result in a temperature increase in the discharge of up to 3°F, and that existing thermal effluent limitations would be met either through increased use of cooling towers or by de-rating the plant. The final EIS should, in general, provide additional details regarding the thermal modeling that has been used to determine potential temperature increases at the discharge and the point of compliance at Lock and Dam No. 3, and the facility's ability to meet the current effluent limitations following the EPU. This information will be required in order to reissue the NPDES/SDS Permit when the current permit expires in 2010.

Questions regarding PINGP's NPDES/SDS Permit should be directed to Brandon Smith at 651-757-2740.

19-5

NPDES/SDS Construction Stormwater Permit
Please note that, based on the description of the construction of the new storage pads for the dry cask storage expansion (**Chapter 2, Section 4.3 Water Resources**), it appears Xcel Energy/ PINPG will need to obtain coverage under the general NPDES/SDS Construction Stormwater Permit from the MPCA. Coverage under the general Construction Stormwater Permit is required if a total project will disturb one acre or more of land. Please note that because the project is within one mile of, and discharges stormwater to, an impaired water, it is subject to additional best management practice requirements during construction, under the Construction Stormwater Permit. Questions regarding Construction Stormwater Permit requirements should be directed to Larry Zdon at 651-757-2839.

19-6

Air Emission Permit
PINGP holds an Air Emission Permit from the MPCA (04900030-004) which regulates non-radiological air emissions, such as nitrogen oxides, sulfur dioxide, and carbon monoxide, from 13 diesel-fired engines that are used for emergency purposes and one distillate-oil fired boiler used for plant steam. Based on the information provided in the EIS, the proposed EPU and dry cask storage expansion do not include changes to these emission sources or addition of new emission sources and, therefore, no changes to the PINGP Air Emission Permit are necessary.

Questions regarding the PINGP Air Emission Permit should be directed to Steven Pak at 651-757-2633.

Responses

Comment 19-3

During the spring period of the year from april 1 to June 30, Xcel Energy is allowed to temporarily exceed the PINGP appropriation limits to maintain the condenser inlet temperature provided they minimize the time of exceedance to the maximum extent practicable and operate cooling towers to the maximum extent practicable (see Section 8 of CON Application).

Comment 19-4

The power uprate increases the amount of steam that must be condensed in the main condenser. The increased steam flow and associated heat load affect the thermal performance of the main condenser resulting in greater Circulating Water temperature. Heat balance calculations were performed for the main condenser with the increased heat load at Extended Power Uprate conditions to evaluate the effect on the temperature of water discharged from the main condenser to the plant's discharge canal. The calculation was based on the new licensed core thermal power plus 7 MW thermal to account for the net effect on heat to the turbine cycle of reactor coolant pump heat, letdown/charging, and thermal transmission losses from the steam generators, etc. All of the additional thermal power, which is not converted into electrical energy, was conservatively assumed to be rejected to the Circulating Water system in the steam surface condenser.

The following four tables present the results of the calculations. A calculation for each condenser at 100% and 90% circulating water flows is reported. The condenser backpressure estimate at 90% Circulating Water flow utilizes equal condenser heat load, therefore conservatively maximizing condenser A backpressure.

Table 1 - Condenser A – Current Licensed Thermal Power (CLTP) to Extended Power Uprate (EPU) Conditions with 100% Circulating Water (CW) Flow

Parameter	Units	CLTP	EPU
Maximum Condenser	Inches Mercury		
Backpressure at 87°F CW Inlet	Absolute	3.61	3.94
Maximum Pressure Imbalance	Inches Mercury		
Between Condenser Shells	Absolute	0.71	0.83
CW Flow Rate	Gallons per Minute	294,000	294,000
CW Temperature	Degrees Faranheit	11.2	12.2

Commenter 19- Minnesota Pollution Control Agency

19-6

Hazardous Waste Generator License
PINGP holds a Hazardous Waste Generator License from the MPCA (MND049537780). They are registered as a small quantity generator (generating between 220-2200 pounds per month of hazardous waste). In 2008, PINGP generated 6,679 pounds of hazardous waste, mainly consisting of paint-related material, metals and PCBs. Based on the information provided in the EIS, it does not appear that the proposed EPU and dry cask storage expansion would necessitate any changes to PINGP's Hazardous Waste Generator License. Questions regarding hazardous waste licensing should be directed to Kathy Gedde at 651-757-2382

We look forward to receiving your responses to our comments. Please be aware that this letter does not constitute approval by the MPCA of any or all elements of the project for the purpose of pending or future permit action(s) by the MPCA. Ultimately it is the responsibility of the project proposer to secure any required permits and to comply with any requisite permit conditions. If you have any questions, please contact me at 651-757-2181.

Sincerely,

for Craig Affeldt
Supervisor
Environmental Review Unit
Environmental Review and Feedlot Section
Regional Division

CA:mbo

cc: Steve Pak, MPCA
Brandon Smith, MPCA
Kathy Gedde, MPCA
Larry Zdon, MPCA
Jessica Ebertz, MPCA
Karen Kromar, MPCA

Responses

Comment 19-4 (continued)

Table 2 - Condenser B – Current Licensed Thermal Power (CLTP) to Extended Power Uprate (EPU) Conditions with 100% Circulating Water (CW) Flow

Parameter	Units	CLTP	EPU
Maximum Condenser Backpressure at 87°F CW Inlet	Inches Mercury Absolute	2.90	3.11
Maximum Pressure Imbalance Between Condenser Shells	Inches Mercury Absolute	0.71	0.83
CW Flow Rate	Gallons per Minute	294,000	294,000
CW Temperature	Degrees Faranheit	14.6	16.0

Table 3 - Condenser A – Current Licensed Thermal Power (CLTP) to Extended Power Uprate (EPU) Conditions with 90% Circulating Water (CW) Flow

Parameter	Units	CLTP	EPU
Maximum Condenser Backpressure at 87°F CW Inlet	Inches Mercury Absolute	4.12	4.54
Maximum Pressure Imbalance Between Condenser Shells	Inches Mercury Absolute	1.32	1.54
CW Flow Rate	Gallons per Minute	264,600	264,400
CW Temperature	Degrees Faranheit	14.4	15.7

Table 4 - Condenser B – Current Licensed Thermal Power (CLTP) to Extended Power Uprate (EPU) Conditions with 90% Circulating Water (CW) Flow

Parameter	Units	CLTP	EPU
Maximum Condenser Backpressure at 87°F CW Inlet	Inches Mercury Absolute	2.80	3.00
Maximum Pressure Imbalance Between Condenser Shells	Inches Mercury Absolute	1.32	1.54
CW Flow Rate	Gallons per Minute	264,600	264,600
CW Temperature	Degrees Faranheit	14.3	15.6

Commenter 19- Minnesota Pollution Control Agency

Responses

Comment 19-4 (continued)
The temperature rise for circulating water for current (CLTP) and future (EPU) conditions is as follows per Tables 1 through 4 (typical for either unit):

- At 100% CW flow and the current licensed thermal power the temperature rise is 25.8 deg F (11.2 from Table 1 plus 14.6 from Table 2).
- At 100% CW flow and the higher licensed thermal power with EPU the temperature rise is 28.2 deg F (12.2 from Table 1 plus 16.0 from Table 2)
- The increase in CW temperature at 100% CW flow from EPU is then 28.2 minus 25.8 or 2.4 degrees F.

- At 90% CW flow and the current licensed thermal power the temperature rise is 28.7 deg F (14.4 from Table 3 plus 14.3 from Table 4).
- At 100% CW flow and the higher licensed thermal power with EPU the temperature rise is 31.3 deg F (15.7 from Table 3 plus 15.6 from Table 4)
- The increase in CW temperature at 90% CW flow from EPU is then 31.3 minus 28.7 or 2.6 degrees F.

- For a range of 90 to 100% of design CW flow, the increase in discharge temperature associated with EPU is 2.4 to 2.6 degrees F which was rounded up to 3 degrees F as a bounding value in the CON application and resulting Draft Environmental Impact Statement.

Evaluation of Compliance with Current NPDES Permit Thermal Limits at EPU Conditions

An evaluation was completed to assess the impact of plant operations at EPU conditions on compliance with the current thermal discharge limits contained in the NPDES permit. Monitoring and control of thermal discharge is considered for two periods of time throughout each annual cycle. The first is between the 'spring trigger' and the 'fall trigger', generally between the months of April and November. The 'spring trigger' occurs on April 1 or when the daily average river temperature exceeds 43 degrees F for five consecutive days, whichever occurs first. The 'fall trigger' occurs in the fall when the river temperature falls below 43 degrees F for five consecutive days. Between the spring and fall triggers, thermal discharge to the river is monitored and controlled by the observed temperatures at the Lock and Dam No. 3 monitoring station. The temperature rise at this station is limited by the following permit requirements:

Commenter 19- Minnesota Pollution Control Agency

Responses

Comment 19-4 (continued)

- The temperature rise above the ambient river temperature shall remain less than 5 degrees F, based on a monthly average of the daily maximum temperature rises.
- The temperature shall remain less than 86 degrees F, daily average, under all circumstances (excluding a declared 'Electrical Energy Emergency').
- If the daily average temperature exceeds 78 degrees F for two consecutive days, the mechanical draft cooling towers shall be operated to the maximum extent practical.

Between the fall and spring triggers (December through March), the daily average temperature at the Lock and Dam No. 3 monitoring station shall remain below 43 degrees F. If the observed temperature exceeds 43 degrees F for two consecutive days, the Minnesota Department of Natural Resources shall be notified and tower operation or alternative measures may become necessary, as determined by the State.

A thermal performance model was developed to simulate plant performance and downstream river conditions during the period from April 1 through November. A thermal performance model was not developed for the period from December through March because even if it is assumed that the full 3 degree increase that was conservatively calculated (see discussion above) at the condenser discharge into the discharge canal was seen at Lock and Dam No. 3, it would not result in the plant exceeding the 43 degree temperature limit and at most might require utilizing the cooling towers for a few more days in April and November. This was confirmed by identifying the historical spring and fall trigger points from a plot of the available river temperature measurements (2004 data not available) at the monitoring point at Lock and Dam No. 3 from January 2001 through December 2006.

For the period between the spring trigger and fall trigger from April 1 through November the results of thermal modeling were compared against the 5 degree F temperature rise limit and the 86 degree F daily average temperature limit. The evaluation results for the years 2002, 2003, 2005 and 2006 are presented below. (Availability of all required input data (local river temp, wet bulb temp, etc.) prevented 2004 from being modeled.)

Commenter 19- Minnesota Pollution Control Agency

Responses

Comment 19-4 (continued)

Projected Maximum Monthly Plant Delta-T Values at Lock and Dam No. 3 and Month of Occurrence

Year	Maximum Monthly Plant Delta-T for Current Operating Conditions	Maximum Monthly Plant Delta-T for EPU Operating Conditions	Increase in Delta-T from Current to EPU Conditions
2002	2.21 F (November)	2.33 F (November)	0.02 F
2003	4.75 F (November)	4.80 F (November)	0.05 F
2005*	0.67 F (July)	0.69 F (July)	0.02 F
2006	4.90 F (November)	4.95 F (November)	0.05 F

Projected Number of Days Downstream River Temperature Exceeds NPDES 86 F Limit

Year	Number of Days Limit Would be Exceeded for Current Operating Conditions	Number of Days Limit Would be Exceeded for EPU Operating Conditions	Increase in Number of Days Limit Would be Exceeded from Current to EPU Conditions
2002	0	0	0
2003	0	0	0
2005**	0	0	0
2006	2	2	0

The conclusion drawn from the thermal modeling was that under extended power uprate conditions, the 5 degree F temperature rise limit should not be exceeded and that the frequency of exceeding the 86 degree F downstream river temperature limit would not increase.

* Simulation only performed for April 1 through August 10 and September 28 through October 2 due to input data limitations. Maximum monthly plant Delta-T values are based on the months of April through July only, as complete data for months of August through October was not available.

** Simulation only performed for April 1 through August 10 and September 28 through October 2 due to input data limitations.

Commenter 19- Minnesota Pollution Control Agency

Responses

Comment 19-5
Text in Chapter 2, Section 4.3 has been modified to reflect the likely need for a construction stormwater permit.

Comment 19-6
Thank you for your comment. It has been noted and included in the record for the EIS.

Commenter 20- Minnesota Department of Natural Resources

Minnesota Department of Natural Resources
500 Lafayette Road • St. Paul, MN • 55155-40

May 8, 2009

Bill Storm
Minnesota Department of Commerce
85 7th Place East, Suite 500
St. Paul, MN 55101-2198

RE: Xcel Energy Prairie Island Nuclear Generating Plant Proposed Uprate and Dry Cask Storage Draft Environmental Impact Statement
PUC Site Permit Docket Number: E002/GS-08-690

Dear Mr. Storm:

The Minnesota Department of Natural Resources (DNR) has reviewed the Prairie Island Nuclear Generating Plant (PINGP) Draft Environmental Impact Statement (DEIS.) We offer the following comments.

Water Use

20-1 On page 90, Section 5.0, the DEIS states, "water consumption will remain approximately 1 percent of the lowest annual mean." The annual mean includes high flows. DNR is less concerned about surface water appropriation during high flows. A more meaningful measure would be the percentage of some low flow value, such as Q90. DNR recommends the Final EIS compare the rate of appropriation as a percentage of the Q90 at Lock and Dam No. 3

20-2 Also, DNR requests clarification of the term "consumption" as used in the statement from Section 5.0, page 90. Does this term reflect the amount evaporated, or the rate of appropriation? Minnesota Rules, part 6115.0630, subpart 7 defines the term "consumption" as "water withdrawn and not directly returned to the same waters as the source for immediate further use in the area." The Final EIS should define how the term "consumption" is used in this context.

Thermal Footprint

20-3 The reach of the Mississippi River downstream from the PINGP thermal mixing zone is one of the most popular large river fisheries in Minnesota, and supports high levels of use by resident and nonresident anglers. As interstate water, it constitutes a valuable fishery resource for the state of Wisconsin as well. In addition to providing an important coolwater fishery, the river provides critical habitat for a number of state threatened and endangered mussel species at this location. As such, the DNR has considerable interests and responsibilities for managing and protecting these aquatic resources. We are concerned that the effects of the increased thermal discharge, acting in concert with changing summer climate regimes, might unsustainably increase the stress to sensitive aquatic organisms during periods of low stream flow with conditions of high temperatures and humidity. The State's currently permitted water quality temperature maximum of 86 degrees F. is already a stressful condition for coolwater species, and NPDES permit conditions allow for limited exceedences of this standard. The 3 degree F. increase in the cooling water discharge volumes will extend the periods of high temperatures approaching the maximum, and could contribute to the frequency of exceedence. DNR is also concerned that a change in the river's thermal regime could have negative impacts on winter ice cover on Lake Pepin, affecting angler

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Responses

Comment 20-1

Water Use. The draft EIS referenced 1) the average flow (18,380 cfs) in which the predicted maximum evaporative loss of 43 cfs would be approximaely 0.23 percent of the total river flow, and 2) the lowest annual mean flow (4,367 cfs) in which evaporative loss would be approximately 1.0 percent.

The lowest annual mean is defined as the average, for a number of years, of the annual lowest daily flows. This is determined by selecting the lowest daily flow (average over 24 hours) for each year of record, summing those values and then dividing the total by the number of years of record.

Q90 is a statistically derived number based on historial flow data for a particular reach or section of river/stream; Q90 stream flow means the flow is at least this high 90 percent of the time. Typically Q90 is used to estimate the flow that would be exceeded 90 percent of the time over either a 7-day period or a 30-day period.

The assessment of the potential thermal impacts did assess the impact under historical low flow and elevated water temperature conditions. The assessment conducted by Sargent and Lundy used river data from the drought/low flow summer of 2006. The lowest river flow during the summer 2006 was 2400 cubic feet per second (cfs) through Lock and Dam #3.

By comparison, the low flow during the 1988 and 1976 droughts through the same lock and dam was 2400 cfs and 1900 cfs, respectively. The 43 cfs maximum evaporative loss represents approximately 1.8 percent and 2.3 percent of total flow at the 1988 and 1976 low flow levels.

Comment 20-2

Under the surface water appropriation permit issued by DNR, Prairie Island may withdraw up to 235,000 million gallons per year from the Mississippi River. Consumption refers to amount of water that is lost to evaporation between the time it is withdrawn from the river and returned to the river.

Comment 20-3

The text in Chapter 1, Section 4.11-*Lake Pepin Ice Cover* has been modified to reflect the DNR's concerns.

Commenter 20- Minnesota Department of Natural Resources

accessibility to the resource and safety concerns. Because of these factors, we have requested the provision of additional cooling capacity, to be deployed seasonally on an as-needed basis, to protect the aquatic communities of the Mississippi river.

20-4

While the DEIS appropriately references the 1987 study conducted by H.G. Stefan on PINGP's effect on residual heat input to Lake Pepin, the study did not contemplate a 10 percent increase in thermal loading. Stefan concluded that the ice cover on Lake Pepin was not affected "very adversely," that a detailed analysis was beyond the scope of the study, and that further analysis of that point is necessary. Stefan's observation on ice cover was based on review of ice thickness data collected by Northern States Power (NSP) from 1981 to 1986. However, the most upstream of the five measured transects was 5 miles downstream from the head of Lake Pepin. Therefore, Stefan's conclusion and the NSP data do not represent conditions for the upper quarter (5 miles) of the lake. This reach is shallower and does not allow for the sinking plume of the denser, warmer water. Visual observations conducted by NSP in 1982 at Greene Point, 2 miles downstream from the head of the lake, indicated the lake was totally ice covered to the head of the lake when observed on January 5 & 19 and February 8. This was the year prior to discontinuing the use of cooling towers in the winter. Our field staff observations and U.S. Corps of Engineer ice thickness monitoring show that open water conditions are now typical for the upper 2-3 miles and common for mile 3-5 of the Minnesota side of the lake.

DNR recommends, as a condition of the site permit, Xcel Energy initiate a study that updates the Stefan study, reviews recent U.S. Army Corps of Engineers data and Landsat imagery, and evaluates the need for additional modeling and monitoring of the effects that a thermal change may have on ice cover. DNR is willing to coordinate with Xcel, and other interested agencies, on developing the methodology of such a study, and will provide review and evaluation of the results.

Thank you for the opportunity to provide comments on the Draft EIS. Please contact me with any questions regarding this letter.

Sincerely,

Matt Langan, Environmental Planner
Environmental Review Unit
Division of Ecological Resources
(651) 259-5115

c: Joe Kurcinka, Tim Schlagenhaft, Wayne Barstad, Jack Enblom, Bill Huber, Kevin Stauffer, Scot Johnson

Responses

Comment 20-4

The text in Chapter 1, Section 4.2-*Cold Shock* and Chapter 1, Section 4.11-*Water Discharge Temperature* has been modified to reflect the DNR's concerns in these areas.

The text in chapter 1, Section 4.11-*Lake Pepin Ice Cover* has been modified to reflect these concerns.

Commenter 21- Joan Marshman

From: Joan Marshman
To: Bill Storm; Joan Marshman;
Date: Friday, May 08, 2009 1:40:15 PM

Bill,

21-1 Of all the concerns that I have regarding the draft EIS are the issues listed in Chapter Two of the Environmental Impact Statement Scoping Worksheet. Actually, all of the Task Force's Scoping Worksheet must be addressed and included in the draft EIS. I wish to add to my statement that I support the Task Force's Worksheet and want it's contents acted upon in the draft EIS.

Sincerely,

Joan K. Marshman
Florence Township Supervisor
Goodhue County, Minnesota

Responses

Comment 21-1
The OES Director, having reviewed the scoping comments received during the comment period, the Summary of Work of the ATF, and the recommendations of staff, signed the Scoping Decision on November 14, 2008.

Commenter 22- Katie Himanga

Katie Himanga

1114 Valley View Road, Lake City, Minnesota 55041

May 7, 2009

William Cole Storm
Minnesota Department of Commerce
85 7th Place, Suite 500
St. Paul, Minnesota 55101-2198

RE: Public Comment on Draft Environmental Impact Statement
Xcel Energy's Prairie Island Nuclear Generating Plant
Extended Power Uprate and Additional Dry Cask Storage Projects
PUC Docket Number: E002/CN-08-509 (Certificate of Need-Extended Power Uprate)
PUC Docket Number: E002/CN-08-510 (Certificate of Need-Additional Dry Cask Storage)
PUC Docket Number: E002/GS-08-690 (Site Permit-Extended Power Uprate)

Dear Mr. Storm:

I served on the Advisory Task Force appointed to work with the Office of Energy Security (OES) on the scope of the environmental review for the Prairie Island Nuclear Generating Plant (PINGP) project. In addition I served as mayor of the City of Lake City in 2005-2008 and am a natural resources professional. Upon review of the Draft Environmental Impact Statement (EIS), I find it to be inadequate in addressing task force concerns. Incomplete or omitted information points to an overall lack of thoroughness, and the need to expand the review to reflect consideration of the natural resources surrounding the power plant. What follows are my comments related to the natural resource components of the EIS.

The advisory task force made specific requests related to Xcel's proposed project. These, along with proposed OES treatment of task force comments, are contained in Advisory Task Force Summary of Work, Appendix E – EIS Scoping Work Sheets with OES Treatment, November 15, 2008.

Lake Pepin, the Mississippi River, and its tributaries are interacting components of the world's third largest river system. The thermal plume of water discharge has potential to impact vertebrate and invertebrate organisms, parasites, ice cover, and the distribution of sediment in the river bed and in Lake Pepin.

The communities of Red Wing, Frontenac, Lake City, and Wabasha in Minnesota and Hager City, Maiden Rock, Stockholm, Pepin and Nelson in Wisconsin rely heavily on the Mississippi River and Lake Pepin for a secure future. The potential negative

Responses

Commenter 22- Katie Himanga

impacts that result from the expansion of operations at the PINGP warrant the establishment of baselines of aquatic and plant health as well as the development and implementation of a monitoring system to detect adverse impacts before they become critical.

Draft EIS Document Contributors

22-1 Nobody representing natural resources interests is listed in the document as a preparer – contributor (page ii). This despite the Minnesota Department of Natural Resources (MDNR) comment that, "This reach of the Mississippi River is a very high priority for DNR because of the intrinsic natural resource values of the surrounding area, the high recreational use, and the high profile walleye/sauger sport fishery that exists here (MDNR Comment Letter on the PINGP Scope, October 7, 2008.)

Environmental Setting

Although identified as a matter to be addressed in the EIS, a section describing Environmental Setting is omitted from the Draft EIS (EIS Chapter 1 Appendix A, II. Matters To Be Addressed In The EIS, 4.0 Environmental Setting). Rather, a May 1973 document is cited in Chapter 1, page 46, 4.0 Human and Environmental Impacts, and some information is sprinkled throughout the document.

22-2 This is a critical omission. For informed review and interpretation of the EIS its reader needs a complete description of Environmental Setting. Text of the 1973 document should be included in this EIS or provided as a supplement. A 36 year old document is probably in need of updating.

Since 1973, a lot of information has emerged about additional environmental stressors stemming from climate change. Climate change may exacerbate the impacts of the PINGP. This correlation needs to be addressed. Monitoring and mitigation strategies need to be optomized.

The Draft EIS lacks baseline information related to air, water, and some other natural resources and does not include a discussion of the interaction of the various resources (Appendix E – Chapter 1 – Comment 18). Baseline information for these items needs to be acquired and a plan for a system of monitoring developed and implemented if the PINGP projects are allowed.

22-3 The advisory task force asked that three specific letters be included in the EIS by reference. Two were excluded: Wisconsin Department of Natural Resources letters to the US Nuclear Regulatory Commission dated September 8, 2008, and to the Minnesota Pollution Control Agency letter dated April 3, 2000 (Appendix E – Chapter 2 – Comment 16). The April 3, 2000 letter includes an informative graphic that illustrates the PINGP thermal plume on June 5, 1998 (Figure 2).

Responses

Comment 22-1
Thank you for your comment. It has been noted and included in the record for the EIS.

Comment 22-2
The description of the environmental setting of the proposed project has been incorporated into the discussions in Chapter 1, Section 4.0-*Human and Environmental Impacts.*

Comment 22-3
Comments received during both the scoping process and the EIS review process from other regulatory agencies (i.e., DNR, MPCA, etc.) are contained within the public record for this docket. Certain portions of the EIS text have been modified to incorporate the concerns of these agencies (see response to Commenters 19 and 20).

See response to Comment 18-1 which addresses the suggestion of a radiological emissions plume.

Commenter 22- Katie Himanga

22-3

National Weather Service information about wind patterns and US Army Corps of Engineers/USGS historic and ongoing data on Lake Pepin ice cover are absent from the EIS (Appendix E – Chapter 1, Comments 21 and 22). Also requested by the task force, but missing from the Draft EIS, are references to National Weather Serivce, US Army Corps of Engineers, USGS historic and onging data on flooding and drought in the Upper Mississippi River watershed (Appendix E – Chapter 1 – Comment 23).

The Draft EIS lacks maps showing the plume extensions of PINGP discharges into surface water, groundwater and air. The task force asked that the current extent of thermal and radioactive discharges into the environment be documented as a baseline for ongoing study and analysis of impacts (Appendix E – Chapter 2 – Comment 17). Emissions plumes should be documented to the extent they exist in an ecosystem, based on science, without artificial geographic or distance limits.

Aquatic Communities

22-4

Fish population benchmark. The 1970s appears to be the baseline selected for EIS conclusions about fish populations. ("Fish populations in the vicinity of Prairie Island today look remarkably like fish populations in the 1970s," Chapter 1, page 47, 4.2 Biological Resources – Aquatic Communities). The basis for using the 1970s as a comparison is not supported in the EIS. Given the environmental condition of the river due to pollution from upriver sources, the 1970s may not be an appropriate benchmark for fish. The Minnesota Department of Natural Resources should determine the best practical baseline to use for comparisons.

22-5

Lake Pepin impairment. Lake Pepin, into which the Mississippi River flows at Red Wing, was listed by the Minnesota Pollution Control Agency as impaired for aquatic recreation due to nutrient/eutrophication biological indicators (i.e. phosphorus) in 2004. A TMDL study is scheduled for completion in 2009 (MPCA Inventory of Impaired Waters). This impairment and the effect of the proposed operation of the PINGP on the impaired water should be included in the EIS. Warm water discharged from the PINGP may exacerbate the problem of Lake Pepin eutrophication.

22-6

Dechlorination process impacts. No mitigation alternatives are offered in the EIS to address the problem of chlorine entering the river: "The dechlorination process does impact the fish populations in the Mississippi River" and will continue periodically (Chapter 1, page 48-49, 4.0 Biological Resources – Thermophillic Organisms and Pathogens).

Surface Water – Thermal Discharge

22-7

The Draft EIS does not provide satisfactory evidence that the best available technology for water dispersion modeling and analysis will be used to assess the natural ecosystem and cultural impacts of thermal discharge. A plan for mitigating adverse

Responses

Comment 22-4
See response to Comment 7-2 which addresses the same concern.

Comment 22-5
See response to Comment 19-2 which addresses the same concern.

Comment 22-6
See response to Comment 7-3 which addresses the same concern. The PINGP operations require a number of wastewater discharges, which are regulated by the state of Minnesota through the facility's Nation Pollution Dischrage Elimination System/State Disposal System (NPDES/SDS) permit. The present NPDES permit for the plant, permit number MN0004006, was issued September 23, 2005, and expires August 31, 2010 (MPCA 2006b). The permit was modified twice in 2006, on January 23, and again on June 30. This permit authorized intakes and discharges and imposes limits and/ or monitoring/reporting requirements for the discharges.

Discharge temperatures will be maintained within current NPDES permit (MPCA NPDES/SDS Permit Number MN0004006) limits by increasing the use of cooling towers, which can operate in various modes or, if necessary, by derating the plant to meet permit requirements for water appropriations and thermal discharge.

Commenter 22- Katie Himanga

impacts is absent. The EIS should provide for the best available technology to model the thermal discharge and a plan for monitoring.

22-8

The EIS leaves the reader thinking that operation of the PINGP has no impact on ice cover on Lake Pepin. This contradicts statements made by MDNR. "Thermal discharge from PINGP results in areas of variable and unpredictable ice cover on Lake Pepin. This results in some reductions in accessibility to certain areas of the lake and increases concern for safety overall" MDNR requested that Xcel provide a companion discussion of expanded cooling tower capacity that addresses the additional increment of thermal load to the river. A dry cooling tower was suggested: "This will prevent further deterioration of ice cover on Lake Pepin" (MDNR Comment Letter on the PINGP Scope, October 7, 2008). The EIS needs to respond to the concerns and suggestions of the Minnesota Department of Natural Resources.

The EIS does not provide adequate information about the cumulative impacts to surface waters related to the PINGP use of river water and its thermal discharge increases. It does not provide for independent verification of the effects of thermal impacts on fish, plants and other organisms, and Mississippi River and Lake Pepin ecology. It needs to provide for these items.

* * * * *

Thank you for consideration of these comments. I hope the Final EIS will address the natural resource issues I mention and will require the establishment of baseline information, ongoing monitoring and analysis, and mitigation of adverse impacts.

Respectfully submitted,

/s/ Katie Himanga

Responses

Comment 22-8
See response to Comment 20-3 which addresses the same concern.

Commenter 23- Kristen Eide-Tollefson

To: Bill Cole Storm, Project Manager
Office of Environmental Security, Energy Facilities Permitting

Re: Comments to the DEIS for Xcel Energy Prairie Island Nuclear Generating Plant (PINGP) Extended Power Uprate Project and Additional Dry Cask Storage at Prairie Island

Burden of development: An attempt to comment on the DEIS, draws the reader into the challenge of creating such a document. Yet it is not the reader's, but the state agencies' duty to provide a basis for decision-makers; to provide information, research, analysis and a foundation for decision making; to identify, assess and evaluate the socio-economic and environmental factors that apply to the proposed project. 116D.02 and 116D.03 outlines the duties of all agencies under the state's environmental policy:
https://www.revisor.leg.state.mn.us/statutes/?id=116D.03&year=2000
https://www.revisor.leg.state.mn.us/statutes/?id=116D.03&year=2000

This is not to say that this is not a daunting task. But if an administrative agency is not motivated by the fulfillment of its public interest mandates, and instead puts its energy and intelligence into a bare compliance with rule in the name of governmental "efficiency, "service to the public good will be limited and distorted. At the same time, it is the duty of the state legislature and the citizenry it represents to provide adequate resources for the execution of these mandates, and to participate in the environmental rights and responsibilities outlined in MERA and 116D. It is important to keep in mind that this is what commentators on the DEIS are proposing to do. We see ourselves as necessary partners with government in the protection of the state's resource, and fulfillment of environmental policy.

23-1

The 'economy' of this document and process, which appears to be one of the prime values of its preparation, is potentially very 'costly' to the public interest, the state and its citizens. Since the scoping process diligently scoped 'out' of the document any items that the staff found outside its ability to address, or outside the scope of its authority – there would seem to be no reason for the DEIS not to engage substantively in the items and issues that remained. It is puzzling that the list of preparers did not include or even cite other key state agencies.

PUC Advisory Task Force Report: OES had the benefit of being assisted in identifying issues to be considered in the EIS, by the able execution of a brief, but intense Advisory Task Force. This task force of citizens, local government officials, environmental and citizen organizations – in just 3 sessions, produced an extensive report, using the scoping framework provided by OES.

23-2

Unfortunately, ot is not evident from the content or approach, from the observations or insights of the document – that this effort ever took place. OES had every opportunity to 'scope' specific socio-economic, psychological, and environmental perspectives of the communities. But virtually none of the information that was provided to OES has yet been addressed in the DEIS. And so the document appears dismissive of both the effort and the citizen's report. This is disappointing for a number of reasons.

23-3

State and public interest: The DEIS document appears hamstrung, in matters of intense concern to the communities, the state and its citizens. The DEIS primarily uses the proposer's environmental report as a basis, and provides virtually no regulatory counterbalance to the proposer's intentions and interests. The document does not provide even a basis for "independent" conclusions. The DEIS could still choose, a path that summarizes not just the proposer's document, but the plethora of "next generation" initiatives in which the OES itself is involved – to create a document that will assist not only PUC, but the legislature and even the utility in evaluating pending re-investments in nuclear power.

Responses

Comment 23-1
The list of preparers for the EIS includes an additional state agency, the Minnesota Department of Health. The list of preparers is not a list of assistance or consultation. Department of Commerce, Office of Energy Security staff relied on assistance from state agencies that are not listed as "preparers." For example, assistance from the Minnesota Department of Natural Resources (DNR) concerning Lake Pepin ice cover is noted on the Minnesota Public Utilities Commission's website: http://energyfacilities.puc.state.mn.us/resource.html?Id=19932. The DNR, however, is not listed as a "preparer" of the EIS.

Comment 23-2
Thank you for your comment. It has been noted and included in the record for this EIS. See response to Comment 21-1 which addresses the same concern.

Comment 23-3
Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 23- Kristen Eide-Tollefson

The failure of the DEIS to engage in an independent analysis of the issues, alternatives and mitigations, leaves the public or parties with the entire burden of developing additional perspectives. The ability of the public and parties to do so, is severly limited by the fact that the state provides for no intervenor compensation, and there is not funding available in the public arena to support the ability of the public, or even public interest groups, to develop the kind of information and analysis that it would take to provide to PUC – a foundation for deliberation on the balance of social, economic and environmental factors – in implementation of state policy – that are their primary duties. Thus, again, the 'economy' of this document and process, which appears to be one of the prime values of its preparation, is potentially very 'costly' to the public interest, the citizens of the state, and the integrity of the decision making process.

For the record, the key issues identified by the Task Force report include (but are not limited to) the following:

1) Lack of information accessible to the public about the shape, characteristics, release and dispersal pattern of emissions plumes, air and water, from ongoing operations;

2) Concern for short and long term effects of increased temperature stresses of the uprate on:

a) the river ecology (see task force report)
b) the aging reactor;
c) pool storage – increased heat puts stresses on an already overburdened and old pool facility.
d) dry cask storage - current engineering studies have not yet determined the effects of this increased heat on longer term dry cask storage containment.
e) the qualities of ice, fish populations and other factors that are key to the tourist and recreational economies of the area.

3) The socio-economic and psychological effects of continued operations – or its alternatives. Particularly upon the primary responsibilities of the local governments, and tribal government for the health, welfare and safety of their citizens. The DEIS does not reflect, or even acknowledge the enormous commitment of resources that the communities have made through the years to the regulatory process; to cooperation in emergency planning, monitoring and care of natural resources etc. There must be assurance of mutual support and cooperation from Xcel.

4) Above all, that there is no plan for the waste from the plant beyond storage in casks and facility designed for temporary storage on the banks of the Ms River, and in close proximity to the PI Indian Community, Red Wing and other down and cross-the-river communities. Responsible nuclear waste management requires adequate funding, maintenance and monitoring for the duration of the projected storage period, which is now – more than ever – uncertain, indefinate – unknown. Xcel proposes to continue the 'temporary storage' charade. They have no plans for upgrading the facility, or covering the facility to manage or minimize exposure to the factors found in the YM EIS no-action analysis to be the primary factors in deterioration of containment materials – precipitation and freeze-thaw cycles.

23-4

A new alignment of concerns: For the first time in history, the communities are aligned around these common concerns, irregardless of the outcome of the proceeding. One of the most meaningful mitigations that the state could provide in this proceeding, is to require that an ongoing body be formed for a collaborative, iterative management of the risks, uncertainties, concerns and plans for the PINGP and the Independent Spent Fuel Storage Installation, and its replacements. It is imperative, and required by federal statute that Xcel provide complete assurance of funding, maintenance and management of the waste from the PINGP for the duration of its "interim" storage at PI and in the state of MN.

Responses

Comment 23-4

Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 23- Kristen Eide-Tollefson

Please review the Advisory Task Force report. http://energyfacilities.puc.state.mn.us/resource.html?Id=19788. This document is only the latest iteration of a decades long record of community and environmental concerns, of commitment of state legislative, regulatory, and natural resources to the "nuclear option". Then ask, how are these concerns reflected, addressed in the DEIS? As a sample, please compare the comments in the Advisory Task Force report with the treatment of "Sociological Impacts", page 56, part II.

What we hope for: As neighbors to the plant, we hope that the obvious deficiencies of the document's approach are that this is a 'draft'. The purpose of a draft EIS is not transparency to process, but to give the public an opportunity to comment on its adequacy. If there is no opportunity for the public to comment on the final EIS, then the paucity of independent research, review or analysis is of great concern. We can only hope that the issuance of the draft will facilitate the development of an EIS that better supports the state's decision making process.

"Independent Review": is the hallmark and benchmark of an EIS. While many might consider this proceeding a 'done deal', an 'independent' review of the significant socio-economic and environmental issues at stake has never been more critical. Xcel is seeking the granting of a certificate of need for a capacity uprate and additional dry cask storage to support relicensing the plant – at a moment in time, when the fate of the high level radioactive nuclear waste is more uncertain than ever.

The conviction that Judge Klein articulated in his several findings of fact and recommendations to the state's PUC has never been more relevant: that if there is no where for the waste to go...and no timeline for removal – then the waste cannot be considered temporary, and the decision must be based upon a full awareness of the potential, even likelihood of ad hoc permanent storage. The record for the ALJ Certificate of Need proceeding on the building of an Independent Spent Fuel Storage Installation at PI, that eventually brought the case to the legislature in 1994, was carefully filed, cross referenced, indexed and preserved by Judge Klein, with the belief that it would needed again someday.

Like the first CoN for dry cask storage, this record, the ALJ and PUC deliberations will provide the basis for a landmark decision. The decision in both cases involves the commitment of resources that, from the perspective of the waste, could be irretrievable – for both state and utility. The decision to sink substantial new investments into "the nuclear option", is even more critical than in 1993, when we still had a federal plan for waste from the reactors, and a federal repository under development. There has never been a plan for waste from the relicensed reactors. And now there is not even a federal plan for permanent storage. After the failure of YM, we may not assume that the federal government will necessarily decide to pursue centralized storage. And we must consider, without YM, that the "no-action" alternative, is now in force.

This proceeding's evaluation of the environmental and economic factors associated with "the nuclear option" will:

- direct public investments towards or away from increased and continued dependence upon nuclear power,
- be the state's primary foundation for exercise of its authority and oversight over nuclear waste within the state's borders;
- guide the deliberation of the legislature;
- assure, or undermine, the long term security of the critical water resources – in terms of both supply and quality – of the Ms. River, and associated groundwater resources;
- assure or undermine the confidence of the public in nuclear operations & waste storage at PI.

Responses

Commenter 23- Kristen Eide-Tollefson

23-5

If comments in response to the DEIS, so indicate that the task may be too great for overburdened staff, charged with executing public process and environmental review for what may be the largest influx of energy infrastructure proposals in the state's history – we advocate that supplemental resources, in the form of outside EIS consultants be retained to assist staff in producing the final EIS. The fiscal resources that this might represent can be no excuse for failing to provide adequate, if not exemplary independent environmental review for this critical set of decisions. The consequences are too great. To the challenge of addressing this document, I will choose two critical items for my comment.

Part II. ALTERNATIVES - 6.4.
It is unclear how the DEIS* for Part II in its present form, would be used by decision-makers to evaluate the issues, the information, the reasonableness and adequacy of alternatives development, or the balance of environmental factors for dry cask storage. The evaluation of alternatives, and comparison of their impacts is a central feature and function of environmental review.

The state, with the rest of the nation, is in the midst of trying to implement one of the most ambitious undertakings of energy sector transformation in human history – in response to the dangers of global climate change. Yet rather than use this critical undertaking as a framework for evaluation or analysis, the DEIS ignores all that is going on at the state to move beyond "business as usual".

The approach of the DEIS has been generally to summarize the applicant's environmental report and conclusions, followed by a sentence or two of reflection and/or common sense observations. On occasion, the DEIS on provides a reference outside the materials provided by Xcel. This reference is then given in a footnote and the responsibility of research, analysis and evaluation of the topic at hand is then left to the reader.

On several occasions the EIS provides an interesting speculation, but in most cases carries it no further. It draws in no additional material (other than by reference or footnote), and most often concludes with a statement of uncertainty or inconclusiveness as though the preparers did not see their document as having any real purpose or authority. As a result the neutrality and generally uncertain stand of the document harms rather than supports the purposes of environmental review.

An example of helpful observations that could become the foundation of futher analysis are:

- For purposes of analysis here, reasonable alternatives include energy sources which by themselves, or in combination with other resources, could replace the electrical generating characteristics of the PINGP. [Bullet point for six "reasonable alternatives" follow]
- Potential human and environmental impacts of each of these scenarios could be reduced through demand side management or DSM.
- Thus renewable resource technologies would have a neutral or positive long-term employment impact compared to continued operation of the PINGP.

Excel's environmental report served for both the state's analysis and the NRC analysis of their applications. NOTABLY, Xcel's "reasonable alternatives" listed, but did not analyze the very scenario that Xcel has repeatedly identified as the 'least cost' option to the "nuclear option", that is Wind-Gas.

This is because NRC does not accept, as reasonable, anything other than a one-source alternative. OES correctly states in the bullet point that combinations of resources could provide an alternative to either the uprate or continued operations at PI. In fact, it is now widely understood that combining installed

Responses

Comment 23-5
Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 23- Kristen Eide-Tollefson

traditional, with renewable resources and renewable with other renewable resources, is the most effective route to reducing environmental impacts of energy production.

Yet Xcel fails to analyze a wind-gas scenario, due to the NRC restriction. OES fails to develop the alternative, or require that Xcel do so. The DEIS outlines the bare assumptions of Xcel's analysis ("the scenario relies healivy on generation by LEWCMs...this technology has a relatively lower capacity factor and performs best when combined with another energy source..."), without providing ANY additional information, or guidance.

What is damaging about the omission of immediate opportunities in renewables and the failure to elaborate upon the plethora of DSM opportunities at hand, is that PUC is the body that is charged with directing public and state investments at a most critical time for our energy future.

This document needs to be a foundation for the economic and environmental factors to be evaluated in yet another historic deliberation on the "nuclear option" in MN. Relying solely or primarily on excerpts from Xcel's ER does a grave injustice to the efforts, investments of the state and proactive policy direction of the legislature. A major rationale of putting OES in charge of this review, is that the agency is privy to the policy, planning and implementation of a "next generation" energy system envisioned by the state. OES's full engagement is essential for at least two important reasons:

a) This document will be used by the legislature in its evaluation of the record and PUC decision;

23-6

b) No other party to this docket is in a position to develop alternatives, to fill the gaps, or balance the advocacy of Xcel's well known position on "the nuclear option".

Wind-Gas alternative must be fully developed: Gas from new sources was analyzed for Monticello. But the pre-hearing order for that proceeding, specified that gas from existing sources should be analyzed for strategic combining with wind. This was not done. And should be done here – using the resources of Xcel's gas fleet, which has been under review for upgrading. Strategically located wind-gas could easily replace the 164MW uprate, and has been analyzed by Xcel in its 2003 resource plan for the most economical replacement of PI.

- Why is OES not requiring Xcel to develop this alternative, or develop it itself? Comparing costs of using new and existing gas resource -- and the emerging MISO market to balance and optimize "wind on the wires"?
- Why is OES not giving the decision makers the latest information in how transmission, MISO markets and wind are being combined to alleviate if not eliminate the old bias against renewable alternatives, as "intermittent"?
- The "Natural Gas Combined Cycle Plant" alternative, fails to mention that there is a fully developed study that looks at the conversion of the PI steam plant from nuclear to gas fuel.This is a replacement plan that was ordered by the Commission to supplement the 1998 IRP.
- What is the potential for (even a partial) conversion of the plant to gas, to be combined with wind and freeing the location's transmission infrastructure to integrate more wind capacity, in evaluating options to the uprate, and/or to increasing waste storage at PI.

Responses

Comment 23-6

EPU

The April 22, 2009 *Direct Testimony of Dr. Steve Rakow* (Rakow Direct) in Docket No. E002/CN-08-509 states at page 18, lines 7-9:

> For the renewables mixed with non-renewables alternative, three additional wind (100 MW each) units and one combustion turbine unit are forced into Strategist in 2013.

As explained in the Rakow Direct at page 15, lines 7 to 17, the wind-natural gas alternative was evaluated under numerous contingencies:

> The contingency scenarios used are:
> - natural gas prices plus/minus 25 percent;
> - coal prices plus/minus 25 percent;
> - uranium prices plus/minus 25 percent;
> - expansion unit capital costs plus/minus 25 percent;
> - carbon dioxide (CO2) prices at $30 per ton;
> - CO2 prices at $4 per ton;
> - high energy and capacity requirements;
> - low energy and capacity requirements; and
> - low externality costs.

The Rakow Direct summarizes the cost results of the wind-natural gas alternative in the base case and in the contingency scenarios on page 19, lines 3-7:

> Compared to the EPU, the alternative of wind mixed with non-renewables is more expensive by between $531 million and $703 million in present value societal costs (PVSC), depending upon the specific scenario. Under base case conditions, the alternative of wind mixed with non-renewables alternative is more expensive than the EPU by about $617 million PVSC. Thus, there are substantial cost advantages to the EPU.

Other impacts were also analyzed in the Rakow Direct. The pollution impacts are summarized at page 19, lines 16-20:

Commenter 23- Kristen Eide-Tollefson

Responses

Comment 23-6 (continued)

> Compared to the EPU, the alternatives of either wind mixed with non-renewables or biomass produce greater amounts of every pollutant that was tracked by Strategist. Thus, the proposed EPU would provide substantial emissions advantages. Note that Strategist does not track emission of radioactive particles.

Note that further information regarding differences in tons of pollutants emitted is provided in the Rakow Direct at OES Attachment (SRR-9). The energy source impacts are summarizes as page 20, lines 2-8:

> Energy production in a typical year (specifically, 2025)) was used to compare the resulting energy mix. Compared to the EPU, the alternative of wind mixed with non-renewables would reduce nuclear generation and replace it with more wind, natural gas, and additional coal energy. .... Considering the scenarios that I modeled, the only way to avoid incrases incoal-fired energy is to relicense PINGP.

Note that further information regarding differences in energy production by fuel type is provided in the Rakow Direct at OES Attachment (SRR-10). Finally, the impact on the overall expansion plan is summarized at page 20, lines 15-17:

> Compared to the EPU, the alternative of wind mixed with non-renewables would add three additional wind units.

PINGP Replacement

Text in Chapter 2, Section 7.3 has been modified and supplemented to include economic analysis by the Department of Commerce, Office of Energy Security, Energy Regulation and Planning (ERP) unit, comparing continued operation of the PINGP with alternatives under a variety of costs and externality scenarios. This analysis includes a wind-gas alternative.

OES ERP analysis considers the Midwest Independent Transmission System Operator (MISO) market to be an appropriate tool for short-term capacity and energy needs (e.g., outages, extreme weather), as opposed to long-term resource needs. Limits on transmission capacity (congestion, interconnection) reinforce the short-term nature of the MISO market. Accordingly, OES ERP did not rely upon on the MISO market as all or part of an alternative.

Commenter 23- Kristen Eide-Tollefson

The DEIS, despite its regulatory proximity to the extensive resources at OES, fails to update decision makers on numerous developments that transform old assumptions about the limitations of renewable options. Instead it simply repeats assumptions about intermittency and capacity of renewables, that are being rapidly left behind – as a result of studies and resource proceedings that OES itself is involved in. The state policy preference for renewables is embedded in the Certificate of Need statute and rule. OES as the RGU, not just the facilities planning staff, must take responsibility for the adequacy of the alternatives analysis. Or at least ensure that the resources and information are available for development.

23-7 The range of alternatives discussed in Section I, that include transmission, DG and other combined and renewable options should be discussed in Section II as well.

23-8 **Provide an update of the 1993 record on the "Phase-Out" alternative for PI:** One alternative that the Commission could consider – to minimize the amount of waste over and beyond that for which the federal government provided a plan – is a phased or staged replacement plan. This could be easily accomplished by updating the "Phase-Out" concept that was developed in an extensive record on the first PI Certificate of Need for Dry Cask Storage. The update would be constructed from current established and emerging technologies. Were the state or Xcel to develop such a phase out plan, the scenario would provide for a smooth transition, continued use of the PINGP location's infrastructure, and continuing of jobs and business for both utility and communities – which was its original purpose.

CUMULATIVE IMPACTS 5.4 – Statements and Conclusions, page 37:
Link to all historic documents: http://www.leg.state.mn.us/LRL/Issues/prairieIsland.asp

23-9 The DEIS 'considers' two 'reasonably foreseeable future projects': Continued operation of the PINGP,and use of the ISFSI to facilitate decommissioning. The document does not take up one of the key concerns articulated by the Prairie Island Indian Community (PIIC), and other Advisory Task Force members and documented in the task force's scoping report. As noted earlier, the unexamined potential for impacts from the combined effects of the uprate, the increased storage, and continued operations that is a key concern. Hotter fuel affects every dimension of the operational and waste cycle.

Because of the timing of the dockets, as PIIC has argued, there will not be an opportunity to test the combined effects of these connected actions. To repeat one of the key sets of issues identified in the task force report, and discussed in PIIC's comments:

Concern for short and long term effects of increased temperature stresses of the uprate on:
a) the river ecology (see task force report)
b) the aging reactor;
c) pool storage – increased heat puts stresses on an already overburdened and old pool facility.
d) dry cask storage - current engineering studies have not yet determined the effects of this increased heat on longer term dry cask storage containment.
e) the qualities of ice, fish populations and other factors that are key to the tourist and recreational economies of the area.

23-10 Of even greater concern are the assumptions and assertions that characterize the DEIS's "consideration" of the cumulative effects of at reactor waste storage, which will not be removed on any timeline that is either known or projected – by any body, including the federal government.

Responses

Comment 23-6 (continued)
Text has been added in Chapter 2, Section 7.2 to note that a natural gas plant at the Prairie Island site would not require new transmission facilities, and that such a conversion (repowering) of the PINGP has been studied.

Comment 23-7
Chapter 2, Section 7.2 incorporates the discussion of energy sources found in Chapter 1, Section 3.0. The Chapter 1 discussion provides a thorough overview of energy technologies and their merits. It is unnecessary and would be redundant to repeat this discussion in Chapter 2. The relative merits and projected operating and environmental characteristics of alternatives to the PINGP are discussed in Chapter 2, Section 7.2.

Comment 23-8
Chapter 2, Section 6.4 notes that EIS does not consider expansions of the Prairie Island ISFSI larger or smaller than that proposed by Xcel Energy (excepting a no-build alternative). It is possible that the Minnesota Public Utilities Commission (Commission) could authorize an ISFSI expansion less than that requested. Such a strategy could be used to lengthen the time over which alternatives to the PINGP would be deployed and the generation of the PINGP phased out. The size of the ISFSI expansion is fundamental to the requested Certificate of Need and a determination to be made by the Commission.

Comment 23-9
Cumulative impacts have been addressed in the EIS. Tables have been added to assist in visualizing cumulative radiological impacts to plant personnel and the general public (Chapter 1, Table 4-10; Chapter 2, Table 5A-2).

There are no combined temperature effects (effects of the EPU and ISFSI expansion that are additive) with respect to river ecology, ice, or related recreational activities. Potential effects of increased temperature on storage casks (e.g., TN-40HT cask) have been studied in the Safety Analysis Report for the ISFSI. Potential effects of increased temperature on reactor systems and the spent fuel pool are being examined by the NRC in its license renewal process

Commenter 23- Kristen Eide-Tollefson

The document (p. 334-35):

- "Assumes that regulator monitoring and maintenance continue as currently performed at the ISFSI, radiological impacts from the continued operation of the PI ISFSI for up to 200 years would be within NRC regualtory limits and would not be significant during normal operations."

The DEIS takes the most irrational of NRC premises and extends it over a period 2 to 3 times longer than the furthest reach of the NRC "Waste Confidence Decision", which it discusses at some length in the conclusion of this section. Furthermore these assumptions are in significant contradiction to the analysis and engineering studies that form the basis of the YM "no-action" alternative – which we must now assume to be in force. These references were provided in comments to OES.

- "Once the casks are loaaded, transported, and placed on the ISFSI pad, they are no longer handled. Barring the need to repair a cask seal or other possible damages (which scenario is not addressed at all), the casks are not handled or transported within the PINGP site. Thus, handling of the casks effectively ends within the first 50 years of the 200 year time frame"

23-10

The "consideration" goes on to use a simple mathematical multiplication of risks from a per year estimate, times 34 additional casks and 50 years, to conclude that there is no significant risk. This is, at best, not confidence building.

The potential for cask failure or worst case scenarios are dismissed with the usual concluding statement of uncertainty: "Because of the substantial uncertainties involved in making a worst-case scenario projection, there are likely differences of opinion regarding potential health impacts". (p. 33)

The primary concern of the communities, about the discrepancy between the design life of a 'temporary facility' and the indefinite duration of at reactor storage is addressed in the following way, at pg. 13. "The minimum design life for the TN-40 series of Transnuclear casks is 25 years. However, due ot the passive nature of the dry storage casks and the robustness of their components, it is anticipated that the ISFSI could physically be operated (whatever assurance that provides) for several hundred years".

The DEIS does not seek out either balanced or independent expertise, provides no policy insights or implications and simply dismisses or ignores the fundamental predicament in which we find ourselves with no federal storage plan, waste stranded at the reactor site, while NRC continues to relicense plants and proceed apace with licensure for new plants.

NRC Confidence and MN's authority:
The scoping document for the Monticello ISFSI proceeding, traces the intriguing history of Minnesota's role in the promulgation of the Nuclear Waste Confidence Decision. Suffice it to say, that from the first, Minnesota challenged NRC on its promise to remove waste from the reactor sites. When the reactors were first proposed, the plant was to removed the waste continually – approximately every 6 months. This never happened, and none of the many iterations of plans and promises on the part of the federal government has ever been fulfilled. Hence the promulgation of the "NRC Waste Confidence Decision.

In the face of this less than responsible and rational regulatory 'solution', the state's Radioactive Waste Management Act and the exercise of Minnesota's economic decision making authorities have been the key features of the oversight that Minnesota has been able to exercise over nuclear operations and wastes within its borders.

Responses

Comment 23-10
See response to Comment 4-2 which addresses the same concerns.

Commenter 23- Kristen Eide-Tollefson

116C.705: "The legislature finds that the disposal and transportation of high level radioactive waste is of vital concern to the health, safety, and welfare of the people of Minnesota, and to the economic and environmental resources of Minnesota. To ensure the health, safety, and welfare of the people, and to protect the air, land, water, and other natural resources in the state from pollution, impairment, or destruction, it is necessary for the state to regulate and control, under the laws of the United States, the exploration for high level radioactive waste disposal within the state of Minnesota. It is the intent of the legislature to exercise all legal authority for the purpose of regulating the disposal and transportation of high level radioactive waste."

This legislative intent was reinforced in an amicus brief from legislators, written to the court, on the decision that brought the decision on dry cask storage to the 1994 legislature. http://www.leg.state.mn.us/webcontent/lrl/issues/nuclear%20waste/amicusbrief.pdf Innumerable comments, testimonies and lobbying efforts through the years have sought to sustain these powers. It is therefore of enormous concern that the section on cumulative impacts in the DEIS, ends with the following assertion of conclusion and position:

23-11

"Confidence at the NRC that temporary, long term storage of dry casks at ISFSI's nationwide can be effected safely does not provide or supplant an independent decision by the State of Minnesota regarding the risks of long term storage of dry casks at the Prairie Island ISFSI. However, *discussion in this section*, based on analysis required by the NRC (Safety Analysis Report; which is not yet available for the relicensing proceeding), *and independent analysis* (EPRI risk assessment),*is congruent with the NRC's Waste Confidence Rule"*.

This alarming conclusion to the section on cumulative and radiological impacts, insofar as it makes sense, could be read to seriously undermine the state's record and independent view on this matter. It is in direct contradiction to the interests of the local communities, stated positions of the PIIC, and long time policy positions of the state. It appears to assert:
a) the reasonableness of the proposed extension (to 60 years, or indefinately) of the Waste Confidence decision timeline;
b) agreement of the DEIS's conclusions with the proposed ruling; and
c) that there is no fundamental incongruity between the state's authority and interests and the implications of this ruling.

I will depend upon the comments of the Prairie Island Indian Community to the proposed Revisions to the Waste Confidence Rule (Docket ID NRC-2008-0404) and the Waste Confidence Decision (Dockeet ID-2008-0482) to lay out the issues.
http://docs.google.com/gview?a=v&pid=gmail&attid=0.1&thid=1205e18c031c7a1a&mt=application%2Fpdf.
It is critical that the OES's Office of Federal Intervention, and the state's attorney general investigate the implications of the conclusion of the DEIS on this matter.

23-12

The DEIS must grapple, once and for all, with the fact that long term storage is not temporary storage, and a temporary storage facility is not adequate for long term storage. To fail to address this fundamental flaw, is to endanger many future generations and the water body that is the juggler vein of the nation.

23-13

I wish to incorporate, in whole, by reference the PINGP Study Group Comments to the DEIS, submitted on 5-08-09 by counsel, Paula Maccabee.
Most respectfully yours,
Kristen Eide-Tollefson

Responses

Comment 23-11
Text in Chapter 2, Section 5.4 has been modified to clarify that Minnesota's authority with respect to the management of spent nuclear fuel is independent of any analysis or guidance provided by the NRC.

Comment 23-12
See response to Comment 1-1 which addresses the same concerns

Comment 23-13
See responses to Commenter 16.

Commenter 24- Dennis Hatleli

From: hatrod39dlx
To: Bill.Storm@state.mn.us;
Subject: Comments on current Excel Energy proposal
Date: Tuesday, May 05, 2009 9:00:32 PM

Dear Mr. Storm.

How much credibility can we apply to an industry which has historically changed its tune many times on a number of critical issues. For example, in order to win public approval for building the first nuclear plants, the nuclear industry agreed to accept a specific schedule whereby these plants would be decommissioned at a predetermined time when aging would render them more susceptible to accidents. When that time arrived, however, these people reneged on their agreement, using their wealth and well-place politician(s) to keep these aging facilities in operation. Soon thereafter they sold the public on the idea of onsite dry-cask storage of nuclear waste with a promise that it would be only temporary and would soon be removed to a permanent storage site elsewhere. Now that the proposed facility at Yucca Mountain has been nixed, Excel Energy again changes its tune. Now they want to increase the output of the aging Prairie Island plant, and significantly increase the number of casks to be used for on-site storage of spent nuclear fuel.

24-1

Let's face it. The possibility of ever finding a permanent nuclear waste storage site is highly unlikely. No one wants anything stored near them which will remain lethal for thousands of years. Furthermore, even if a site were located, who would want to have the deadly waste transported through their home area on its way to such a facility. (Remember the furor in Rochester over the possibility of DM and E trains accidentally spilling materials which are millions of times less lethal than nuclear waste?) Therefore, the on-site storage which was sold to us as "temporary" seems well on its way to becoming permanent.

With nuclear waste storage facilities located on the upper Mississippi River, even one accidental spill would deal a mortal blow to the entirety of America's heartland. This is extremely disturbing for the millions of us who are forced to live, work, and raise our families downstream and downwind from aging nuclear power plants with ever-expanding nuclear waste dumps on site.

The same people who were ready and willing to ship their spent nuclear

Responses

Comment 24-1
Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 24- Dennis Hatleli

fuel to an area of seismic instability keep reassuring us that storage of this material is absolutely safe. That is a tremendously large claim for something that will remain lethal for thousands of years. Only fools would make such an assertion and, likewise, only fools would believe it. History is rife with examples of the folly of human arrogance and its consequences.

24-2 Allowing Excel Energy to once again get its way would be a monumental mistake. Instead, we need to focus on renewable energy sources together with the elimination of gluttonous energy consumption.

Sincerely,

Dennis Hatleli

Lake City, MN

Responses

Comment 24-2
Thank you for your comment. It has been noted and included in the record for this EIS.

Commenter 25- City of Red Wing

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May 8, 2009

Via E-mail (bill.storm@state.mn.us) and U.S. Mail

Mr. William C. Storm
Minnesota Department of Commerce
Office of Energy Security
85 – 7th Place East
Suite 500
St. Paul, MN 55101

Re: Environmental Impact Statement In the Matter of the Application of Northern States Power Company d/b/a Xcel Energy for Certificates of Need for the Prairie Island Nuclear Generating Plant for an Extended Power Uprate and Additional Dry Cask Storage; MPUC Dockets: E-002/CN-08-509 and E-002/CN-08-510

Dear Mr. Storm:

The purpose of this letter is to provide the Department of Commerce, Office of Energy Security (the "DOC") with comments pertaining to the March 17, 2009, draft Environmental Impact Statement (the "DEIS") for the above-referenced matters. These comments are submitted on behalf of the City of Red Wing (the "City"). However, it should be noted that the City did participate in the Prairie Island Nuclear Generating Plant Study Group (the "Study Group") as well as the Advisory Task Force appointed to comment on the scope of environmental review necessitated by Xcel Energy's Applications for an Extend Power Uprate and Additional Dry Cask Storage (the "Applications"). It is my understanding that the Study Group will be submitting its own comments regarding the DEIS. The City supports the Study Group's comments and, to the extent they overlap with the comments set forth herein, the City incorporates the Study Group's comments as if those were its own.

OVERVIEW

The DEIS arises from the combined Dockets for the Certificates of Need Administrative Hearings that are currently pending before Judge Luis. The DEIS is separated into two parts: Chapter One, which addresses the Application for an Extended Power Uprate and Chapter Two, which addresses the Application for Additional Dry Cask Storage. As is noted in the DEIS, these Applications are in conjunction with the series of Applications that are pending or will be submitted by Xcel Energy to the Nuclear Regulatory

Responses

Commenter 25- City of Red Wing

Commission for, among other things, an extended license to operate the Prairie Island Nuclear Generating Plant (the "PINGP") for an additional 20 years, license to store additional spent fuel and to have the Power Uprate during the additional 20 years of the relicensing.

As is aptly pointed out by the comments of the Study Group, the purpose of the DEIS and ultimately the final Environmental Impact Statement (the "FEIS") is to advise the Administrative Law Judge, the Minnesota Public Utilities Commission, the Minnesota Legislature and other policy and decision makers on the environmental impacts of proposed Applications, appropriate alternatives and certain mitigation steps or efforts that can be taken relative to the same. See, *Minn. Stat. §116D.04 Subd. 2a (2008)*. Under Section 116D.04 Subd. 2a, the environmental impact statement is to be prepared by the responsible governmental unit. The environmental impact statement is to be analytical and detailed and not simply "an encyclopedic document". *Id.* The DOC, by virtue of the consolidation of the Environmental Quality Board into the same, is the responsible governmental unit obligated to provide the Environmental Impact Statement for Xcel Energy's above-referenced Applications.

The DEIS presented fails these essential purposes. It lacks independent analysis, and glosses over the environmental, economic and other policy concerns that are raised by Xcel Energy's Applications. In place of analysis, the DEIS simply assumes that a great number of the facts presented by Xcel Energy in its Applications are accurate and complete. This failure of the DEIS deprives each decision maker at the various stages in which the Applications are to be analyzed of crucial facts needed by them to fulfill their role. As it is currently composed, the DEIS fits exactly into the category of what Section 116D.04 Sub. 2a describes it should not be: an encyclopedic document where the facts presented by the Applicant are simply deemed to be true and correct.

While these comments will provide specific language and analysis that should be contained in the FEIS, an overview examples of the lack of analysis, detail and evaluation of mitigation efforts are as follows:

1. The DEIS, and indeed the scoping decision, defers much analysis. It creates and relies on a preemption argument that is not supported either by case law or by statute. Indeed, the specific limitations set forth in the DEIS fails to recognize the rights and responsibilities of Minnesota policy makers relative to the health, safety, and welfare of its citizens. While ultimately, the same conclusion may be reached, it is imperative that the DOC, through the DEIS and FEIS, thoroughly review (and not just recite) the Application, identify the environmental, societal, and economic issues and engage in a robust discussion of them, their alternatives, and the necessary mitigation efforts relative to the same.

2. With respect to the storage issues, the DEIS identifies a potential 200 year period in which the spent fuel may be stored at the PINGP. Yet, there is no analysis on how that spent fuel is going to be monitored, maintained, and safeguarded during that period of

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Commenter 25- City of Red Wing

time. While there is reference to a maintenance program relative to current spent fuel storage but there is nothing that identifies how this will fill the 200 year timeframe. There is no reference to the Yucca Mountain Environmental Impact Statement and its analysis of above-ground spent fuel storage systems and concrete pads upon which they are placed. There is no analysis of the TN40-HT Cask or its limited design life of 20 years and how that fits into the proposed 200 year timeframe.

3. There is a discussion of the Decommissioning Docket, the 60 year Waste Confidence Rule, and the 200 year period in which the spent fuel is anticipated to be stored at the facility. However, there is no analysis that ties these together. For example, there is no cost evaluation of the monitoring, inspection, and/or maintenance of spent fuel storage for either the 60 year period or the 200 year anticipated period. There is no analysis on whether the Decommissioning Docket has sufficient funds for this storage and/or how the same would tie-out to the 60 year Waste Confidence Rule or the 200 year storage facility. While there is acknowledgement that the Federal Government is responsible for the long-term storage of the spent fuel, there is no acknowledgement that Xcel Energy, until that time comes, is responsible for the safety and storage of the same.

4. The DEIS introduces a concept that is outside of the rules or statutes regarding spent fuel storage: temporary long-term storage. This term is not defined in any statute, rule, caselaw or otherwise. In fact, it is contrary to Xcel Energy's obligations relative to its Application whereby it must disclose whether the spent fuel is going to be temporary or permanent. See, *Rule 7855.0600C*. There is no discussion or analysis of what temporary long-term storage means and how the same fits within the construct of current Minnesota Statues and Rules.

5. Finally, and in fairness to the DOC since these issues were raised after the DEIS was published, the DEIS and the FEIS must include an analysis of the City's position relative to its ability to provide first responder services to any incident at the PINGP. The DEIS, on numerous occasions, cites to the Emergency Response Plans of Xcel Energy and the coordination of those through other response plans by the State of Minnesota and NRC. However, as the testimony of Roger Hand clearly indicates, under each of these plans, the City is the primary and first responder. If the City is unable to provide the adequate, necessary, and timely response as anticipated by those Emergency Response Plans, what will be the result? The FEIS must include an analysis of the City's position and the environmental and economic impacts of the same. In fact, the only prudent analysis by the DOC in analyzing the potential environmental impacts is to assume that the Emergency Response Plans will not provide an effective or timely response to any event at the PINGP and apply the same to both non-radiological and radiological events.

Responses

Commenter 25- City of Red Wing

Mr. William C. Storm
May 8, 2009
Page 4

ANALYSIS

With respect to the DEIS, the City has the following comments and suggested modifications to the DEIS. However, in making these suggestions, the City believes that the DEIS or FEIS should also reflect the overall general policy concerns set forth above and as set forth in the PINGP Study Group's DEIS comments.

1. In Chapter One, Section 4.13, Page 88, the DEIS identifies the Emergency Response Plans and how the same would be implemented in the event of a radiological release. It should be noted, that the Emergency Response Plans, do, in fact, address both radiological and non-radiological events at the PINGP. As such, the general description of the Emergency Response Plans should address this fact.

25-1

In addition, the DEIS or FEIS must address the alternative that the City and its fire, ambulance, and police departments may not be able to adequately respond to an event at the PINGP. The DEIS or FEIS should then evaluate the impact of this lack of appropriate response and how the same would be reflected in its analysis in the preceding 87 pages of Chapter One. The City's potential inability to respond appropriately precludes any assumption by the DOC that the Emergency Response Plans are going to be effective.

25-2

2. In Chapter Two, Section 3.2, Page 13, the DEIS introduces the concept of "temporary long-term storage of spent nuclear fuel." There is no explanation about what this term means or how this definition was reached. The term itself stands in contrast to the obligations of Xcel Energy, as the Applicant, to identify whether storage is temporary or permanent in its Application. It also stands in contrast to Minn. Stat. §116.83 Sub. 4, which indicates that permanent storage is supposed to occur in an out-of-state facility. The DEIS and the DOC must explain what this new concept means and how it relates to Xcel's Applications.

25-3

3. In Chapter Two, Section 3.2, Pages 12-13, the DEIS describes the monitoring, inspection, and maintenance for the Dry Casks. It further identifies that the design life for the TN-40 Series is 25 years. This analysis and the failure to include the other information that would allow for a more robust discussion on the effectiveness of the monitoring, inspection and maintenance plan is wholly deficient. First, the TN-40 is not the Cask that is going to be used. Rather, it is the TN-40HT Series, which has a design life of 20 years. Second, there is no analysis whatsoever of the concrete or other items that are to be used as part of the ISFISI. The DEIS specifically ignores that Yucca Mountain EIS, which sets the anticipated concrete life of an ISFISI at approximately 100 years. The DEIS also ignores a specific report referenced in the Yucca Mountain EIS regarding the life expectancy of concrete that is subject to the conditions normally associated with spent fuel storage systems. The life expectancy is also greatly impacted by the freeze-thaw cycle with St. Cloud, Minnesota specifically cited as the extreme end of this cycle. To effectively evaluate what steps can be and should be taken by Xcel Energy to mitigate against the degradation of the Casks and the concrete supporting them, a more appropriate monitoring inspection and

Responses

Comment 25-1
Text in Chapter 1, Section 4.13 has been modified to clarify that emergency response plans address radiological and non-radiological emergencies at the PINGP.

Text in Chapter 2, Section 5.4 has been modified to reflect the possibility that the City of Red Wing may not be able to adequately respond to an emergency at the PINGP. Text in Chapter 2, Sections 4.9, 5.3, and 5.4 has been modified to reflect the possibility that the City of Red Wing may not be able to adequately respond to an emergency at the Prairie Island ISFSI.

Text in Chapter 2, Section 5.4 has been modified and supplemented to discuss the need for institutional control in order for ISFSIs to function as designed and protect public health. This control includes functioning political-governmental entities.

Comment 25-2
The term, "temporary, long term storage," as used in the EIS to describe the storage of spent nuclear fuel at the ISFSI is not an attempt to characterize such storage with respect to Xcel Energy's application for a Certificate of Need or Minnesota Statutes. Rather, it is an attempt to describe for the general reader the situation which exists with respect to storage at the Prairie Island ISFSI. There is a federal obligation for removal of spent nuclear fuel at the ISFSI to a federal repository. Thus, storage at the ISFSI is temporary. For a number of reasons, there has been considerable delay in constructing and operating a federal repository (see Chapter 2, Sections 5 and 6). Thus, storage at the ISFSI is, or has the potential to be, long-term. In sum, it is temporary, long-term storage.

Comment 25-3
Text in Chapter 2, Section 5.4 has been modified and supplemented to include information from the Yucca Mountain EIS and discusses the need for institutional control in order for ISFSIs to function as designed and protect public health.

Commenter 25- City of Red Wing

maintenance system must be developed and evaluated. Indeed, it is the DEIS that sets out a 200 year period for this analysis but fails to explain or provide any support for its conclusion that the equipment and programs to maintain the same are sufficient to provide containment for that period of time.

25-4

4. In Chapter Two, Section 3.4, Page 15, under the analysis for "Funding for Decommissioning", the DEIS fails to identify how adequate funding is going to be provided for the 200 years. It is imperative that the DEIS detail the costs associated with the spent fuel. At a minimum, it would be prudent for the DEIS to analyze how Xcel Energy intends to meet, at a minimum, the financing necessary to inspect, monitor, and maintain the storage systems for the 200 year period or at least 60 years. The Decommissioning Fund, as noted in the DEIS, supposedly covers ISFIS operations but there is no analysis relative to the same. The DEIS must analyze this information.

25-5

5. In Chapter Two, Section 4.9, Page 22, the DEIS references the Emergency Response Plans Xcel Energy maintains for all activities at the PINGP site. In doing so, the DEIS simply assumes that the Emergency Response Plans will operate and that any incident will be appropriately addressed pursuant to the same. The DEIS analysis must be amended to include the alternative that the Emergency Response Plans may not operate as assumed. The City has provided testimony that it may not be able to meet its duties and unless its ability to respond to the same is addressed the response will be inadequate and/or ineffective.

25-6

6. Under Chapter Two, Section 4.10, Pages 22-23, the DEIS concludes that "the non-radiological impacts related to the expansion of the Prairie Island ISFISI are not significant." As previously pointed out, this conclusion, and any analysis backing the same, is deficient. There is an assumption that the equipment (casks and concrete) and the materials that comprise the same will last for 60 or 200 years, depending upon whether the DEIS follows the Waste Confidence Rule or its own assumptions. However, there is nothing to backup this conclusion. There is no analysis or regard for the design life of the cask that is proposed to be used, the limitations associated with the same, or any analysis on how long this casks has been in use. There is an assumption that the materials and all the welds, seals, and other joints will survive intact from all events whether that is time, weathering, deterioration, or other events. In short, the conclusions are unsubstantiated and the analysis must be supplemented if these conclusions are to be supported.

25-7

7. Under Chapter Two, Section 5.3, the DEIS walks through a number of different incidences that may result in a radiological release. This analysis covers natural phenomena, manmade phenomena, and either hypothetical cask confinement failures. Underlying each of these different proposed events, is the existence and effective operation of the Emergency Response Plan that mitigates or limits any release. The City has introduced evidence that it may not appropriately be able to respond to the Emergency Response Plans currently in place. Again, it should be noted that the City's fire, ambulance, and police are and shall be the first responders under any plan currently in place relative to the PINGP. Accordingly, the analysis under Section 5.3 must be modified to include a

Responses

Comment 25-4
Costs for on-going ISFSI operations are discussed in Chapter 2, Section 3.4 (nuclear decommissioning trust fund). The Commission docket (E002/M-08-120) which addresses the decommissioning trust fund includes significant analysis by the Office of Energy Security, Energy Regulation and Planning (ERP) unit. Costs for on-going ISFSI operations are also discussed in Chapter 2, Section 5.4; the text has been supplemented to include costs estimates from the Yucca Mountain EIS and from the Office of Energy Security, ERP unit.

Comment 25-5
See response to Comment 25-1 which addresses the same concerns.

Comment 25-6
Section 4.0 of Chapter 2 of the EIS discusses potential non-radiological impacts resulting from the proposed ISFSI expansion. Section 4.10 discusses cumulative non-radiological impacts. Non-radiological degradation of ISFSI components (e.g., corrosion, weathering, cracking) has the potential to cause radiological impacts. These impacts are discussed in Chapter 2, Section 5.0.

Comment 25-7
See response to Comment 25-1 which addresses the same concerns.

Commenter 25- City of Red Wing

scenario where the presumption that the Emergency Response Plans will effectively operate is removed.

25-8

8. In Chapter Two, Section 5.4, Page 34, the concept of temporary long-term storage is again used. While there is a loose association between that term and 200 years, the DEIS must specifically setout if that is what it interprets that term to mean. If so, the DEIS must explain and identify how that was reached and what measures it is utilizing to conclude that the spent fuel storage systems currently used and/or proposed to be used by Xcel Energy are adequate.

25-9

9. In Chapter Two, Section 5.4, Page 34, under the heading "Normal Operations" the DEIS concludes that if regular monitoring and maintenance continues as currently performed, any risk of a radiological event will not be significant. Other than the pressure monitors, visual inspection, and painting with corrosive inhibiting coatings specified in Pages 12 and 13 of Chapter Two, there is no other description of monitoring, inspection, or maintenance. The current process described is completed on casks that have been in use for a mere 14 years. This is not even 10% of the lifetime that the DEIS projects for storage.

The DEIS fails to analyze how, for the remainder of 200 year period, this inspection, monitoring, and maintenance system will be effective. There is no analysis relative to aging or degradation of the systems and how these are to be handled or paid for. In short, the conclusion reached is illogical based on the time that the DEIS assumes spent fuel will be stored.

25-10

10. Under Chapter Two, Section 5.4, Pages 36-37, there is a stated and thereafter implied assumption that the "emergency planning measures remain effective into the future." The testimony from the City has clearly rebutted this assumption and the DEIS must be modified to reflect that the emergency planning measures will not remain as effective as the DOC assumes.

CONCLUSION

The DEIS fails is essential purpose. It does not provide a detailed analysis of the proposed Applications and their potential impact as well as the steps that could be taken to mitigate the same. Instead, it regurgitates large sections of Xcel Energy's Applications and does not critically analyze the same as it is obligated to do by statute and rule. The DEIS simply assumes that these facts are correct and, based on a number of other external reports, analysis, and actions, that there will be no significant impact if the Certificate of Needs as requested are granted. The DEIS must be modified so that the policymakers have an appropriate record to evaluate the environmental impact of the proposed Applications. With respect to the assumption that the Emergency Response Plans will be implemented and in place, the City's testimony clearly rebuts any presumption that this will be the case. Accordingly, the DEIS and the FEIS must be modified to reflect this rebuttal.

Responses

Comment 25-8
See response to Comment 25-2 which addresses some of the same concerns. Text has been added in Chapter 2, Section 5.4 which discusses the uncertainty of a federal repository and the use of a 200-year timeframe as an attempt to bound this uncertainty. Text in Chapter 2, Section 5.4 has been modified and supplemented to include scenarios from the Yucca Mountain EIS, including storage of spent nuclear fuel at ISFSIs for up to 10,000 years.

Comment 25-9
Text in Chapter 2, Section 5.4 has been modified and supplemented to include scenarios from the Yucca Mountain EIS, including storage of spent nuclear fuel at ISFSIs for up to 10,000 years. Monitoring and maintenance at the Prairie Island ISFSI would need to be effective in order for the ISFSI to function as designed. Among the measures that the Yucca Mountain EIS assumes necessary for effectiveness is replacement of the ISFSI every 100 years. Whether such a measure will be necessary for the Prairie Island ISFSI is uncertain. Text in Chapter 2, Section 5.4 has been added which discusses Yucca Mountain EIS assumptions and costs.

Comment 25-10
See response to Comment 25-1 which addresses the same concerns.

Commenter 25- City of Red Wing

With respect to the continued storage of spent fuel, there must be an effective analysis of the continued storage of the same during the timeframe that the DEIS itself has established. This must include a timeline of funding, and plan for the maintenance, inspection, repair and replacement, if necessary, of the casks and other support systems in and around the facilities that store the spent fuel. This information was specifically requested by the Advisory Task Force and must be included within the FEIS.

I thank you for your considerations in this matter.

Very truly yours,

MADIGAN, DAHL & HARLAN, P.A.

/s/ Thomas P. Harlan

Thomas P. Harlan

cc: Kay Kuhlman (via e-mail)
Marshall Hallock (via e-mail)

Responses

Commenter 26- Bruce McBeath

From: Bruce McBeath
To: Bill.Storm@state.mn.us;
Subject: EIS - PINGP Commentary
Date: Sunday, April 26, 2009 8:28:14 AM

Bill:

These comments are in response to the EIS you submitted to former task force members. Thank you for inviting addition commentary on your report.

26-1

I'm directing my comments to Section 4.5, specifically related to "Psychological Impacts Associated with Living Near a Nuclear Generating Plant." As a task force member who is a practicing clinical psychologist in the Red Wing area, I addressed my responses primarily to these concerns. At that time, I suggested that anxiety and related stress responses could be factors impacting children and families living near the nuclear plant and that some baseline data be developed that could be monitored over a period of time. Also, monitoring plant employee stress levels as a health and safety factor would appear of fundamental importance. There may be an on-going process at PINGP for doing that, but I am not aware that we, as a committee, received any information about it if such a process exists.

Your EIS report makes some mention of the more generalized impact on a community associated with living by a nuclear plant, but does not specifically address the concerns I (and others) raised earlier. There are baseline data on other health related areas, like radioactive emission testing, but no baseline data on significant psychological factors affecting children, families, and employees at PINGP. If it were not possible to discern these factors, we might understand this omission. Quantitative measures may be superficial and of little value here. But good qualitative tools are available to provide a "community psychological health" assessment that would highlight areas for further on-going monitoring and evaluation. Psychological factors are as "real" as physical factors are, and an adequate process for their routine consideration needs to be included in your report.

Concern about psychological impacts on the host community/communities from a larger, community-based, perspective have also not been addressed. In the study cited in your report("Living with Nuclear Power in Britain:A Mixed Methods Study"), the researchers identified and applied a mixed qualitative/quantitative process that surfaced

Responses

Comment 26-1
See response to Comment 4-3 which addresses the same concern.

Commenter 26- Bruce McBeath

significant themes related to how anxiety was experienced and managed by respondents living in the communities containing nuclear power stations. Significant for our purposes is their description of the relationship between anxiety and the level of "institutional trust"experienced by members of these communities. Sustaining transparency in the interactions between nuclear plant staff, government officials and the host communities appeared a primary factor in reducing anxiety. "Trust in the system" is itself an aggravating or mitigating psychological factor that requires monitoring and evaluation.

In summary, I propose that psychological factors affecting individuals and communities living near the PINGP can and should be identified and monitored. The increasing likelihood that dry cast storage will remain at Prairie Island into perpetuity only increases the need for effectively monitoring health and safety factors, and psychological factors rank equal among them.
Thank you,
Bruce McBeath

Responses

Commenter 27- Andru Peters

Andru Peters
1009 Safari Way
Lake City, MN
Tel: 651-345-3045
E-M: cadancinbear@yahoo.com

Public Hearing, Red Wing, MN
April 21, 2009

RE: EIS Xcel Energy Prairie Island Nuclear Generating Plant, March 17, 2009

REF #1: Chapter 4.0 Human & environmental Impacts; Sub 4.9 Transportation & Sub 4.11 Water Resources

REF #2: CFR 49 Transportation (1990); Part 171, Sub Chapter C – Hazardous Materials Regulations

Part 172, Subpart D marking, subpart E labeling, subpart F placard

Part 173, Subpart B Preparation of Hazardous materials for transportation; subpart I radioactive materials

I am a member of the Prairie Island Study Group and also a participating member of the Advisory Task Force Team.

The report is non specific as to whether interstate Traffic and/or intrastate traffic will be utilized in transporting hazardous materials – nuclear waste (spent fuel rods).

1. Interstate transportation (Yucca Mountain, NV) was a non-issue back in the late 1990's, both the state of California and Nevada would not allow transport of nuclear waste for either inter- or intrastate movements.
   NOTE: I participated in numerous discussions and advised motor carriers on hauling.

2. Para 171.2 states: no person may offer or accept a hazardous material for transportation in commerce unless the material is properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized per this sub chapter. . . .

27-1 3. I did not see any reference of complying with DOT standards or guidelines?

4. Para 171.3(3) states: Delivers, as designated on the entire manifest by the generator, the entire quantity of the waste received from the generator or transporter...

Responses

Comment 27-1
See response to Comment 2-1 which addresses the same concern.

Commenter 27- Andru Peters

EIS Comment
April 21, 2009
Page two

5. Para 171.3(d) states: If a discharge of hazardous waste or other hazardous material occurs during transportation, and an official of a state or local government or a Federal agency. . . . . (there is notification protocol, EPA involvement

6. Para 171.12(e) states: Radioactive material being shipped must meet IAEA Regulations for safe transport of radioactive materials, as amended.

7. Part 1034 Routing of Traffic, specifically re-routing by rail or motor

27-2

8. By maps 300 casks + 300 casks movement within Minnesota. Originally for moving casks to Yucca Mountain. Question is the pad extension for up to 48, what will be proposed for the addition of the 99 casks being projected, above the current 48?

9. Unclear which counties are impacted – a contradiction exists. Maps do not show any counties along TH 61 from LaCrosse to Red Wing being in the transportation zone; BUT, the EIS declares TH 61 as a designated route? There is a contradiction between DOT & MnDOE on designated and approved routes?

10. Major routes identified and no visible documentation as to route approval? Maps show I-90 (LaCrosse to Albert Lea) & I-35 (Metro area to Albert Lea) corridor as preferred routes. Rail routes identified are CP line PI, Red wing to St. Paul, then St. Paul southwest towards Iowa order. There is NO EIS identification of the rail route parallel to TH 61 southbound along the Mississippi River.

27-3

11. For counties affected by transportation of nuclear waste, Goodhue, Wabasha & Winona counties are not identified as affected counties. This is a contradiction between Federal Agencies and MnDOE/Xcel?

27-4

12. For section 4.11 Water Resources, specifically Lake Pepin Ice Cover, Table 4-5 heading should be amended to read "post PI nuclear power plant placed in operation". Insert an additional table to show "pre PI nuclear power plant construction for the time period of 1940 – 1949. This table would be in the +/- date range of before and after plant operations.

Responses

Comment 27-2
See response to Comment 2-1 which addresses the same concern.

Comment 27-3
See response to Comment 2-1 which addresses the same concern.

Comment 27-4
The text in Chapter 1, section 4.11-*Lake Pepin Ice Cover* has been modified to expand the discussion on this issue.

Commenter 27- Andru Peters

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April 21, 2009
Page three

27-5

13. From personal experience living next to Lake Pepin, the compare and contrast using the pre & post dates for visual observation for winter months: Key premise is that the City of Lake City winter business has been significantly impacted by PI discharge of warmer waters into the Mississippi River which has reduced ice thickness.

	1940s	2000s
MnDOT declaring temporary Road	Yes	No
City snow plows crossing lake	Yes	No
Avg. daily number of autos crossing	60 - 100	0
Number of ice houses on the lake	250 - 350	15 – 40
Ice fishing contests	Yes, annually	No
Number of contest attendees	40 - 1000	0
WI citizens who can shop in LC	100	0
Number of vehicles breaking thru ice	1	5 - 7

At minimum it should be requested the water discharge temperature should be equal to the water temperature 10 miles downriver from the PI plant.

14. Ice thickness data should show a consistent significant thickness in which ice related business can be sustained with vehicles and people being able to use the ice for recreation and business purposes; which is the heart beat of a small rural river town.

15. In addition there used to be numerous ice boats that would traverse the lake in the 1940s – 1950s and today none can be found on the lake. Yes, hover crafts are used; WHY, ice not thick enough to hold the weight of autos, ice houses, and ice boats.

Thank you for considering these remarks in updating and modifying the EIS documents for Section 4.9 and 4.11 respectively.

Andru Peters
Lake City, MN

PIEISHearingApr2008

Responses

Comment 27-5
See response to Comment 12-1 which addresses the same concern.

Commenter 28- Minnesota Historical Society

Minnesota Historical Society
STATE HISTORIC PRESERVATION OFFICE

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May 7, 2009

Mr. Bill Storm
MN Dept. of Commerce
85 7th Place, Suite 500
St. Paul, MN 55101-2198

RE: PUC Docket Nos. E002/CN-08-509 & E002/GS-08-690
PUC Docket No. E002/CN-08-510
Xcel Energy Prairie Island Nuclear Generating Plant
Extended Power Uprate Project
Additional Dry Cask Storage
Red Wing, Goodhue County
SHPO Number: 2009-1383

Dear Mr. Storm:

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to the responsibilities given the Minnesota Historical Society by the Minnesota Historic Sites Act and the Minnesota Field Archaeology Act.

28-1 Based on our review of the project information, we conclude that there are no properties listed on the National or State Registers of Historic Places, and no known or suspected archaeological properties in the area that will be affected by this project.

Please note that this comment letter does not address the requirements of Section 106 of the National Historic Preservation Act of 1966 and 36CFR800, Procedures of the Advisory Council on Historic Preservation for the protection of historic properties. If this project is considered for federal assistance, or requires a federal permit or license, it should be submitted to our office with reference to the assisting federal agency.

Please contact our Compliance Section at (651) 259-3455 if you have any questions regarding our review of this project.

Sincerely,

Britta L. Bloomberg
Deputy State Historic Preservation Officer

cc: Rae Lynn Asah
Brian Zelenak, Excel Energy
Prairie Island Indian Community

Minnesota Historical Society, 345 Kellogg Boulevard West, Saint Paul, Minnesota 55102
651-259-3000 • 888-727-8386 • www.mnhs.org

Responses

Comment 28-1
Thank you for your comment. It has been noted and included in the record for this EIS.