



## BORDER WINDS ENERGY PROJECT

### WEEKLY PROJECT REPORT

Weekly report no:	30
Report for week period ending COB Friday:	02/20/2015
Calendar week no:	8

### Executive Summary

#### This Week's Highlights

- Ground heating and foundation excavation continues at substation site;
- Conducted a meeting with REI for the planning of the foundation work sequencing at the Substation;
- Spider Plow has started mobilization to site with equipment arrival;
- Completed MV cable delivery for the collection system.

#### This Week's Key Issues

- O&M and Substation work impacted this week due to extreme temperatures;
- Downed power lines still remain on-site and repairs by utility are on-going;
- Construction schedule is being updated with crane pad & walk sequencing.



**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
Current Period	0	0	0	0	0	1
Project To Date	1	0	9	19	65	436

**Previous Week TRIR = 1.40 / Current Week TRIR = 1.39**

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

**Previous Week RES Safety Index = 0.95 / Current Week RES Safety Index = 0.94**

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

**Weeks Highlights:**

- Site Safety Supervisor Martin Macias was awarded the RES Americas Domino Award for Safety Leadership;
- Mobile base station radios were received and issued to personnel to aid in communications on site;
- Alternate site Muster Point selected, Turbine Site 61 off 52<sup>nd</sup> Ave.

**Weeks Issues:**

- Severe weather shut down the site on 2/17/2015.

**Project Work Hours:**

- Weekly Man-hours: 1003.00
- Total Project Man-hours: 143,003.20



### 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	2
Project to Date	0	47	3	23

### Rolling Incident Score

**Previous week: 0.90 / Current Week: 0.88**

((Major Incident \* 16) + (Minor Incident \* 4) + (Near Miss \* 0.25) + (Observation \* 0)) \* 1000 / Total Man Hours

#### Week's Highlights:

- Frozen ground conditions;
- Temperature remained below freezing through the week. No snow thaw observed.

#### Week's Issues:

- Observed high winds and 0.4" snow on 2/17/2015
- Received 0.8 inch of snow on Tuesday, 2/19/2015

### Quality

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

Type	RES Issued NCRs			RES Issued CPARs			Client Issued NCRs			Client Issued CPARs		
	Issued	Open	Closed	Issued	Open	Closed	Issued	Open	Closed	Issued	Open	Closed
Current Period	0	0	0	0	0	0	0	0	0	0	0	0
PTD	3	3	3	0	0	0	7	1	6	0	0	0

#### Week's Highlights:

- Collecting information for the job books;
- Monitored construction at the O & M Building;
- RRC personal onsite to monitor excavation/ground thawing operations at the substation;
- Held conference call with B&E (materials testing group) to discuss personnel, scheduling, and RES expectations for upcoming work;
- Held conference call with REI to discuss substation work and QA/QC documentation.



**Week's Issues:**

- Torque wrench on order for checking bolts at the O & M Building

**Schedule Status**

Project duration	72
No. of weeks into contract	32
Contract time passed (%)	44%

Key Activities (Construction)	Weighted %	Percent Complete		
		Contract Schedule	Construction Schedule	Actual
Design Engineering	2.5%	100%	100%	100%
Roads	14%	100%	83%	83%
Crane Pads	6%	0%	0%	0%
Foundations	20%	100%	95%	95%
Collection System	20%	46%	30%	30%
Substation	10%	55%	16%	18%
WTG Delivery, Erection, MCC	20%	0%	0%	0%
O&M Building	5%	100%	28%	29%
Completion	2.5%	0%	0%	0%
Overall Actual Percent Complete				45%

**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

- Well sample from nearby location determined water to be potable. O&M well expected to produce potable water.



**Construction Status**

<b>Certificates</b>	<b>Total</b>	<b>Submitted</b>	<b>Signed</b>
Foundation Completion Certificate	75	71	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

Note: Ben Kass verified the Foundation certificates will be executed the week of 2/23/2015.

**ROADS & CRANE PADS**

<b>Item</b>	<b>Weighted %</b>	<b>Budget</b>	<b>Total Completed</b>	<b>Total Remaining</b>	<b>Percent Complete</b>
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
  - Road construction planned to resume mid-May, 2015;



**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:**

- Foundation construction planned to resume mid-May, 2015

**COLLECTION SYSTEM**

Item	Weighted %	Quantity	Total Received	Total Remaining	Percent Complete
<b>Deliveries</b>	<b>30.0%</b>		<b>Deliveries</b>		<b>97%</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	143,964	0	100%
MV Cable 750 Kcmil AL	15.0%	217,740	208,085	0	100%
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	6,587	0	100%
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>5%</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:      33%**



**Comments:**

- Completed cable delivery;
- Awaiting TOV study from RES Engineering for submittal to Xcel. Once reviewed by Xcel, grounding transformers will be approved;
- Continued to contact Jeff Richardson to set up contracts for ground grid testing and line drops;
- Sent cold weather backfill procedure for collector to Xcel;
- Submitted procedure for crossing under existing Xcel overhead line. Waiting for Xcel signature;
- Spider Plow has started mobilization to site;
- Working with Vestas to answer Rosendin RFI on collection system protection settings and transformer cut sheets;
- RES to confirm tasks for SCADA with other contractors;
- Working with REC to get pricing on containment pit installation;
- Continued to accept rubber goods.

**O&M BUILDING**

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

**O&M Building Progress: 29%**



**Comments:**

- Extreme cold weather causing three and half days of downtime on February 16-19th, 2015 and limited time on 2/20/2015;
- Due to extreme weather conditions, minimal work was completed on the roof enclosure;
- Received the water sample test results from the reference water well. Water quality is within potable standards as per the state of ND requirements;
- Received preliminary security SOW from VTI (Xcel security supplier), and currently working with ABS to issue a complete SOW;
  - Any variance from PSA specification will be addressed via Change Order with Xcel
- Xcel responded to RFI 23053-040 on 2/12/2015 regarding the O&M finishes selection and provided a list with the selections. Updated finishes list received on 2/13/2015. Awaiting revised RFI response;
  - Any variance from PSA specification will be addressed via Change Order with Xcel

**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	2	98	2.0%
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: 18%**

**Comments:**

- Conducted a Substation foundation planning meeting on site with REI to discuss:
  - Foundation sequencing and schedule;
  - Foundation IFCs are expected on Feb 24, 2015;
  - Turnaround on structural fill supply and quantities available per day from the supplier;
  - Foundation installation procedure, including cold weather requirements;
  - QA/QC process and documentation;
  - RES Introduced a substation foundation grid layout to ease the QA/QC documentation process and ensure that all parties are using the same reference
- Rosendin continues ground thaw installation on the low-voltage breaker structures along the west side of the substation;
- Excavated four (4) foundations and prepared the locations for structural fill pour planned for Monday, 02/23/2015;
- Excavate the two (2) cap banks foundations and reapplied the heat source;
- Ground heating and thaw preparations for GSU foundation scheduled for completion prior to 3/11/2015;
- Continuous snow removal and staging of connex for wind breaks

**Exhibit 1 – Site Photographs**



Substation



Substation – Foundation excavation



Laydown yard



Substation Foundation excavation



## Exhibit 2 – Safety log

#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
408	2/12/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 7 Power Tools completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
409	2/12/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 8 Ladders completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
410	2/12/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 9 Lifting Operations. Adequate at the time of inspection. Current lifts being overseen by Site Safety Supervisor Macias, with sub contractor PCS at O&M building.	None, this was a Safe Observation.	None, this was a Safe Observation.
411	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 10 Storage of Materials completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
412	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 11 Excavation and Shoring completed. Non-Applicable Section.	None, this was a Safe Observation.	None, this was a Safe Observation.
413	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 12 Flammable Gases and Liquids completed..	None, this was a Safe Observation.	None, this was a Safe Observation.
414	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 13 Welding and Cutting completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
415	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 14 Concrete Construction completed. Non-Applicable Section.	None, this was a Safe Observation.	None, this was a Safe Observation.
416	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 15 SDS completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
417	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 16 PPE completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
418	2/18/2015	Safety Inspection	Safe Work Observation	RES Americas	Section 17 Work at Height completed. Adequate at the time of inspection.	None, this was a Safe Observation.	None, this was a Safe Observation.
419	2/20/2015	Safety Inspection	Hazardous Observation	Unknown	On 17Feb2015 a pallet of material was delivered to the site for a sub contractor. The delivery driver unloaded the pallet at the base of the decking's stairs. The pallet then got covered with snow following a snow storm during the night.	When the pallet was found and the materials could not be moved the area was coned off to prevent a trip hazard. The subcontractor that the materials were for was asked to remove the pallet asap and advise there shipping carrier to place pallets in a better location.	The shipping carrier was contacted and asked to place pallets in a safer location.



**Exhibit 3 – Environmental Log**

#	CLASS	SUB-CAT	CONTRACTOR	DATE	INCIDENT DETAILS	ACTION TAKEN TO CORRECT SITUATION	ACTION TAKEN TO PREVENT REOCCURANCE
23053-15-23	Observation	Weather Event	All	2/17/2015	Slight snow and high wind condition. 8 am to 6 pm	No action required	Inspect BMPs and repair if damaged when snow thaws
23053-15-24	Observation	Weather Event	All	2/19/2015	Received 0.8" of snow on the site.	Frozen ground. BMP inspection will be conducted after the snow melts.	Inspect BMPs after 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 Period)	NCR Closed (Current Period)	Total NCR Open (As of this Month)	Total NCR Closed (As of this month)
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	



**FIELD QUALITY CONTROL PROGRAM  
DEFICIENCY REPORT REGISTER**

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

\*Open RFIs and RFIs closed last week

	Generated By	Company	Sent To	Company	Subject	Date Sent	Response Requested By	Type: Civil, Electrical, etc.	Status / Comments	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	Xcel Responded. RES to monitor the spring thaw.	
23053-40	Emad Alaydi	RES	Brad Morrison	Xcel Energy - Generation	Border Winds- O&M Building Color & Finishes Selection	1/16/2015	1/22/2015	O&M	Received initial response on 2/12/15	02/22/15
23053-42	Emad Alaydi	RES	Tim Boardman	AB Systems	Potable Water - O&M	1/22/2014	1/29/2015	O&M	RES provided the requested information	
23053-47	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Add 100w Fixtures Into Yard Lighting	2/11/2015	2/18/2015	Electrical		02/16/15
23053-48	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Electrical Equipment Enclosure Outlets	2/11/2015	2/18/2015	Electrical		02/16/15
23053-49	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Required CT Circuit Wired to Electrical Equipment Enclosure	2/11/2015	2/18/2015	Electrical		02/16/15
23053-50	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Electrical Equipment Enclosure Alarms	2/11/2015	2/18/2015	Electrical		02/16/15
23053-51	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	DC Station Battery	2/13/2015	2/20/2015	Electrical		02/20/15
23053-52	Emad Alaydi	RES	Jason Reeves	RRC	Subgrade Beneath the Substation Foundation	2/13/2015	2/15/2015	Substation	Received initial response on 2/13/15	02/17/2015.
23053-53	Emad Alaydi	RES	Scott Lucia	Rosendin Electric	Foundation Planning	2/17/2015	2/20/2015	Substation		
23053-54	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	LTC Control - MPT	2/20/2015	2/27/2015	Electrical		