



## BORDER WINDS ENERGY PROJECT

### WEEKLY PROJECT REPORT

Weekly report no:	25
Report for week period ending COB Friday:	01/16/15
Calendar week no:	3

### Executive Summary

#### This Week's Highlights

- Updated O&M Building construction schedule received from AB Systems, equipment staged on 1/13/2015, and steel erection commenced 1/14/2015;
- Received updated main transformer drawing from manufacturer and forwarded to REI for finalization of foundation IFC drawings due on 1/23/2015;
- Held weekly conference call with RES and REI to discuss schedule of drawings to be received and reviewed in preparation for design review meeting in Minneapolis planned for 2/5/2015;
- Continued receiving cable for a total 26 reels equaling 132,078 LF received for the week;
- Received new numbering scheme for turbines from Xcel and discussed internally.

#### This Week's Key Issues

- Downed power lines still remain on-site and repairs are on-going;
- Re-evaluating the requirement for installation of grease on the anchor bolts during the winter period;
- Continuing to work with subcontractors to update construction schedules based upon current status and required completion dates – updating overall project schedule.



### Safety

\*Full description of week's Safety Log can be found in Exhibit 2

Type	Lost Time	Recordable Injury (Medical Aid)	Minor Injury (First Aid)	Equipment Property Damage	Near Miss	3X20 Observation
<b>Current Period</b>	0	0	0	0	1	5
<b>Project To Date</b>	1	0	9	19	65	413

**TRIR = 1.44**

((Lost Time + Medical Aid) \* 200,000) / Total Man Hours

**RES Safety Index = 0.97**

((Lost Time \* 64) + (Injury \* 16) + (Minor Injury \* 4) + (Damage \* 1) + (Near Miss \* 0.25)) / Man Hours \* 1000

**Week's Highlights:**

- Conducted kick off meeting with O&M subcontractor, PCS. RES explained all of the safety expectations and requirements for working on site. PCS also advised of full time safety coverage that would be provided by RES. Oversight assigned to Site Safety Supervisor Martin Macias;
- Tutorial on new RES 3x20's conducted for RES site staff;
- Radio re-programming arranged for new channels and assignment to different departments;

**Week's Issues:**

- Near miss on the O&M project. A fire extinguisher was loose in the equipment cab. Previous damage incidents had occurred due to this same kind of issue.

**Project Work Hours:**

- Weekly Man-hours: 1,004.00
- PTD Man-hours: 138,633.20



### Environmental

\*Full description of week's Environmental Report can be found in Exhibit 2

Type	Major Incident	Minor Incident	Near Miss	Observation
Current Period	0	0	0	1
Project to Date	0	46	3	16

#### Rolling Incident Score

Previous week: 0.91 Current Week: 0.89

#### Week's Highlights:

- Discussed with USFWS personnel regarding proposed collector routes through USFWS wetlands on 1/12/2015;
- Slightly above freezing temperature during the week. No snow thaw observed.

#### Week's Issues:

- Received 1/10<sup>th</sup> (0.01) inch of snow on Wednesday, 1/14/2015.

### Quality

\*Full description of week's Quality Report can be found in Exhibit 4

	NCRs			Incidents			CPARs		
	Issued	Open	Closed	Issued	Open	Closed	Issued	Open	Closed
Weekly	0	0	0	0	0	0	0	0	0
Total	8	2	6	0	0	0	0	0	0

#### Week's Highlights:

- On-going – Working on job books.

#### Work Area Inspections conducted:

- Inspected bolt cage covers for T10, T11 & T34;
- Inspections of the O&M Building erection.



## Schedule Status

Project duration	69
No. of weeks into contract	27
Contract time passed (%)	39%

Key Activities (Construction)	Weighted %	Percent Complete		
		Contract Schedule	Construction Schedule	Actual
Design Engineering	2.5%	100%	100%	100%
Roads	14%	95%	83%	83%
Crane Pads	6%	0%	0%	0%
Foundations	20%	100%	95%	95%
Collection System	20%	46%	24%	24%
Substation	10%	55%	16%	16%
WTG Delivery, Erection, MCC	20%	0%	0%	0%
O&M Building	5%	100%	21%	21%
Completion	2.5%	0%	0%	0%
Overall Actual Percent Complete				41%

## Progress Report

### Permit Status

Permit Type / Description	County / State	Responsible Group	Date Needed By	Status
O&M Well Permit	ND State	AB Systems	8/30/15	Pending submittal

### Construction Status

Certificates	Total	Submitted	Signed
Foundation Completion Certificate	75	0	0
Mechanical Completion Certificate	75	0	0
Electrical Works Completion Certificate	1	0	0
Project Mechanical Completion Certificate	1	0	0
Project Substantial Completion Certificate	1	0	0
Project Final Completion	1	0	0



### Roads & Crane Pads

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Roads	70%	Roads			69%
Clear and Grub	20%	152,837	152,837	0	100%
Subgrade	25%	152,837	141,346	11,491	92%
Place and Compact Road Base	30%	207,469	185,555	21,914	89%
Shoulders	15%	152,837	0	152,837	0%
Ditches	10%	152,837	0	152,837	0%
Crane Pads	30%	Crane Pads			0%
Shape and Compact Sub Grade	40%	75	0	75	0%
Place and Compact Road Base	60%	75	0	75	0%

#### Comments:

- Construction of new roads is on hold due to frozen subgrade conditions;
- Completed staging Class 5 aggregate for construction of crane pads at first 28 turbine sites in erection sequence. Aggregate has been determined not to meet specification. REC and Project Team to notify the supplier of the situation and seek corrective action as well as an alternative aggregate source.

### Foundations

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Excavations	10%	75	71	4	95%
Mud Mats	5%	75	71	4	95%
Bases	45%	75	71	4	95%
Pedestals	20%	75	71	4	95%
Backfilled	15%	75	71	4	95%
Vestas Ground Kit	5%	75	71	4	95%

**Foundation Progress      95%**

#### Comments:

- Greasing of anchor bolts and anchor bolt cages currently on hold due to inability to heat rebar for an extended period of time for ice removal and cleaning prior to greasing. Engineering to re-evaluate this requirement and provide response on 1/20/2015.



**Collection System**

Item	Weighted %	Quantity	Total Received	Total Remaining	Percent Complete
<b>Deliveries</b>	<b>30.0%</b>		<b>Deliveries</b>		<b>79%</b>
Grounding Transformers	10.0%	6	0	6	0.0%
MV Cable 3/0 AWG AL	15.0%	308,288	314,910	0	100%
MV Cable 350 Kcmil AL	7.5%	140,708	129,826	10,882	92%
MV Cable 750 Kcmil AL	15.0%	217,740	142,853	74,887	66%
MV Cable 1000 Kcmil AL	7.5%	88,167	90,485	0	100%
MV Cable 1250 Kcmil AL	20.0%	147,069	150,472	0	100%
Fiber 12 count	2.5%	328,520	336,590	0	100%
Fiber 120 count	2.5%	6,587	0	6,587	0%
Ground Cable	10.0%	299,663	299,663	0	100%
Junction Boxes	5.0%	28	28	0	100%
Rubber Goods	5.0%	1420	772	648	54%
<b>Installations</b>	<b>50.0%</b>		<b>Installations</b>		<b>9%</b>
Trench	60%	278,230	24,611	253,619	8%
MV & Fiber/Ground Cable	30%	297,841	31,052	266,789	10%
Grounding Transformers	5%	6	0	6	0.0%
Junction Boxes	5%	28	0	28	0.0%
<b>Terminations</b>	<b>20.0%</b>		<b>Terminations</b>		<b>0.0%</b>
Grounding Transformers	10.0%	6	0	6	0.0%
Junction Boxes	30.0%	28	0	28	0.0%
Turbines	60.0%	75	0	75	0.0%

**Collection System Progress: 28%**

**Comments:**

- Continuing to work with Procurement and ABB to receive final grounding transformer drawings;
- Received several deliveries of 3/0, 350 kcmil, and 750 kcmil cable;
- Met with North Dakota Game & Fish Department and Rolette County officials regarding placement and movement of collection line to eliminate bores;
- Received two quotes for ground grid testing;
- Project Team and Procurement continue to price and purchase remaining materials;
- REC finalizing directional bore optimization plan.



**O&M Building**

Activity Description	Required	Unit	To Date Total	Remains	% Comp.
Earthworks	100	%	85	15	85%
Foundation	100	%	85	15	85%
Deliver Building	100	%	100	0	100%
Building Enclosed	100	%	25	75	25%
Building Interior Framing	100	%	0	100	0%
Building Electrical	100	%	0	100	0%
Building HVAC	100	%	0	100	0%
Plumbing	100	%	0	100	0%
Building Interior Trim & Finishing	100	%	0	100	0%
Septic System	100	%	0	100	0%
Water Well	100	%	0	100	0%
Fence and Yard Rock	100	%	0	100	0%

**O&M Building Progress: 25%**

**Comments:**

- AB Systems provided the final drawing package which was reviewed on site and sent back for minor modifications. As soon as the drawing is returned, it will be submitted to Xcel;
- AB Systems provided 3 week look-ahead schedule based on the weather forecast. AB Systems has also provided a full construction schedule which was reviewed on-site and returned with comments;
- PCS mobilized on 1/13/2015 and have started with the steel erection activities;
- 40% of steel erection completed. Steel erection is scheduled to be completed on Monday, 1/19/2015;
- RES safety has a safety supervisor fully assigned to support PCS's erection work.



**Substation**

Item	Weighted	Required	Total Completed	Total Remaining	Percent Complete
<b>Design</b>	<b>20%</b>	<b>Design</b>			
Design Drawings	20%	100	70	30	70.0%
<b>Deliveries</b>	<b>35%</b>	<b>Deliveries</b>			
Structural Steel	5%	100	0	100	0.0%
Main Transformer	15%	100	0	100	0.0%
Control House	5%	100	0	100	0.0%
Relay Panel	2.5%	100	0	100	0.0%
Arrestors	2.5%	100	0	100	0.0%
Switches	2.5%	100	0	100	0.0%
Breakers	2.5%	100	0	100	0.0%
<b>Construction</b>	<b>45%</b>	<b>Construction</b>			
Grading & Drainage	5%	100	75	25	75.0%
Foundations	10%	100	0	100	0.0%
Underground/Grounding	5%	100	0	100	0.0%
Structural Steel Work	5%	100	0	100	0.0%
Equipment Installation	5%	100	0	100	0.0%
Control Building/Wiring	5%	100	0	100	0.0%
Transformer Fit Out	5%	100	0	100	0.0%
Commission	5%	100	0	100	0.0%
Fence, Gravel, & Clean Up	2.5%	100	0	100	0.0%

**Substation Progress: 16%**

**Comments:**

- Received equipment submittal information, switching diagram, and bill-of-materials from REI, reviewed internally, and transmitted to Xcel and REI with comments;
- Received updated main transformer drawing from manufacturer and forwarded to REI for completion of foundation IFCs due on 1/23/2015;
- Mobilization and foundation construction commencement scheduled for 2/2/2015;
- Cold-weather concreting method discussion scheduled for 1/21/2015;
- 60% design package submittal scheduled for 1/29/2015;
- 60% design review meeting in Minneapolis currently planned for 2/5/2015.

**Exhibit 1 – Site Photographs**





Parking Lot & Laydown Yard



PCS Staging Equipment in Preparation for Steel Erection at O&M Building Site





PCS Staging Steel for Erection at O&M Building



Steel Erection beginning at O&M Building



## Exhibit 2 – Safety Log

#	DATE	INCIDENT OBSERVED DURING:	CLASS	CONTRACTOR	INCIDENT DETAILS	CORRECTIVE ACTION DETAILS	ACTION TAKEN TO PREVENT REOCCURRENCE
346	1/15/2015	Safety Walk	Near Miss	PCS	A safety inspection conducted of the PCS fork truck found that the fire extinguisher mounting bracket was not in service and the fire extinguisher was loose in the cab.	The fire extinguisher was removed from the equipment while the bracket is fixed,	All team members reminded of the previous incident where a loose fire extinguisher in a cab caused damage to a piece of equipment. Reminded all extinguishers need to be secured.
347	1/15/2015	Safety Walk	Hazard Observation	PCS	The PCS office trailer fire extinguisher was not inspected for the month or mounted.	Site Safety provided a sign off sticker and provided mounting instructions.	All extinguishers were re inspected by Site Safety to ensure no others extinguishers were out of compliance.
348	1/15/2015	Safety Walk	Hazard Observation	PCS	The JHA being used had been signed by multiple team members with missing information.	The foreman was instructed to add the information missing and this information was verbally addressed to all other team members who had already signed onto the JHA.	Site Safety Supervisor with we conducting morning inspections of the JHA to ensure the JHA is complete.
349	1/13/2015	Safety Walk	Safe Work Observation	PCS	Operator pushed snow towards a designated area so to not block oncoming traffic and showed proper use of machinery.	None, this was a Safe Observation.	None, this was a Safe Observation.



350	1/14/2015	Safety Walk	Safe Work Observation	PCS	Employee inspected and tested all cordless tools prior to each use.	None, this was a Safe Observation.	None, this was a Safe Observation.
351	1/14/2015	Safety Walk	Safe Work Observation	PCS	Employee had on all the proper PPE needed for each task and had layered clothing on for inclement weather.	None, this was a Safe Observation.	None, this was a Safe Observation.
352	1/15/2015	Safety Walk	Safe Work Observation	PCS	All employees working six feet or greater had on all proper fall protection and were 100% tied off.	None, this was a Safe Observation.	None, this was a Safe Observation.
353	1/15/2015	Safety Walk	Hazard Observation	PCS	Tagline was too long and could've caused a tripping hazard.	Communication was addressed to the foreman and his employees of the hazard. The tagline was cut into two separate pieces at the same length and only one was in use.	All employees were advised as to using better awareness and judgment when using any type of hand tools.



### Exhibit 3 – Environmental Log

#	CLASS	SUB-CAT	CONTRACTOR	DATE	INCIDENT DETAILS	ACTION TAKEN TO CORRECT SITUATION	ACTION TAKEN TO PREVENT REOCCURANCE
23053-15-17	Observation	Weather Event	All	01/16/2015	Frozen subgrade. No snow thaw observed. Temperature with wind chill continues under -15F.	No action required.	Inspect BMPs in case of snow thaw.



**Exhibit 4 – Quality Log**

- Incidents - None
- CPARs - None
- NCRs - 8

**Material Receipt**

Description of Material	Delivery Date	Vendor	Quantity	Cumulative Qty	Balance
N/A					

Description of Material	NCR Opened (Current Week)	NCR Closed (Current Week)	Total NCR Open (As of this Week)	Total NCR Closed (As of this week)
Totals			2	6
NCR-2014-34, Topsoil beneath subgrade fill material at the Substation			X	
NCR-2014-38, T3 grounding was not installed per specifications			X	



## Border Winds

### FIELD QUALITY CONTROL PROGRAM DEFICIENCY REPORT REGISTER

PREPARED BY: George Protz

No.	Description i.e. Roads, Foundations, Electrical	LOCATION	Turbine #	Test Document No:	DEFICIENCY DESCRIPTION	DATE ENTERED	DATE CLEARED
1	Roads, Culverts	Road K2 Sta. 21+00	T-28/T-29	USCF-001	Incorrect Culvert Installation	9/29/2014	11/24/2014
2	Roads, Culverts	Road W# Sta. 00+12	T-59	USCF-001	Incorrect Culvert Installation	9/29/2014	
3	Foundations	T-49 Base	T-49	USCF-002	Foundation not protected for cold weather per ACI 306	10/08/2014	11/05/2014
4	Roads, Culverts	105 <sup>th</sup> Ave Sta. 15+25		USCF-001	Geogrid not replace after installation	10/14/2014	
5	Roads, Culverts	Access Road T2	T-74	USCF-001	Road alignment incorrect, Culverts missing	9/30/2014	
6	Roads, Culverts	N1 00+00	T-45	USCF-001	Culvert installation not per specifications	11/05/2014	
7	Roads, Culverts	108 <sup>th</sup> Ave. at T-24		USCF-001	Geogrid is showing through the class 5 material	11/10/2014	
8	Roads, Culverts	Access roads to T-9, T-10, T-11, T-34, T-35 & T-71		USCF-001	Class 5 material is out of specification.	11/13/2014	
9	Roads, Culverts	Access road to T-37 Sta. 8+00	T-13	USCF-001	Geogrid is damaged	11/13/2014	
10	Roads, Culverts	Culvert at T-26	T-26	USCF-001	Needs to be extended on west end	11/23/2014	



11	Roads, Culverts	Access Road C2	T-10	USCF-001	The access road needs to be re-aligned per the land owner's request	12/03/2014	
12	Foundations	O&M Building		USCF-002	Stoop footer at S/E end of building has wrong backfill material	12/05/2014	



**Exhibit 5 – RFI Log**

RFI	Generated By	Company	Sent To	Company	Subject	Date Sent	Response Requested By	Type: Civil, Electrical, etc.	Date Closed
23053-30	Shabeeb Abdul Khader	RES	Bradley Morrison	Xcel Energy - Generation	Install crushed aggregate on the substation site	10/31/2014	11/6/2014	Civil	
23053-31	Shabeeb Abdul Khader	RES	Bradley Morrison	Xcel Energy - Generation	Above grade containment at MPT foundation	11/5/2014	11/11/2014	Civil	
23053-35	Emad Alaydi	RES	Tim Boardman	Xcel Energy - Generation	O&M Foundation Protection	12/12/2014	12/18/2014	O&M	
23053-39	Emad Alaydi	RES	Brad Morrison	Xcel Energy - Generation	Meteorological Station	01/14/2015	01/21/2015	SCADA	
23053-40	Emad Alaydi	RES	Brad Morrison	Xcel Energy - Generation	Border Winds- O&M Building Colors & Finishes Selection	01/16/2015	01/22/2015	O&M	
23053-41	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	MPT Conduit Stub Up	01/16/2015	01/23/2015	Electrical	