

**BASIN ELECTRIC
POWER COOPERATIVE**

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE: 701-223-0441
FAX: 701-557-5336



June 9, 2009

Annette Bendish, Counsel
North Dakota Public Service Commission
600 East Boulevard Avenue, Dept. 408
Bismarck, ND 58505

RECEIVED

JUN 10 2009

Re: PUC Case No. PU-08-75

PUBLIC SERVICE COMMISSION

Dear Ms. Bendish:

On May 26, 2009, the North Dakota Public Service Commission held a siting hearing in Minot, North Dakota, on Case Number PU-08-75 regarding the PrairieWinds ND 1 project to be built by Basin Electric Power Cooperative.

During the hearing, the Commission made several requests for additional information to be submitted as "late filed exhibits". The following is a list of the documents requested:

- Exhibit #2, Minot Air Force Base: e-mail communications among Basin Electric, Air Force personnel, Verendrye Electric and various contractors reflecting coordination with the U.S. Air Force;
- Exhibit #5, Land Owner Consent: Basin Electric has proposed to locate a turbine within 1,400 feet of an occupied residence. The owner of the residence has signed a written consent (attached).
- Exhibit #9, Set Back Distances: information regarding the three turbines proposed to be located within 400 feet of a public right-of-way.

Enclosed with this letter are the above-named documents.

The Commission also requested Basin Electric provide a copy of the Rural Utilities Service's Environmental Assessment when it is final. We shall do so.

If you have any questions regarding this letter or any of the enclosures, please call me at 701/557-5713.

Sincerely,

A handwritten signature in black ink, appearing to read "Deborah Fohr Levchak".

Deborah Fohr Levchak
Staff Counsel

dfi/mw

Enclosures

c: Jerry Lien, PSC

34 PU-08-75 Filed: 6/10/2009 Pages: 93
Late-Filed Exhibits #2 (Minot AFB), #5 (Consents), #9
(Set-Backs)

Basin Electric Power Cooperative

**BASIN ELECTRIC
POWER COOPERATIVE**

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE: 701-223-0441
FAX: 701-557-5336

To: North Dakota Public Service Commission

From: Ron Rebenitsch, Project Manager 

Date: June 2, 2009

Re: Case No. PU-08-75, Late Filed Exhibit – Air Force Base Communications

During the Commission's May 26, 2009 public hearing regarding the above-referenced Project, the Commission requested Basin Electric to provide further information regarding Basin Electric's communications and coordination with the Minot Air Force Base (**MAFB**).

Basin Electric initiated communications with MAFB early in the development of the Project, through Verendrye Electric Cooperative, a Basin Electric distribution cooperative member. It was considered critical to ensure that any potential MAFB concerns were addressed immediately and thoroughly. As the MAFB's electrical service provider, Verendrye's knowledge of MAFB policy and organizational structure provided access to the senior staff of the MAFB and ensured the proper authorities were consulted regarding the Project. Verendrye reviewed the Project with the MAFB Installation Commander in May, 2007.

Subsequent to that initial consultation, there have been and continues to be extensive contact between MAFB, Basin Electric and Verendrye Electric. Much of this communication was related to coordinating the infrastructure of the Project and MAFB facilities. Examples of this communication are attached in three sets:

The first set, which begins in July of 2008 addresses issues related to the placement of underground collector lines, roads, and turbines in the vicinity of the Air Force's underground communications cable. Several iterations of the layouts were transferred between Basin Electric, MAFB and Northrup Grummon to find mutually acceptable solutions. This set of emails also includes communications regarding setback of turbines from the missile site and Land Mobile Radio (**LMR**) sites. As discussed at the hearing, Basin Electric hired ComSearch to initiate the formal interference study. Communications as part of this process can also be viewed in this set of information.

The second set of emails which begins in April, 2009, addresses the communications between Basin Electric and MAFB regarding FAA obstruction lighting technologies.

The third set discusses a meeting between the Minot Air Force Base, Basin Electric and Verendrye Electric Cooperative on March 27, 2009. The meeting was held at the MAFB to ensure that all interested parties had access to necessary information.

Basin Electric, Verendrye Electric and the MAFB continue to discuss and coordinate on issues of mutual interest.

/s/
rr/mw

Darlene Steffan

From: Bruce Carlson [brucerc@verendrye.com]
Sent: Wednesday, March 25, 2009 10:36 AM
To: 'Doctor, Eric C Capt USAF AFSPC 91 MW/XP'
Cc: Ron Rebenitsch; Amanda Wangler
Subject: RE: Windmill Project Meeting

Thank you very much. We will plan on being there this Friday as noted. My belt phone if needed is 701-626-1153. Bruce

From: Doctor, Eric C Capt USAF AFSPC 91 MW/XP [mailto:Eric.Doctor@minot.af.mil]
Sent: Wednesday, March 25, 2009 10:09 AM
To: brucerc@verendrye.com
Cc: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP; Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; Carter, Nicholas J Capt USAF AFSPC 91 MOS/MXOT
Subject: Windmill Project Meeting

Mr. Carlson:

We have arranged to meet you and your party at the main gate at 1330 on Friday for a brief drive around base and a tour at U-01 before meeting with Col Ayres at 1500.

Everyone will need to have photo ID to get a pass at the gate.

If you have any questions, please feel free to contact myself or Capt Filiowich at 723-6228.

We look forward to seeing you on Friday.

V/R

Eric Doctor, Capt, USAF
Chief, Programs and Logistics
91st Missile Wing
MAFB ND

Darlene Steffan

From: Ron Rebenitsch
Sent: Friday, March 06, 2009 5:47 PM
To: Bruce Carlson
Cc: Amanda Wangler
Subject: RE: Minot Air Force Base and Basin Wind Project

Bruce;
Since I am on vacation next week, I've asked Amanda Wangler to coordinate the meeting with you in the interim. I want to attend the meeting, if possible.

Ron Rebenitsch, PE
Mgr. of Alternative Technologies
Basin Electric Power Cooperative
1717 East Interstate Ave.
Bismarck, ND 58503
Ph. 701.557.5120
Cell: 701.471.3833
Email: ronreb@bepc.com

From: Bruce Carlson [<mailto:brucerc@verendrye.com>]
Sent: Wednesday, March 04, 2009 5:42 PM
To: Col Chris Ayres
Cc: Ron Rebenitsch
Subject: FW: Minot Air Force Base and Basin Wind Project

Please see the attached for our correspondence from Col Whelan and Col Woodie regarding approval of the Basin Electric Cooperative wind farm to be built south of Minot. By cc I am asking the project manager, Ron Rebenitsch to schedule a visit to VEC and the MAFB in the next couple of weeks for your briefing as requested. Thank you so much for your support on our project which honors the requested minimum ½ mile setback between your facilities and our wind towers. I'll be in touch with you on suggested dates when I get back from Wash D.C. the end of next week. BRC

p.s. looking forward to personal time with you the afternoon and evening of March 15th!

From: Ron Rebenitsch [<mailto:ronreb@bepc.com>]
Sent: Tuesday, March 03, 2009 4:58 PM
To: Bruce Carlson
Subject: Minot Air Force Base and Basin Wind Project

Bruce;
Per our telecon today, attached are the earlier emails from the MAFB on our wind project.

In addition to these emails, our engineering has had several conversations with Base personnel on the project and have hopefully addressed any questions or issues that the Base may have.

Just checking to make sure we've covered all the bases and no issues are unresolved.

Ron Rebenitsch, PE
Mgr. of Alternative Technologies

Basin Electric Power Cooperative
1717 East Interstate Ave.
Bismarck, ND 58503
Ph. 701.557.5120
Cell: 701.471.3833
Email: ronreb@bepc.com

Darlene Steffan

From: Ron Rebenitsch
Sent: Thursday, March 05, 2009 11:09 AM
To: Amanda Wangler
Subject: RE: Minot Air Force Base and Basin Wind Project

Please do so

Ron Rebenitsch, PE
Mgr. of Alternative Technologies
Basin Electric Power Cooperative
1717 East Interstate Ave.
Bismarck, ND 58503
Ph. 701.557.5120
Cell: 701.471.3833
Email: ronreb@bepec.com

From: Amanda Wangler
Sent: Thursday, March 05, 2009 10:23 AM
To: Ron Rebenitsch
Subject: RE: Minot Air Force Base and Basin Wind Project

I would like to be involved in this meeting. Would you like me to work with Bruce to schedule?

From: Ron Rebenitsch
Sent: Thursday, March 05, 2009 10:00 AM
To: Amanda Wangler
Subject: Fw: Minot Air Force Base and Basin Wind Project

Sent from my BlackBerry Wireless Handheld

From: Bruce Carlson
To: Col Chris Ayres
Cc: Ron Rebenitsch
Sent: Wed Mar 04 17:41:58 2009
Subject: FW: Minot Air Force Base and Basin Wind Project

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Bismarck, ND 58503
Ph. 701.557.5120
Cell: 701.471.3833
Email: ronreb@becp.com

Darlene Steffan

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP [Amanda.Filiowich@minot.af.mil]
Sent: Thursday, May 14, 2009 2:14 PM
To: West, Micah Capt USAF AFSPC 91 MW/SEF; Amanda Wangler
Subject: RE: Basin Electric Wind

Good afternoon Amanda,

We have not yet had a chance to do a fly over yet. Our good captain is going to try to re-accomplish in the next couple weeks so I will send you any data that he finds as soon as I get it.

Respectfully,

AMANDA L. FILIOWICH, Capt, USAF
Chief of Programs and Logistics
91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
DSN: 453-6228
Cell: 701-340-8199

-----Original Message-----

From: West, Micah Capt USAF AFSPC 91 MW/SEF
Sent: Thursday, May 14, 2009 2:10 PM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Subject: RE: Basin Electric Wind

I had a sortie planned but we WX canceled. I'll reattack within the next two weeks when they put me on a night sortie again.

Micah

-----Original Message-----

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Sent: Thursday, May 14, 2009 1:36 PM
To: West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: FW: Basin Electric Wind

Hey Micah!

Have you had a chance to do this yet?

amanda

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Tuesday, May 12, 2009 9:48 AM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Subject: Basin Electric Wind

Good Morning Amanda,

It has been a little while since we talked, so I just wanted to touch base. Have you had a chance to look at any of the FAA LED lights yet? We would like to get our lights ordered in the next couple of weeks to make sure they are here in time for construction. Did you have any other questions or any other outstanding issues that I need to get you more information?

Have a great day!

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771
awangler@bepc.com

Darlene Steffan

From: Amanda Wangler
Sent: Tuesday, May 12, 2009 9:48 AM
To: Amanda.Filiowich@minot.af.mil
Subject: Basin Electric Wind

Good Morning Amanda,

It has been a little while since we talked, so I just wanted to touch base. Have you had a chance to look at any of the FAA LED lights yet? We would like to get our lights ordered in the next couple of weeks to make sure they are here in time for construction. Did you have any other questions or any other outstanding issues that I need to get you more information?

Have a great day!

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771
awangler@bepc.com

Darlene Steffan

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP [Amanda.Filiowich@minot.af.mil]
Sent: Thursday, April 16, 2009 1:07 PM
To: Amanda Wangler
Subject: RE: Basin Electric Wind Project

Hi Amanda,

Thank you for getting back to us. The locations of sites that use the LED light will definitely be helpful. We will be sure to let you know what we find out. As far as evacuation procedures, if we do have a situation that requires an evacuation at the turbine sites we would absolutely notify the personnel located there at once. It would be helpful to know ahead of time which turbines are manned, and which aren't. I will try to get a hold of Grover probably sometime next week.

Thanks again for all your help, we will keep in touch.

Have a great rest of your day,

AMANDA L. FILIOWICH, Capt, USAF
Chief of Programs and Logistics
91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
DSN: 453-6228
Cell: 701-340-8199

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Thursday, April 16, 2009 9:57 AM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project

Amanda, I forgot to attach this too! Thanks!

-----Original Message-----

From: Amanda Wangler
Sent: Thursday, April 16, 2009 9:55 AM
To: 'Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP'
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project

Hi Amanda,

First off, let me apologize for the very delayed response! We did a bit of checking and found the following wind turbines that have the LED lights: near Velva, ND; near lake Ashtabula, ND; Chamberlain, SD. So far that is as far as I've gotten figuring out who uses what.

However, I did get some good information from General Electric, our turbine manufacturer. They had experience with the Air Force Base near Grover Colorado. I guess in Grover they

have turbines located within a couple hundred meters of several missile sites. The only issue GE had with the missile sites was an evacuation procedure. If the AF was moving missiles they asked to have the turbines within a certain area evacuated. They did not have any issues with the LED lights (that GE was aware of) or static electricity. Would you be able to get in touch with the folks from Grover? It would be nice to learn from their experiences with wind turbines.

As promised, attached are a couple files with general information on wind energy. There are also some really good websites for learning about the technology and how things work:

www.awea.org
http://en.wikipedia.org/wiki/Wind_power

Please let me know if I can provide anything else that would be helpful or if you have other concerns.

Thanks,
Amanda

-----Original Message-----

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP [mailto:Amanda.Filiowich@minot.af.mil]
Sent: Monday, April 06, 2009 8:31 AM
To: Amanda Wangler
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project

Good morning Amanda,

Do you know of any wind systems that are currently using the new LED lights in the Dakota, Montana, or Wyoming area? It really would not do us any good to go survey the lights on the turbines near Max if they are not the ones that you are going to be using in the future. But we are thinking that it would be fairly easy to fly down as far as Bismarck or have the surrounding bases fly to turbines near them if the new LED bulbs are used out there. Please let me know what you find out. We would hate for you to have to buy a bulb just for a simple test. Our backup plan is to test our night vision goggles on some new LED lighting that is used on some of the surrounding areas' flight lines. Our only concern is that it might not be the same wavelength as the bulbs that you want to use.

Thanks for all your help,

AMANDA L. FILIOWICH, Capt, USAF
Chief of Programs and Logistics
91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
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-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Monday, April 06, 2009 8:03 AM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: RE: Basin Electric Wind Project

Amanda,

You should be able to open the .shp file in Google Earth if you do not have the GIS software. Google Earth references the other files that are named the same as the .shp file, so try to keep them all together.

The two turbines near Max (with the blue towers) have the old strobe lights on them. They do not have the new LED's like the turbines near Velva. I'll be very interested to see what you find out!

Thanks,
Amanda Wangler

-----Original Message-----

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP [mailto:Amanda.Filiowich@minot.af.mil]
Sent: Saturday, April 04, 2009 1:27 PM
To: Amanda Wangler
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: RE: Basin Electric Wind Project

Amanda,

Thank you so much for sending us all this information. I was not able to open up the shape files but I will get with Mr. Larson in Cable Affairs to have him send our office everything that he has.

What I think we are going to do is have our helicopter guys fly out to the two turbines located near the town of Max in the evening to test the night vision goggles then. As I understand it, those turbines have the same LED light that you are planning on placing on the new turbines. So before you buy a \$4,000 bulb just for us, we are going to try flying out there first, and we'll let you know how the night vision goggles perform.

I appreciate the time you put into answering all of our questions.
Thanks so much.

Have a great rest of your weekend,

AMANDA L. FILIOWICH, Capt, USAF
Chief of Programs and Logistics
91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
DSN: 453-6228
Cell: 701-340-8199

-----Original Message-----

From: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Sent: Friday, April 03, 2009 4:17 PM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Subject: FW: Basin Electric Wind Project

Amanda,

Please make yourself known to the other Amanda at Basin electric and log this info somewhere appropriate. Also, share with the CE Missile Engineer Folks and Mr Larson in Cable affairs if he doesn't have.

R

Pvf

Phillip V. Franklin, Lt Col, USAF
Chief, Plans and Inspections
91st Missile Wing
Minot AFB ND 58705
Comm: 701-723-2862
DSN: 453-2862
Cel: 701-340-8928

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Friday, April 03, 2009 2:44 PM
To: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: Basin Electric Wind Project

Phil,

Attached are the shape files for our turbine locations. These locations include three alternates that may be used if we encounter a cultural resource or an endangered species during construction.

Also attached is the ground grid design for the turbine and turbine foundation. A great deal of attention is paid to the grounding as these are large lightning rods on the prairie. As we discussed GE is currently exploring the static electricity issue also. As soon as I hear back from them, I'll pass it along. The GE document that is attached is a confidential document and should not be distributed.

Please let me know what you find out with the LED lights near Velva. Just to recap our discussion, there are basically two types of FAA lights for the turbines. The older type is a strobe light that emits a wide band of visible light frequencies. The newer LED lights have a smaller band of light. The LED's are much preferred for our operations as they take a lot less power and are much easier to maintain. With the LED's we do not have to replace burnt out light bulbs like we would with the strobe type. Basin is willing to purchase one LED light, costing about \$4,000, for your testing if deemed necessary. We want to make sure that we don't interfere with your night vision goggles and keep everyone safe!

I am also working on putting together a packet of information on wind energy for your general knowledge too. It will include information on the turbines, collector system, and road design.

If there is any other information that you would like, please do not hesitate to call or shoot me an email! I'll make sure to keep you informed of any changes with our schedule or turbine layout. Appreciate the time talking to you today.

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771

awangler@bepc.com

Darlene Steffan

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To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project
Attachments: Doc1.doc

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DSN: 453-6228
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Sent: Monday, April 06, 2009 8:03 AM
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Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: RE: Basin Electric Wind Project

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Subject: FW: Basin Electric Wind Project

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Pvf

Phillip V. Franklin, Lt Col, USAF
Chief, Plans and Inspections
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Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771
awangler@bepc.com

Darlene Steffan

From: Amanda Wangler
Sent: Thursday, April 16, 2009 9:55 AM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project
Attachments: AWEA_Siting_Handbook_Feb2008.pdf; Wind%20Turbine%20Machines[1].pdf

Hi Amanda,

First off, let me apologize for the very delayed response! We did a bit of checking and found the following wind turbines that have the LED lights: near Velva, ND; near lake Ashtabula, ND; Chamberlain, SD. So far that is as far as I've gotten figuring out who uses what.

However, I did get some good information from General Electric, our turbine manufacturer. They had experience with the Air Force Base near Grover Colorado. I guess in Grover they have turbines located within a couple hundred meters of several missile sites. The only issue GE had with the missile sites was an evacuation procedure. If the AF was moving missiles they asked to have the turbines within a certain area evacuated. They did not have any issues with the LED lights (that GE was aware of) or static electricity. Would you be able to get in touch with the folks from Grover? It would be nice to learn from their experiences with wind turbines.

As promised, attached are a couple files with general information on wind energy. There are also some really good websites for learning about the technology and how things work:

www.awea.org
http://en.wikipedia.org/wiki/Wind_power

Please let me know if I can provide anything else that would be helpful or if you have other concerns.

Thanks,
Amanda

-----Original Message-----

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP [mailto:Amanda.Filiowich@minot.af.mil]
Sent: Monday, April 06, 2009 8:31 AM
To: Amanda Wangler
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project

Good morning Amanda,

Do you know of any wind systems that are currently using the new LED lights in the Dakota, Montana, or Wyoming area? It really would not do us any good to go survey the lights on the turbines near Max if they are not the ones that you are going to be using in the future. But we are thinking that it would be fairly easy to fly down as far as Bismarck or have the surrounding bases fly to turbines near them if the new LED bulbs are used out there. Please let me know what you find out. We would hate for you to have to buy a bulb just for a simple test. Our backup plan is to test our night vision goggles on some new LED lighting that is used on some of the surrounding areas' flight lines. Our only concern is that it might not be the same wavelength as the bulbs that you want to use.

Thanks for all your help,

AMANDA L. FILIOWICH, Capt, USAF
Chief of Programs and Logistics
91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
DSN: 453-6228
Cell: 701-340-8199

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Monday, April 06, 2009 8:03 AM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: RE: Basin Electric Wind Project

Amanda,

You should be able to open the .shp file in Google Earth if you do not have the GIS software. Google Earth references the other files that are named the same as the .shp file, so try to keep them all together.

The two turbines near Max (with the blue towers) have the old strobe lights on them. They do not have the new LED's like the turbines near Velva. I'll be very interested to see what you find out!

Thanks,
Amanda Wangler

-----Original Message-----

From: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP [mailto:Amanda.Filiowich@minot.af.mil]
Sent: Saturday, April 04, 2009 1:27 PM
To: Amanda Wangler
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: RE: Basin Electric Wind Project

Amanda,

Thank you so much for sending us all this information. I was not able to open up the shape files but I will get with Mr. Larson in Cable Affairs to have him send our office everything that he has.

What I think we are going to do is have our helicopter guys fly out to the two turbines located near the town of Max in the evening to test the night vision goggles then. As I understand it, those turbines have the same LED light that you are planning on placing on the new turbines. So before you buy a \$4,000 bulb just for us, we are going to try flying out there first, and we'll let you know how the night vision goggles perform.

I appreciate the time you put into answering all of our questions.
Thanks so much.

Have a great rest of your weekend,

AMANDA L. FILIOWICH, Capt, USAF
Chief of Programs and Logistics

91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
DSN: 453-6228
Cell: 701-340-8199

-----Original Message-----

From: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Sent: Friday, April 03, 2009 4:17 PM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
Subject: FW: Basin Electric Wind Project

Amanda,

Please make yourself known to the other Amanda at Basin electric and log this info somewhere appropriate. Also, share with the CE Missile Engineer Folks and Mr Larson in Cable affairs if he doesn't have.

R

Pvf

Phillip V. Franklin, Lt Col, USAF
Chief, Plans and Inspections
91st Missile Wing
Minot AFB ND 58705
Comm: 701-723-2862
DSN: 453-2862
Cel: 701-340-8928

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepec.com]
Sent: Friday, April 03, 2009 2:44 PM
To: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP
Subject: Basin Electric Wind Project

Phil,

Attached are the shape files for our turbine locations. These locations include three alternates that may be used if we encounter a cultural resource or an endangered species during construction.

Also attached is the ground grid design for the turbine and turbine foundation. A great deal of attention is paid to the grounding as these are large lightning rods on the prairie. As we discussed GE is currently exploring the static electricity issue also. As soon as I hear back from them, I'll pass it along. The GE document that is attached is a confidential document and should not be distributed.

Please let me know what you find out with the LED lights near Velva.

Just to recap our discussion, there are basically two types of FAA lights for the turbines. The older type is a strobe light that emits a wide band of visible light frequencies. The newer LED lights have a smaller band of light. The LED's are much preferred for our operations as they take a lot less power and are much easier to maintain. With the LED's we

do not have to replace burnt out light bulbs like we would with the strobe type. Basin is willing to purchase one LED light, costing about \$4,000, for your testing if deemed necessary. We want to make sure that we don't interfere with your night vision goggles and keep everyone safe!

I am also working on putting together a packet of information on wind energy for your general knowledge too. It will include information on the turbines, collector system, and road design.

If there is any other information that you would like, please do not hesitate to call or shoot me an email! I'll make sure to keep you informed of any changes with our schedule or turbine layout. Appreciate the time talking to you today.

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771
awangler@bepc.com

Darlene Steffan

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Sent: Monday, April 06, 2009 8:31 AM
To: Amanda Wangler
Cc: Franklin, Phillip V LtCol USAF AFSPC 91 MW/XP; West, Micah Capt USAF AFSPC 91 MW/SEF
Subject: RE: Basin Electric Wind Project

Follow Up Flag: Follow up
Flag Status: Completed

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Chief of Programs and Logistics
91st Missile Wing
Minot AFB, ND 58705
Comm: 701-723-6228
DSN: 453-6228
Cell: 701-340-8199

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Sent: Friday, April 03, 2009 4:17 PM
To: Filiowich, Amanda L Capt USAF AFSPC 91 MW/XP
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Amanda,

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R

Pvf

Phillip V. Franklin, Lt Col, USAF
Chief, Plans and Inspections
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Minot AFB ND 58705
Comm: 701-723-2862
DSN: 453-2862
Cel: 701-340-8928

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Thanks,
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Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771
awangler@bepc.com

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Phillip V. Franklin, Lt Col, USAF
Chief, Plans and Inspections
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Minot AFB ND 58705
Comm: 701-723-2862
DSN: 453-2862

Cel: 701-340-8928

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Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771
awangler@bepc.com

Darlene Steffan

From: Murakami, Randy [Randy.Murakami@siinet.ngc.com]
Sent: Wednesday, April 01, 2009 10:00 AM
To: Amanda Wangler
Cc: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC; Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Buried High Voltage HICS Crossings

Thanks for getting back to me Amanda. I'll get back to you when our hardness group makes a decision.

V/R,
Randy

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Wednesday, April 01, 2009 8:58 AM
To: Murakami, Randy
Cc: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC; Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Buried High Voltage HICS Crossings

Randy,

Sorry for the delay, we had to do some calculating to make sure I give you a correct number. The maximum flow on the USAF cable crossing is 450 Amps on a 1000 MCM size cable. We don't expect this to happen often as the project will run at 40% on average. Please let me know if there is any other information that would be helpful!

Thanks,
Amanda

-----Original Message-----

From: Murakami, Randy [mailto:Randy.Murakami@siinet.ngc.com]
Sent: Wednesday, March 25, 2009 3:01 PM
To: Amanda Wangler
Cc: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC; Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Buried High Voltage HICS Crossings

Hi Amanda,

Can you tell me how much current is expected to flow across your cables that will cross over the HICS? Our specs for the HICS state:
Underground utility crossings (Type II). At underground utility crossings the cable shall be buried to a minimum depth of 72 inches below the ground surface and shall be placed a minimum of 24 inches below the bottom of the utility. Crossings shall be constructed by trenching and hand digging beneath the utility as specified in Drawing 407-52230.

Our Hardness Group wants to know the amount of current so they can make a determination.

V/R,
Randy

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]

Sent: Wednesday, March 18, 2009 8:44 AM
To: Murakami, Randy
Subject: RE: Buried High Voltage HICS Crossings

Randy,

Basin hired Ulteig Engineers to do this electrical design. So not being the one who did the design I can't give you a hard answer. Based on past conversations with Ulteig, there could be thermal issues with burying the cable too deep. We would be more than happy to look into it further when you have a little more detail on how much the additional separation would be required.

Thanks,
Amanda

-----Original Message-----

From: Murakami, Randy [mailto:Randy.Murakami@siinet.ngc.com]
Sent: Wednesday, March 18, 2009 9:36 AM
To: Amanda Wangler
Subject: RE: Buried High Voltage HICS Crossings

Amanda,

It was nice talking to you also. Thanks for the info. I'm waiting for Jim to e-mail me the crossing info and I'll pass everything on to our Hardness Group. I do have one question for you: Would it be possible to get more separation between our cables at the crossings? It's not my call but I have a feeling that they may ask for a little more separation.

V/R,
Randy

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Wednesday, March 18, 2009 8:27 AM
To: Murakami, Randy
Subject: RE: Buried High Voltage HICS Crossings

Randy,

Nice talking with you today. Attached are the cut sheets for our cable and the typical crossing details with information provided by Mr. Larsen. Please let me know if you need any additional information!

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771 (new prefix!)
awangler@bepc.com

-----Original Message-----

From: Murakami, Randy [mailto:Randy.Murakami@siinet.ngc.com]
Sent: Wednesday, March 18, 2009 8:48 AM
To: Amanda Wangler
Subject: FW: Buried High Voltage HICS Crossings

Good Morning Ms. Wangler,
I'm Randy Murakami, an engineer for Northrop Grumman in Clearfield Utah.
We're the Prime contractor for the Minuteman Weapon System. Can I get a phone number for you
to discuss the cable crossings for the wind turbine project at Minot AFB?

V/R,
Randy T. Murakami
C3 Systems Engineer
Ground System IPT
(801)-525-3370
Toll Free 1-877-232-0175, ext 3370
mailto:randy.murakami@siinet.NGC.com

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Wednesday, March 18, 2009 6:58 AM
To: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC; Murakami, Randy
Subject: RE: Buried High Voltage HICS Crossings

The engineer we have been working with at Basin Electric is Ms. Amanda Wangler, her email
address is AWangler@becpc.com. I'm sure she can provide you with specific information
regarding the Collector System.

Mr. Larsen
91 MMXS/Cable Affairs
DSN 453-6053

-----Original Message-----

From: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC [mailto:Javier.Delarosa@PETERSON.af.mil]
Sent: Tuesday, March 17, 2009 4:02 PM
To: Murakami, Randy
Cc: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Buried High Voltage HICS Crossings

Randy,
That's correct, Mr. Larson would be the best to ask.

V/r
MSgt Javier De La Rosa
HICS Program Manager
AFSPC/A4NC
DP (719) 554-4057/ DSN 692-4057
Fax(719) 554-5331/ DSN 692-5331

-----Original Message-----

From: Murakami, Randy [mailto:Randy.Murakami@siinet.ngc.com]
Sent: Tuesday, March 17, 2009 2:59 PM
To: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC
Subject: RE: Buried High Voltage HICS Crossings

JD,

Can we get more specifics on the crossings? Are the actual cables crossing the HICS going to be carrying the 35K Volts? Is Mr. Larson a good POC to get this info?

V/R,
Randy

-----Original Message-----

From: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC [mailto:Javier.Delarosa@PETERSON.af.mil]
Sent: Thursday, March 05, 2009 10:16 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Murakami, Randy
Subject: FW: Buried High Voltage HICS Crossings

Jim,
Randy has forwarded this question to their Hardness folks. We should hear back in a few weeks.

Javier

V/r
MSgt Javier De La Rosa
HICS Program Manager
AFSPC/A4NC
DP (719) 554-4057/ DSN 692-4057
Fax(719) 554-5331/ DSN 692-5331

-----Original Message-----

From: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC
Sent: Friday, February 27, 2009 7:51 AM
To: 'Murakami, Randy'
Cc: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: FW: Buried High Voltage HICS Crossings

Randy,
Hope everything is going well.

Please see the email below. Do you have any information on power cable with this much voltage crossing our HICS? I've looked in a few places with no luck.

Javier

V/r
MSgt Javier De La Rosa
HICS Program Manager
AFSPC/A4NC
DP (719) 554-4057/ DSN 692-4057
Fax(719) 554-5331/ DSN 692-5331

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Sent: Thursday, February 26, 2009 9:46 AM
To: De La Rosa, Javier MSgt USAF AFSPC AFSPC/A4MC
Cc: Munos, Cy I Civ USAF ACC 91 MMXS/MMXFI
Subject: Buried High Voltage HICS Crossings

Sgt D:

We recently learned that 9 buried electric crossings associated with the collection system for the Basin Electric wind turbine project are 35,000 volts.

This is much higher voltage than we normally see; previously our highest buried crossings were 14.4 KVA.

Questions:

Is the 18" minimum separation called out in AFSPCI 21-202(A-7) and AFI 21-116 adequate for the higher voltage?

Assuming 18" or better separation and metallic sheath are utilized, are there any other concerns due to the extremely high voltage?

Jim Larsen

91st MMXS/Cable Affairs

Minot AFB, ND

DSN 453-6053

Darlene Steffan

From: Murakami, Randy [Randy.Murakami@siinet.ngc.com]
Sent: Wednesday, March 18, 2009 10:06 AM
To: Amanda Wangler
Subject: RE: Buried High Voltage HICS Crossings

Thanks Amanda, I'll be in touch.

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Randy

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Basin Electric Power Cooperative
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awangler@becpc.com

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To: Amanda Wangler
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Good Morning Ms. Wangler,
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We're the Prime contractor for the Minuteman Weapon System. Can I get a phone number for you to discuss the cable crossings for the wind turbine project at Minot AFB?

V/R,
Randy T. Murakami
C3 Systems Engineer
Ground System IPT
(801)-525-3370
Toll Free 1-877-232-0175, ext 3370
mailto:randy.murakami@siinet.NGC.com

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Subject: RE: Buried High Voltage HICS Crossings

The engineer we have been working with at Basin Electric is Ms. Amanda Wangler, her email address is AWangler@becpc.com. I'm sure she can provide you with specific information regarding the Collector System.

Mr. Larsen
91 MMXS/Cable Affairs
DSN 453-6053

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Sent: Tuesday, March 17, 2009 4:02 PM
To: Murakami, Randy
Cc: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Buried High Voltage HICS Crossings

Randy,
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V/r
MSgt Javier De La Rosa
HICS Program Manager
AFSPC/A4NC
DP (719) 554-4057/ DSN 692-4057
Fax(719) 554-5331/ DSN 692-5331

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Sent: Tuesday, March 17, 2009 2:59 PM
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Subject: RE: Buried High Voltage HICS Crossings

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Cc: Murakami, Randy
Subject: FW: Buried High Voltage HICS Crossings

Jim,
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Cc: Munos, Cy I Civ USAF ACC 91 MMXS/MMXFI
Subject: Buried High Voltage HICS Crossings

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Jim Larsen

91st MMXS/Cable Affairs

Minot AFB, ND

DSN 453-6053

Darlene Steffan

From: Amanda Wangler
Sent: Wednesday, March 18, 2009 9:44 AM
To: Murakami, Randy
Subject: RE: Buried High Voltage HICS Crossings

Randy,

Basin hired Ulteig Engineers to do this electrical design. So not being the one who did the design I can't give you a hard answer. Based on past conversations with Ulteig, there could be thermal issues with burying the cable too deep. We would be more than happy to look into it further when you have a little more detail on how much the additional separation would be required.

Thanks,
Amanda

-----Original Message-----

From: Murakami, Randy [mailto:Randy.Murakami@siinet.ngc.com]
Sent: Wednesday, March 18, 2009 9:36 AM
To: Amanda Wangler
Subject: RE: Buried High Voltage HICS Crossings

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Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-557-5771 (new prefix!)
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Darlene Steffan

From: Jason Brekke
Sent: Friday, February 20, 2009 1:02 PM
To: Amanda Wangler; Ron Rebenitsch
Subject: FW: Updated ND Site A Data
Attachments: USAF Cable in PW Project.jpg

Ron or Amanda,
Can one of you please look over the below e-mail and attachment and respond to James Larsen?

Thanks,
Jason

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Sent: Friday, February 20, 2009 12:46 PM
To: Jason Brekke
Subject: RE: Updated ND Site A Data

Jason:

We have received ND OneCall excavation notices from two companies (Stratigraphics and Material Testing Inc) for soil testing related to the Prairie Winds development.

I would like to email jpg maps to both companies showing the relative location of our cable and your turbine/collection system as plotted on my GIS. No geo-referenced data would be included.

These maps would show the two companies the relative separation of our buried cable from your plotted turbine locations. We think these maps would save us a great deal of locating and flagging in very difficult field conditions.

I wanted to be sure I have Basin Electric's approval before releasing these maps.

I've attached the overview map I would like to sent to these companies at this time.

I won't sent the map till I hear back from you.

Thanks;

Jim Larsen
USAF Cable Affairs
701-723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Wednesday, January 28, 2009 10:59 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI

Subject: RE: Updated ND Site A Data

James,
The access roads and turbine locations have changed as well. I was unaware that you needed these files too. I will attach them as well as their .prj files.

Thanks,
Jason

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Wednesday, January 28, 2009 10:43 AM
To: Jason Brekke
Subject: RE: Updated ND Site A Data

Jason:

The re-project worked fine with the new .prj file. I haven't looked at the entire project yet but I've attached an example of a change that conflicted with our cable with the previous vr and is now well clear of our cable.

I'll look over the entire project today and get back to you with any conflicts.

Just to confirm... the only shapefile I got was for the collector system.
Am I correct in assuming there were no changes to roads or turbine locations?

Using the xy tool I can confirm that your lat/lon's in the turbine attributes plot correctly on my map. Since we aren't serious GIS people we don't know how to determine lat/lon at the points where your collection system crosses our buried cable. Any help here would be appreciated.

Thanks;

Jim Larsen
USAF Cable Affairs
701-723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Wednesday, January 28, 2009 8:32 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Updated ND Site A Data

Sorry about that. I assumed a .prj file was included but was not. Here it is.

Thanks,
Jason

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Wednesday, January 28, 2009 8:25 AM

To: Jason Brekke
Subject: RE: Updated ND Site A Data

Jason:

Could you send me the .prj file for this layer? I'm having trouble re-projecting this data because the input coordinate system is unknown.
I think the .prj file would make the re-projection much easier for me.

Thanks;

Jim

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Tuesday, January 27, 2009 1:04 PM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Subject: RE: Updated ND Site A Data

James,
I'll just attach the collector system shapefile. Let me know if this does not come through.

Thanks for your help.

Jason

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Tuesday, January 27, 2009 1:01 PM
To: Jason Brekke
Subject: RE: Updated ND Site A Data

Jason:

I didn't get an attachment with this email. It's possible that our mail server filtered it, I don't think our filtering system likes zipped files.

I should be able to get the coordinates of the cable crossings. I'll work on it when I get the latest version of the collection system.

Thanks;

Jim Larsen
USAF Cable Affairs
701-723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Tuesday, January 27, 2009 10:23 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Amanda Wangler

Subject: Updated ND Site A Data

James,
Attached is a zip file containing our latest turbine locations, access roads, and collector system. Amanda Wangler had asked that I send this information on to you. We were also wondering if it would be possible to get coordinates of locations where we cross your underground cable for our record.

Thanks,

Jason Brekke
GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503
(701)-355-5726
<mailto:JBrekke@bepc.com> <<mailto:JBrekke@bepc.com>>

Darlene Steffan

From: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI [David.Pooley@PETERSON.af.mil]
Sent: Wednesday, January 07, 2009 10:38 AM
To: James C. Sheldon (ELEC)
Cc: Amanda Wangler
Subject: RE: PrairieWinds - 1 Project

Jim,
Can you also see if any of the planned turbine locations could possibly impact our PTP links? I've been working through the planned turbine locations and so far they all appear to be just south of the South Base LMR tower. But my tools are a bit crude and I have to look at one turbine at a time.

David Pooley, YA-2, DAF
HQ AFSPC/A6NRI

-----Original Message-----

From: James C. Sheldon (ELEC) [mailto:JSheldon@bepc.com]
Sent: Wednesday, January 07, 2009 9:21 AM
To: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI
Cc: Amanda Wangler
Subject: RE: PrairieWinds - 1 Project

Mr. Pooley,
I've reviewed the information provided and there will not be any interference issues between our communication systems. Basin uses licensed lower 6 GHz radios and none of the paths cross each other as shown on the attached word document. Contact me with any questions.
Thanks,
Jim

James C. Sheldon, EIT
Electrical Engineer II - Telecommunications Basin Electric Power Cooperative
1717 East Interstate Avenue
Bismarck, ND 58503-0564

E-mail: jsheldon@bepc.com
Direct Line: (701) 557-5780
Fax: (701) 224-5322

Please note new prefix.

-----Original Message-----

From: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI [mailto:David.Pooley@PETERSON.af.mil]
Sent: Monday, January 05, 2009 12:09 PM
To: Amanda Wangler; James C. Sheldon (ELEC)
Cc: Oliver, Kurt; Polisky, Les; Pitts, Edward Civ AFFMA/D00; Howard, David M Civ USAF ACC ACC/A60F
Subject: PrairieWinds - 1 Project

Amanda,

I have attached a data sheet for the PTP45600 radios we will be using.

The power and bandwidth info can be found on the data sheet. Some sites will have connectorized radios and some sites will have integrated radios. For this activity, assume they are all integrated (worst case for transmit power). The frequency is all 4.5GHz. The modulation is QPSK. Approximate lat/long coordinates and antenna heights are listed below:

Site height(ft)	lat/long	tower
B-01 Base)	47d54'32"N 100d55'37"W	100 (Link to
C-01 Base)	47d52'53"N 101d00'36"W	100 (Link to
D-01 South base LMR tower)	47d47'43"N 101d17'53"W	200 (Link to
G-01 South base LMR tower)	48d07'12"N 101d57'39"W	100 (Link to
Base South base LMR tower)	48d25'04"N 101d19'22"W	250 (Link to
South Base LMR tower	48d00'14"N 101d17'59"W	200

With this information, can your engineer (Jim Sheldon) evaluate your planned locations for any potential comm. issues?

Thanks...

David Pooley, YA-2, DAF
HQ AFSPC/A6NRI

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Monday, November 03, 2008 10:56 AM
To: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI
Cc: James C. Sheldon (ELEC)
Subject: PrairieWinds - 1 Project

David,

Thank you for your time today. Here is the information for you analysis. Please don't hesitate to contact me if you need any additional information. Jim Sheldon is the communications engineer on the project and will be working with you to mitigate any interference we may cause.

Text file:

GIS files:

As I mentioned, we have recently contacted James Larson regarding an updated picture showing our turbine locations in regards to the underground cable as discussed in the following email:

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative

Phone: 701-355-5771
awangler@bepc.com

Darlene Steffan

From: Atkinson, Tom P Civ USAF ACC 5 CES/CEM [tom.atkinson@minot.af.mil]
Sent: Tuesday, November 18, 2008 8:06 AM
To: Jason Brekke
Cc: Amanda Wangler
Subject: RE: Preliminary PrairieWinds - 1 Project Layout

Thanks for the information. That was what I was looking for.

Thomas P. Atkinson, P.E.
Chief, Missile Engineering Flight
Minot AFB, ND
DSN 453-4871

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@becpc.com]
Sent: Tuesday, November 18, 2008 7:59 AM
To: Atkinson, Tom P Civ USAF ACC 5 CES/CEM
Cc: Amanda Wangler
Subject: RE: Preliminary PrairieWinds - 1 Project Layout

Tom,

The northing/easting are based on nad 83, North Dakota state plane "north" zone, international feet.

Let me know if you still are having problems.

Thanks,

Jason Brekke
GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503
(701)-355-5726
<mailto:JBrekke@becpc.com>

-----Original Message-----

From: Amanda Wangler
Sent: Tuesday, November 18, 2008 7:40 AM
To: Jason Brekke
Subject: FW: Preliminary PrairieWinds - 1 Project Layout

This is what I sent Tom. Can you answer the questions please? I think the Lat/longs are WGS 80 Zone 14, but not sure about the Northing and Easting. I changed the file from your shape files to make this file.
Thanks!!

-----Original Message-----

From: Atkinson, Tom P Civ USAF ACC 5 CES/CEM [mailto:tom.atkinson@minot.af.mil]
Sent: Monday, November 17, 2008 8:53 AM
To: Amanda Wangler

Subject: RE: Preliminary PrairieWinds - 1 Project Layout

Amanda: I had my folks try to load the info from the spread sheet, and they ended up with wind generators in Alabama. I didn't think that sounded right. The guys were using the Northing and Easting data. Can I have you ask who ever provided you the spreadsheet a couple of questions?

1. Coordinate system used
2. Projection
3. Units of measure

Thanks.

Thomas P. Atkinson, P.E.
Chief, Missile Engineering Flight
Minot AFB, ND
DSN 453-4871

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Thursday, November 13, 2008 12:47 PM
To: Atkinson, Tom P Civ USAF ACC 5 CES/CEM
Subject: Preliminary PrairieWinds - 1 Project Layout

Tom,

Per our conversation, here are the preliminary turbine locations. I expect that they are 95% locked down, but we may need to do minor adjustments to the layout. I can keep you up to date with the changes.

Again, if there are any red flags, please let me know right away and we'll see what we can do.

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-355-5771
awangler@bepc.com

Darlene Steffan

From: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI [David.Pooley@PETERSON.af.mil]
Sent: Monday, January 05, 2009 12:09 PM
To: Amanda Wangler; James C. Sheldon (ELEC)
Cc: Oliver, Kurt; Polisky, Les; Pitts, Edward Civ AFFMA/DOO; Howard, David M Civ USAF ACC ACC/A6OF
Subject: PrairieWinds - 1 Project
Attachments: PTP45600_spec_sheet.pdf

Follow Up Flag: Follow up
Flag Status: Completed

Amanda,

I have attached a data sheet for the PTP45600 radios we will be using. The power and bandwidth info can be found on the data sheet. Some sites will have connectorized radios and some sites will have integrated radios. For this activity, assume they are all integrated (worst case for transmit power). The frequency is all 4.5GHz. The modulation is QPSK. Approximate lat/long coordinates and antenna heights are listed below:

Site height(ft)	lat/long	tower
B-01 Base)	47d54'32"N 100d55'37"W	100 (Link to
C-01 Base)	47d52'53"N 101d00'36"W	100 (Link to
D-01 South base LMR tower)	47d47'43"N 101d17'53"W	200 (Link to
G-01 South base LMR tower) Base	48d07'12"N 101d57'39"W	100 (Link to
South base LMR tower)	48d25'04"N 101d19'22"W	250 (Link to
South Base LMR tower	48d00'14"N 101d17'59"W	200

With this information, can your engineer (Jim Sheldon) evaluate your planned locations for any potential comm. issues?

Thanks...

David Pooley, YA-2, DAF
HQ AFSPC/A6NRI

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Monday, November 03, 2008 10:56 AM
To: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI
Cc: James C. Sheldon (ELEC)
Subject: PrairieWinds - 1 Project

David,

Thank you for your time today. Here is the information for you analysis. Please don't hesitate to contact me if you need any additional information. Jim Sheldon is the

communications engineer on the project and will be working with you to mitigate any interference we may cause.

Text file:

GIS files:

As I mentioned, we have recently contacted James Larson regarding an updated picture showing our turbine locations in regards to the underground cable as discussed in the following email:

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-355-5771
awangler@bepc.com

Darlene Steffan

From: Atkinson, Tom P Civ USAF ACC 5 CES/CEM [tom.atkinson@minot.af.mil]
Sent: Monday, November 17, 2008 8:53 AM
To: Amanda Wangler
Subject: RE: Preliminary PrairieWinds - 1 Project Layout

Follow Up Flag: Follow up
Flag Status: Completed

Amanda: I had my folks try to load the info from the spread sheet, and they ended up with wind generators in Alabama. I didn't think that sounded right. The guys were using the Northing and Easting data. Can I have you ask who ever provided you the spreadsheet a couple of questions?

1. Coordinate system used
2. Projection
3. Units of measure

Thanks.

Thomas P. Atkinson, P.E.
Chief, Missile Engineering Flight
Minot AFB, ND
DSN 453-4871

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Thursday, November 13, 2008 12:47 PM
To: Atkinson, Tom P Civ USAF ACC 5 CES/CEM
Subject: Preliminary PrairieWinds - 1 Project Layout

Tom,

Per our conversation, here are the preliminary turbine locations. I expect that they are 95% locked down, but we may need to do minor adjustments to the layout. I can keep you up to date with the changes.

Again, if there are any red flags, please let me know right away and we'll see what we can do.

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-355-5771
awangler@bepc.com

Darlene Steffan

From: Amanda Wangler
Sent: Thursday, November 13, 2008 12:47 PM
To: tom.atkinson@minot.af.mil
Subject: Preliminary PrairieWinds - 1 Project Layout

Tom,

Per our conversation, here are the preliminary turbine locations. I expect that they are 95% locked down, but we may need to do minor adjustments to the layout. I can keep you up to date with the changes. Again, if there are any red flags, please let me know right away and we'll see what we can do.

Thanks,
Amanda

Amanda Wangler, PE
Electrical Engineer III
Basin Electric Power Cooperative
Phone: 701-355-5771
awangler@becpc.com



Turbine_Layout.xls

Darlene Steffan

From: Jason Brekke
Sent: Monday, November 10, 2008 2:16 PM
To: Amanda Wangler
Subject: FW: HICS Cable in Delta Flight
Attachments: Basin Elec Feeder Adjustment.jpg; Basin Vr 2 Splice Conflict.jpg; Basin Electric Turbin Project Vr 2.jpg

Follow Up Flag: Follow up
Flag Status: Completed

FYI..

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Monday, November 10, 2008 2:12 PM
To: Jason Brekke
Subject: RE: HICS Cable in Delta Flight

Jason:

Please see the attachment for an updated map based on your new shapes. None of the turbines are within 100 ft of our cable. There is one minor problem with a feeder cable which crosses within 50' of one of our buried splices (see second attachment).

While not a problem, minor adjustments to the feeder system in two areas would eliminate or reduce the number of Air Force crossings. See the second and third maps for examples.

Please let me know if you would like additional maps.

Thanks;

Jim Larsen
USAF Cable Affairs
701-723-6053

Darlene Steffan

From: Jason Brekke
Sent: Monday, November 03, 2008 12:42 PM
To: 'Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI'
Cc: Amanda Wangler
Subject: FW: HICS Cable in Delta Flight
Attachments: ChangeToZip.txt

Jim,
Attached are our latest GIS files. Amanda asked that I send these files to you. Per her response below, we have moved the two towers and would like a new map to make sure that we are not too close to your cable.

Thank you for your help,

Jason Brekke
GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503
(701)-355-5726
mailto:JBrekke@bepc.com

-----Original Message-----

From: Amanda Wangler
Sent: Monday, November 03, 2008 11:23 AM
To: Jason Brekke
Subject: RE: HICS Cable in Delta Flight

Jason, Could you please send the updated layout to James? You can let him know that we moved the two towers away from the cable and just ask him for updated maps to make sure we didn't move any turbines too close. Thanks!!

-----Original Message-----

From: Jason Brekke
Sent: Wednesday, August 06, 2008 9:45 AM
To: Amanda Wangler
Subject: FW: HICS Cable in Delta Flight

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [james.larsen@minot.af.mil]
Sent: Tuesday, August 05, 2008 2:23 PM
To: Jason Brekke
Subject: RE: HICS Cable in Delta Flight

Jason:

I've attached maps showing the location of USAF HICS cable in the vicinity of your wind turbine project. I have your roadways turned off for clarity. We have depth requirements for our cable, but I wouldn't think these roads will be a problem.

I noticed that two towers are plotted to be less than 100' from our cable. We normally ask for 100' separation for poles and vertical structures.

It appears you will cross our cable with collector system cable at 7 locations. This shouldn't be a problem, requests like this are routine for our office.

Personnel from our office must be present whenever earth is being moved from our 16.5 foot easement. This would apply to both the road and collector network.

Please let me know if you have questions.

I would be happy to send you much more detailed maps of specific areas if necessary.

Jim Larsen
USAF Cable Affairs
723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]

Sent: Monday, August 04, 2008 7:02 PM

To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI

Cc: Amanda Wangler

Subject: FW: HICS Cable in Delta Flight

James,
I have changed the file extension to .txt. Let me know if this makes it through.

Thanks,
Jason

From: Jason Brekke

Sent: Thursday, July 31, 2008 3:05 PM

To: 'Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI'

Cc: Amanda Wangler

Subject: RE: HICS Cable in Delta Flight

Jim,
I have attached our proposed turbine layout, collector system, and access roads. You can compare our proposed project layout to your existing missile system. If there are conflicts I could meet with you and make appropriate changes to our system. Let me know if you have any problems reading the data.

Thanks for your help,

Jason Brekke
GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503

(701)-355-5726
mailto:JBrekke@bepc.com

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Tuesday, July 22, 2008 4:13 PM
To: Jason Brekke
Subject: RE: HICS Cable in Delta Flight

Jason:

We aren't allowed to release geo-referenced data of the missile system.
I'm afraid .jpg's are the best we can do for you.

Perhaps you can provide me a shapefile of your project and we could work the issue that way.
If so, our datum is WGS84, projection is UTM, 14N.

I could also meet you with my application on a laptop system and we could review the project that way.

Our cable easement is 16.5 feet in width centered on our cable. We don't allow any structures on the easement. We ask for 100' separation of poles for new aerial line construction. New construction for buried electric utility crossing our cable is allowed and handled by our office. Minimum separation from our cable is 18" for buried electric and lines 2,400V or higher must be in a metallic sheath for the width of our easement.

If you have any other questions please contact me at the number listed below.

Jim Larsen
USAF Cable Affairs
701-723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Tuesday, July 22, 2008 11:11 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Amanda Wangler
Subject: RE: HICS cable in Delta Flight

Jim,
What we are looking for is an ESRI shapefile (or any type of spatial datafile) of the USAF buried cable in southern Ward county. We would like to add this layer to our GIS to see if there is any conflict with our proposed wind turbine locations. I don't think that we would need any of the point data on the attached map as all of the points seem to be snapped to the line information.

Thanks,

Jason Brekke

GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503
(701)-355-5726
mailto:JBrekke@bepc.com

-----Original Message-----

From: Amanda Wangler
Sent: Monday, July 21, 2008 2:35 PM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Jason Brekke
Subject: RE: HICS cable in Delta Flight

Jim,

By copy of this email, I am asking Jason Brekke to work with you to get this information. Jason is aware of the information we are looking for and has a lot more experience with mapping. Thank you in advance for your help.

Thanks,
Amanda

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Monday, July 21, 2008 2:15 PM
To: Amanda Wangler
Subject: FW: HICS cable in Delta Flight

Amanda:

I have been asked to contact you regarding buried USAF cable located in southern Ward county. Unfortunately I didn't get enough of the email string to determine exactly what information you are looking for.

Please contact me by phone (701-723-6053) or email.

Thanks;

Jim Larsen
91 Missile Maintenance Squadron
Cable Affairs office
701-723-6053

-----Original Message-----

From: Huettl, Ronald G Civ USAF ACC 5 CES/CEOE
Sent: Monday, July 21, 2008 10:12 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: 'AWangler@bepc.com'; 'martindd@verendrye.com'; Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: FW: HICS cable in Delta Flight

Jim,
Can you contact Amanda Wangler and provide her with the information she is looking for?

-----Original Message-----

From: Martin Dahl [mailto:martindd@verendrye.com]
Sent: Thursday, July 17, 2008 4:30 PM
To: Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: FW: HICs cable in Delta Flight

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepec.com]
Sent: Thursday, July 17, 2008 1:22 PM
To: martindd@verendrye.com
Subject: RE: HICs cable in Delta Flight

Marty,

Thanks for this information, however, our GIS analyst tells me that this would be very hard for him to work with and wouldn't be very accurate.
Any chance we can get the shape file or some other electronic form?

Thanks,
Amanda

-----Original Message-----

From: Martin Dahl [mailto:martindd@verendrye.com]
Sent: Thursday, July 17, 2008 1:03 PM
To: Amanda Wangler
Subject: FW: HICs cable in Delta Flight

-----Original Message-----

From: Nelson, Kevin P Civ USAF ACC 5 CES/CD [mailto:Kevin.Nelson@minot.af.mil]
Sent: Thursday, July 17, 2008 10:58 AM
To: Martin Dahl (E-mail)
Subject: FW: HICs cable in Delta Flight

Marty, does this work??

-----Original Message-----

From: Huettl, Ronald G Civ USAF ACC 5 CES/CEOE
Sent: Thursday, July 17, 2008 9:42 AM
To: Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: HICs cable in Delta Flight

Ronald Huettl, PE
Chief, Missile Engineering
(701)723-4843

(DSN)453-4843

Darlene Steffan

From: Polisky, Les [lpolisky@comsearch.com]
Sent: Monday, October 20, 2008 8:46 AM
To: Amanda Wangler
Subject: FW: WindMill Action Item -- PrairieWinds-1 Wind Energy Project in Ward County, North Dakota

Follow Up Flag: Follow up
Flag Status: Completed

Amanda,
We have not received the official response from the NTIA/IRAC as yet but the Air Force has commented in advance on the Prairiewinds-1 Project.
Please see their comments below. You may want to contact want to contact them. Let us know if we can be of assistance.
Les Polisky
Comsearch
703-726-5860

-----Original Message-----

From: Pitts, Edward Civ AFFMA/DOO [mailto:Edward.Pitts@pentagon.af.mil]
Sent: Thursday, October 16, 2008 1:57 PM
To: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI; Polisky, Les
Cc: Connolley, Scott D Civ USAF AFSPC AFSPC/A6NRI; Byrne, Victoria Civ USAF AFSPC AFSPC/A6NRI; Roberson, David R MSgt USAF AFSPC AFSPC/A6NRI; Sora, Bruce E TSgt USAF AFSPC AFSPC/A6NRI; Dalton, Keith R TSgt USAF ACC 5 CS/SCOS; Howard, David M Civ USAF ACC ACC/A60F; Sulick, Joe E. Civ AFFMA/DO; Moorefield, Fred D. Civ AFFMA/XP; Swan, Carol B. Civ AFFMA/XP
Subject: RE: WindMill Action Item -- PrairieWinds-1 Wind Energy Project in Ward County, North Dakota

Dave,

Contact COMSEARCH at the POC on the original request.

Please inform me of dialog.

Efp

Edward F. Pitts Sr, DAF
Air Force Frequency Management Agency
Alternate, Frequency Assignment Subcommittee (FAS) Primary Work Group 22 Primary Spectrum XXI
CCB
2461 Eisenhower Avenue Ste 1203
Alexandria, Virginia 22331-1500
703-428-1524/DSN 328-1524

-----Original Message-----

From: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI [mailto:David.Pooley@PETERSON.af.mil]
Sent: Thursday, October 16, 2008 1:52 PM
To: Pitts, Edward Civ AFFMA/DOO; LPOLISKY@COMSEARCH.COM

Cc: Connolley, Scott D Civ USAF AFSPC AFSPC/A6NRI; Byrne, Victoria Civ USAF AFSPC AFSPC/A6NRI; Roberson, David R MSgt USAF AFSPC AFSPC/A6NRI; Sora, Bruce E TSgt USAF AFSPC AFSPC/A6NRI; Dalton, Keith R TSgt USAF ACC 5 CS/SCOS; Howard, David M Civ USAF ACC ACC/A60F
Subject: RE: WindMill Action Item -- PrairieWinds-1 Wind Energy Project in Ward County, North Dakota

I did not since the request was addressed to DoC and DoC is collecting all concerns from all Federal agencies into one response back to the developer (COMSEARCH). I planned on waiting for the developer to contact me should they wish to pursue anything further in line with the way we've worked previous wind farm proposal reviews.

David Pooley, YA-2, DAF
HQ AFSPC/A6NRI

-----Original Message-----

From: Pitts, Edward Civ AFFMA/DOO [mailto:Edward.Pitts@pentagon.af.mil]
Sent: Thursday, October 16, 2008 11:32 AM
To: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI; LPOLISKY@COMSEARCH.COM
Cc: Connolley, Scott D Civ USAF AFSPC AFSPC/A6NRI; Byrne, Victoria Civ USAF AFSPC AFSPC/A6NRI; Roberson, David R MSgt USAF AFSPC AFSPC/A6NRI; Sora, Bruce E TSgt USAF AFSPC AFSPC/A6NRI; Dalton, Keith R TSgt USAF ACC 5 CS/SCOS; Howard, David M Civ USAF ACC ACC/A60F
Subject: RE: WindMill Action Item -- PrairieWinds-1 Wind Energy Project in Ward County, North Dakota

Dave,

As per the instruction in the request, did you communicate with COMSEARCH?

Efp

Edward F. Pitts Sr, DAF
Air Force Frequency Management Agency
Alternate, Frequency Assignment Subcommittee (FAS) Primary Work Group 22 Primary Spectrum XXI
CCB
2461 Eisenhower Avenue Ste 1203
Alexandria, Virginia 22331-1500
703-428-1524/DSN 328-1524

-----Original Message-----

From: Pooley, David F Civ USAF AFSPC AFSPC/A6NRI [mailto:David.Pooley@PETERSON.af.mil]
Sent: Wednesday, October 15, 2008 4:08 PM
To: Pitts, Edward Civ AFFMA/DOO
Cc: Connolley, Scott D Civ USAF AFSPC AFSPC/A6NRI; Byrne, Victoria Civ USAF AFSPC AFSPC/A6NRI; Roberson, David R MSgt USAF AFSPC AFSPC/A6NRI; Sora, Bruce E TSgt USAF AFSPC AFSPC/A6NRI; Dalton, Keith R TSgt USAF ACC 5 CS/SCOS; Howard, David M Civ USAF ACC ACC/A60F
Subject: RE: WindMill Action Item -- PrairieWinds-1 Wind Energy Project in Ward County, North Dakota

Mr Pitts,

HQ AFSPC does not concur with COMSEARCH's PrairieWinds-1 Wind Energy Project in Ward County, North Dakota. The proposal does not provide detailed turbine locations. There are also two different West longitudes provided; suspect this is in error.

Analysis shows the potential for harmful interference to the 91th Space Wing's missile field communications systems. There are critical communication links throughout the specified boundary. Headquarters Air Force Space Command (HQ AFSPC) is willing to assist the developer in exploring citing options to mitigate any potential adverse effects. To ensure uninterrupted protection of critical missile field communications, HQ AFSPC's Spectrum Manager requires detailed turbine locations. The notification provided to the Department of Commerce does not identify specific turbine locations.

HQ AFSPC's POC:

David Pooley
Command Spectrum Manager
HQ AFSPC/A6NRI
150 Vandenberg St, Ste 1105
Peterson AFB, CO 80914-4184
(719) 554-6400
david.pooley@peterson.af.mil

Thanks,

David Pooley, YA-2, DAF
HQ AFSPC/A6NRI

-----Original Message-----

From: Pitts, Edward Civ AFFMA/DOO [mailto:Edward.Pitts@pentagon.af.mil]
Sent: Wednesday, September 03, 2008 5:10 AM
To: AFSOC/A6 Frequency Management; Akers, Richard H Mr Civ USAF AFSPC 45 SCS/SCXS; Bender, Gregory SA USAF AFOSI AFOSI/XII; Berg, Shane Civ USAF AFMC 75 CS/SCM; Blodgett, Eric R TSgt USAF AMC 375 CS/SCTX; BRICE, SEAN F MSgt Joint Spectrum Center/J3; Dunn, Franklin W Civ USAF AFMC HQ AFMC/A60M; Ernst, Rich M Civ 10 CS/SCXSS; Esker, Brian R CTR USA NORAD USNORTHCOM HQs J63; Giangrosso Joseph P Mr CTR USAF 96 CG/SCXF; Green, Cynthia E Ms. CTR NG NGB ARNG; Jackson Willie Civ AFRC/A60S; Jirik, Nicole S CTR Contractor ACC AFNORTH/A6XS; john.jordan@oln-afmc.af.mil; Jolley, Joseph G MAJ MIL NG NGB ARNG; King, James E MSgt USAF USAFE 3 AF/A6XM; Lapierre, Richard Civ USAF AETC AETC/A600; Littlefield, James R Civ USAF AFMC 95 CS/SCMFS; Maldonado Rene CIV USAF 96 CG/SCXF; Markel, Wayne E Civ USAF ACC ACC/A60F; Menyfield Demarkulus R SSgt USAF AFSOC AFSOC/A6AW; mitch.monning@oln-afmc.af.mil; MLA - AFFMA-DO; Nolan, Michael SrA USAF AFOSI AFOSI/XIIE; Pack, Dennis G Civ USAF ACC 99 CS/SCOTS; Pooley, David F Civ USAF AFSPC AFSPC/A6NRI; Radel, Larry YA-02 USAF PACAF HQ PACAF/A6XP; Ray.Abbott@ngb.ang.af.mil; raymond.brown@ngb.ang.af.mil; Williams, Denise Y Civ USAF ACC ACC/A60F; Zamora, Samuel A MSG USA NORAD USNORTHCOM HQs J63
Subject: WindMill Action Item -- PrairieWinds-1 Wind Energy Project in Ward County, North Dakota

All,

Please find attached a COMSEARCH wind energy project proposal for the proposed PrairieWinds-1 Wind Energy Project in Ward County, North Dakota.

Please provide concerns by 17 October 2008.

If you indicate a concern please include all appropriate contact information in your response.

NTIA will compile concerns and prepare a response letter.

Your contact information will be important for a follow-up from the wind project developer.

Efp

Edward F. Pitts Sr, DAF
Air Force Frequency Management Agency
Alternate, Frequency Assignment Subcommittee (FAS) Primary Work Group 22 Primary Spectrum XXI
CCB
2461 Eisenhower Avenue Ste 1203
Alexandria, Virginia 22331-1500
703-428-1524/DSN 328-1524

Darlene Steffan

From: Jason Brekke
Sent: Wednesday, August 06, 2008 9:45 AM
To: Amanda Wangler
Subject: FW: HICS Cable in Delta Flight
Attachments: Basin Electric Turbine Project 2.jpg; Basin Electric Turbine Project 1.jpg

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [james.larsen@minot.af.mil]
Sent: Tuesday, August 05, 2008 2:23 PM
To: Jason Brekke
Subject: RE: HICS Cable in Delta Flight

Jason:

I've attached maps showing the location of USAF HICS cable in the vicinity of your wind turbine project. I have your roadways turned off for clarity. We have depth requirements for our cable, but I wouldn't think these roads will be a problem.

I noticed that two towers are plotted to be less than 100' from our cable. We normally ask for 100' separation for poles and vertical structures.

It appears you will cross our cable with collector system cable at 7 locations. This shouldn't be a problem, requests like this are routine for our office.

Personnel from our office must be present whenever earth is being moved from our 16.5 foot easement. This would apply to both the road and collector network.

Please let me know if you have questions.

I would be happy to send you much more detailed maps of specific areas if necessary.

Jim Larsen
USAF Cable Affairs
723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Monday, August 04, 2008 7:02 PM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Amanda Wangler
Subject: FW: HICS Cable in Delta Flight

James,
I have changed the file extension to .txt. Let me know if this makes it through.

Thanks,
Jason

From: Jason Brekke
Sent: Thursday, July 31, 2008 3:05 PM
To: 'Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI'
Cc: Amanda Wangler
Subject: RE: HICS Cable in Delta Flight

Jim,
I have attached our proposed turbine layout, collector system, and access roads. You can compare our proposed project layout to your existing missile system. If there are conflicts I could meet with you and make appropriate changes to our system. Let me know if you have any problems reading the data.

Thanks for your help,

Jason Brekke
GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503
(701)-355-5726
mailto:JBrekke@bepc.com

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Tuesday, July 22, 2008 4:13 PM
To: Jason Brekke
Subject: RE: HICS Cable in Delta Flight

Jason:

We aren't allowed to release geo-referenced data of the missile system.
I'm afraid .jpg's are the best we can do for you.

Perhaps you can provide me a shapefile of your project and we could work the issue that way.
If so, our datum is WGS84, projection is UTM, 14N.

I could also meet you with my application on a laptop system and we could review the project that way.

Our cable easement is 16.5 feet in width centered on our cable. We don't allow any structures on the easement. We ask for 100' separation of poles for new aerial line construction. New construction for buried electric utility crossing our cable is allowed and handled by our office. Minimum separation from our cable is 18" for buried electric and lines 2,400V or higher must be in a metallic sheath for the width of our easement.

If you have any other questions please contact me at the number listed below.

Jim Larsen
USAF Cable Affairs
701-723-6053

-----Original Message-----

From: Jason Brekke [mailto:JBrekke@bepc.com]
Sent: Tuesday, July 22, 2008 11:11 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Amanda Wangler
Subject: RE: HICS cable in Delta Flight

Jim,
What we are looking for is an ESRI shapefile (or any type of spatial datafile) of the USAF buried cable in southern Ward county. We would like to add this layer to our GIS to see if there is any conflict with our proposed wind turbine locations. I don't think that we would need any of the point data on the attached map as all of the points seem to be snapped to the line information.

Thanks,

Jason Brekke
GIS Analyst
Basin Electric Power Cooperative
1717 E. Interstate Avenue
Bismarck, ND 58503
(701)-355-5726
mailto:JBrekke@bepc.com

-----Original Message-----

From: Amanda Wangler
Sent: Monday, July 21, 2008 2:35 PM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: Jason Brekke
Subject: RE: HICS cable in Delta Flight

Jim,

By copy of this email, I am asking Jason Brekke to work with you to get this information. Jason is aware of the information we are looking for and has a lot more experience with mapping. Thank you in advance for your help.

Thanks,
Amanda

-----Original Message-----

From: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI [mailto:james.larsen@minot.af.mil]
Sent: Monday, July 21, 2008 2:15 PM
To: Amanda Wangler
Subject: FW: HICS cable in Delta Flight

Amanda:

I have been asked to contact you regarding buried USAF cable located in southern Ward county. Unfortunately I didn't get enough of the email string to determine exactly what information you are looking for.

Please contact me by phone (701-723-6053) or email.

Thanks;

Jim Larsen
91 Missile Maintenance Squadron
Cable Affairs office
701-723-6053

-----Original Message-----

From: Huettl, Ronald G Civ USAF ACC 5 CES/CEOE
Sent: Monday, July 21, 2008 10:12 AM
To: Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI
Cc: 'AWangler@bepc.com'; 'martindd@verendrye.com'; Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: FW: HICs cable in Delta Flight

Jim,

Can you contact Amanda Wangler and provide her with the information she is looking for?

-----Original Message-----

From: Martin Dahl [mailto:martindd@verendrye.com]
Sent: Thursday, July 17, 2008 4:30 PM
To: Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: FW: HICs cable in Delta Flight

-----Original Message-----

From: Amanda Wangler [mailto:AWangler@bepc.com]
Sent: Thursday, July 17, 2008 1:22 PM
To: martindd@verendrye.com
Subject: RE: HICs cable in Delta Flight

Marty,

Thanks for this information, however, our GIS analyst tells me that this would be very hard for him to work with and wouldn't be very accurate.

Any chance we can get the shape file or some other electronic form?

Thanks,
Amanda

-----Original Message-----

From: Martin Dahl [mailto:martindd@verendrye.com]
Sent: Thursday, July 17, 2008 1:03 PM
To: Amanda Wangler
Subject: FW: HICs cable in Delta Flight

-----Original Message-----

From: Nelson, Kevin P Civ USAF ACC 5 CES/CD [mailto:Kevin.Nelson@minot.af.mil]
Sent: Thursday, July 17, 2008 10:58 AM
To: Martin Dahl (E-mail)

Subject: FW: HICs cable in Delta Flight

Marty, does this work??

-----Original Message-----

From: Huettl, Ronald G Civ USAF ACC 5 CES/CEOE
Sent: Thursday, July 17, 2008 9:42 AM
To: Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: HICs cable in Delta Flight

Ronald Huettl, PE

Chief, Missile Engineering

(701)723-4843

(DSN)453-4843

Darlene Steffan

From: Jason Brekke
Sent: Thursday, July 31, 2008 3:06 PM
To: 'Larsen, James A Civ USAF AFSPC 91 MMXS/MMXFI'
Cc: Amanda Wangler
Subject: RE: HICS Cable in Delta Flight
Attachments: ND_SiteA.zip

Jim,
I have attached our proposed turbine layout, collector system, and access roads. You can compare our proposed project layout to your existing missile system. If there are conflicts I could meet with you and make appropriate changes to our system. Let me know if you have any problems reading the data.

Thanks for your help,

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USAF Cable Affairs

701-723-6053

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91 Missile Maintenance Squadron
Cable Affairs office
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To: Nelson, Kevin P Civ USAF ACC 5 CES/CD
Subject: HICs cable in Delta Flight

Ronald Huettl, PE

Chief, Missile Engineering

(701)723-4843

(DSN)453-4843

**BASIN ELECTRIC
POWER COOPERATIVE**

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE: 701-223-0441
FAX: 701-557-5336



To: North Dakota Public Service Commission

From: Kevin Solie, Senior Environmental Analyst

A handwritten signature in black ink, appearing to be "KS", written over the name "Kevin Solie".

Date: May 28, 2009

Re: Case No. PU-08-75, Late Filed Exhibit – Landowner Consent

Per the Commission's request on May 26, 2009, for the written consent of the landowner of the occupied residence near Turbine E-71 located in Section 12, Iota Flat Township, enclosed is the Landowner Consent dated May 14, 2009, signed by Mr. Nick Poleschook, whose address is 2901 317th Ave., Max, ND 58759.

ks/df/ds
enclosure

LANDOWNER CONSENT

This CONSENT is dated and effective as of the 14TH day of MAY, 2009 ("Effective Date"), between NICK POLESCHOOK whose address is 2901 317th AVE MAX, ND 58759 ("Landowner") and BASIN ELECTRIC POWER COOPERATIVE, a North Dakota electric cooperative corporation, whose address is 1717 East Interstate Avenue, Bismarck, North Dakota 58503 ("Basin Electric").

WHEREAS, Basin Electric is engaged in the business of generation and sale of electric power and energy and is actively pursuing the development of a wind facilities project ("Wind Project") to be located in Ward County, North Dakota;

WHEREAS, Landowner owns an occupied residence on the real property ("Property") described in Exhibit A (attached hereto) and which Property is within or adjacent to the Wind Project;

WHEREAS, the Wind Project is subject to the siting jurisdiction of the North Dakota Public Service Commission per the North Dakota Energy Conversion and Transmission Facility Siting Act; and

WHEREAS, the North Dakota Public Service Commission has in several prior Certificate of Site Compatibility Orders for wind farms required wind turbines be located not less than 1400 feet from occupied residences.

NOW, THEREFORE, in consideration of the terms and conditions of this Consent and Waiver and other good and valuable consideration Landowner hereby agrees as follows:

1. Consent to Set Back. Landowner hereby consents to the siting and placement of wind turbine(s) within 1400 feet, but not closer than 1000 feet, from the occupied residence(s) identified in Exhibit A.
2. Successors and Assigns. This Consent is binding upon Landowner, heirs, personal representatives, successors and assigns. This Consent shall inure to the benefit of Basin Electric and its successors and assigns.
3. Governing Law. This Consent shall be governed by and interpreted in accordance with the laws of the State of North Dakota.

IN WITNESS WHEREOF, the Landowner has caused this Consent to be executed and delivered on the dates set forth below.

Landowner:

Nick Poleschook
Dated: _____

5-14-09
Dated: _____

EXHIBIT A
TO
LANDOWNER CONSENT

(DESCRIPTION OF LEASED PROPERTY)

Turbine E71
NE/4 SE/4 SW/4
Section 12 T151 N R83 W
Residence
SE/4 SW/4 (same)

**BASIN ELECTRIC
POWER COOPERATIVE**

1717 EAST INTERSTATE AVENUE
BISMARCK, NORTH DAKOTA 58503-0564
PHONE: 701-223-0441
FAX: 701-557-5336



To: North Dakota Public Service Commission

From: Kevin Solie, Senior Environmental Analyst

Handwritten signature of Kevin Solie in black ink.

Date: May 28, 2009

Re: Case No. PU-08-75, Late Filed Exhibit – Set Back Distances

Per the Commission's request on May 26, 2009, regarding the three proposed turbines located less than 400 feet from a section line/road right-of-way, Basin Electric provides the following information:

The turbine numbers, locations of the affected turbines, and the proposed setback distances (measured from the edge of the public right-of-way) are listed in the table below:

Turbine Number	Section	Township	Range	Proposed Set Back
A-16	13	152	83	145 feet
E-74	14	151	83	240 feet
B-19	22	152	83	220 feet

Photographs depicting the approximate turbine locations (blue arrow) with respect to the affected section line/roads are attached. As can be seen on the photographs, Turbines A-16 and E-74 would be located in proximity to lightly travelled section line two-track trails; note that the trail was washed out in the vicinity of Turbine E-74, making the road impassible to most vehicles. Turbine B-19 would be located near a section line (dashed blue line) that appears to be rarely travelled, lacking even a two-track trail.

While road setbacks are intended to protect the travelling public from the hazard of a fallen tower and/or the inconvenience of a blocked road, it is extremely unlikely that such a failure would occur. If a failure did occur, the most probable mode of failure would be "beer or oil canning" in which a turbine bends at its approximate midsection instead of shearing off at the base; thus, the distance affected would likely be less than the height of the turbine. In the improbable event of a turbine tower failure, it is further unlikely that the turbine would necessarily fall toward the road. Given the roads in question are remote and seldom-travelled, it is unlikely that any impacts to the travelling public would occur. Moving the turbines farther away from the section line roads would necessitate longer access roads and buried collector lines, increasing both cost and environmental impact.

These three turbines are also ideally located, within their geographic confines, for wind resource potential. The lost value of generation, based on a 25 year life, with a move to a 400 ft. setback distance is estimated to be nearly \$500,000.00.

ks/dfl/ds
enclosures



A-16

27th ST SE looking South towards A-16. Blue arrow indicates approximate turbine placement.



B-19

Trail where 13th ST SE ends. Blue arrow shows approximate location of the turbine. Dotted line shows approximate section line placement.



E-74

Trail on the way to E-74, road washed out ahead and not passable to most vehicles. Approximate turbine location shown by blue arrow.