



## BORDER WINDS ENERGY PROJECT

### WEEKLY PROJECT REPORT

Weekly report no:	46
Report for week period ending COB Friday:	06/12/2015
Calendar week no:	24

### Executive Summary

#### Week's Highlights

- No injuries or damage incidents occurred this week;
- Completed all concrete at the O&M Building;
- Civil Crew completed five (5) crane pads with road base;
- The foundation bases for T10, T4 and T34 were poured during this period;
- Cable crew installed 14,273 ft. of MV cable;
- Completed aggregate installation at the O&M Building;
- There are eight (8) remaining piers to be drilled and concreted at the Substation;
- The substation control building was delivered and set on the piers;
- Transportation and component delivery planning meeting held at the site for WTG deliveries commencing in the next period.

#### Week's Key Issues

- The road conditions on site are very dusty and dry. Magnesium chloride treatment is planned for next week;
- Environmental removed and disposed of contaminated soil from a minor leak in a working piece of equipment;
- Areas around the O&M Building exhibited silt build-up from the rain. The silt was removed and straw wattles installed as a solution.



## Safety

### Week's Safety Log Summary.

Type	Lost Time	Recordable Injury (Medical Aid)	Minor Injury (First Aid)	Equipment Property Damage	Near Miss	3X20 Observation
Current Period	0	0	0	1	1	5
Project To Date	1	1	10	26	74	540

\*Full description of week's Safety Log plus the formulas for TRIR and Safety index calculation in Exhibit 2.

**TRIR: Previous Week = 2.06 / Current week = 1.99**

**RES Safety Index: Previous Week = 0.88 / Current week = 0.80**

### Weeks Highlights:

- No injuries or damage incidents occurred this week;
- During the all hands safety meeting on 6/12/15, the Safety Manager asked all attendees to introduce themselves and where they are from in order to foster team building. The site members were reminded that despite our previous background, tenure and projects we are all now part of the Border Winds Wind Project Team.

### Weeks Issues:

- Dusty/dry road conditions have caused poor visibility while driving and working on site. A dust palliative has been sourced and installation is planned for the next period.

### Project Work Hours:

- Weekly Man-Hours: 9166
- Total Project Man-Hours: 202,903
- Hours Since Last Recordable Injury: 26,062



## Environmental

Type	Major Incident	Minor Incident	Near Miss	Observation
Current Period	0	1	1	2
Project to Date	0	59	5	48

\*Full description of week's Environmental Report and Rolling Incident Score formula in Exhibit 2.

**Rolling Incident Score: Previous week: 0.89/ Current Week: 0.84**

### **Week's Highlights:**

- Delivered new bins for aluminum recycling. The filled bins for aluminum have been taken off site for recycling;
- Straw wattle was installed at a culvert inlet in Circuit 5.

### **Week's Issues:**

- Removed the silt and fixed the silt fence on the slope at the west end of the O&M building. Gravel was pushed to half the height of the silt fence following rain and re-grading of the O&M site.
- Minor Leak - Approximately two (2) gallons of hydraulic fluid leaked on the ground from equipment (Komatsu excavator) at T11 around 5pm on Friday. The team applied absorbent pads to control the leak and the equipment was locked out until the service team is able to repair the issue. The spill was cleaned and contaminated soil was disposed of in the proper bin. Absorbent pads and pillows were placed under equipment to ensure that no further soil contamination continues as parts to repair the equipment are received.



## Quality

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
<b>Current Period</b>	0	0	0	0	0	0	0	2	0	0	0	0
<b>PTD</b>	3	0	3	0	0	0	8	2	6	0	0	0

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

### Week's Highlights:

- Building & Earth: checking density for collector trench backfills, roads and culverts, testing Class 5 material gradations, processing proctors;
- B&E witnessed proof rolls for T-2/ T-3/ T-23 / T-T24/ T-25/ T-32/ T-40/ T-41/ T-43/ T-44/ T-45/ T-51 all passing;
- B&E took compaction test for final base density compactions after passing subgrade density for T-3/ T-23/ T-24/ T-25;
- Monitored construction at the O & M Building: Inspected rebar and concrete placement for aprons at the west roll-up doors;
- RRC has tested soils at the substation and turbine site excavations;
- Inspected collector trenching & backfills;
- Monitored concrete placement at the substation for piers;
- Inspected rebar for T-4, T-10 & T34 turbine base, and rebar for T-4 turbine pedestal;
- Monitored concrete placement for T-4, T-10 & T34 turbine base;
- Monitored concrete placement for T-4 turbine pedestal.

### Week's Issues:

- Missed in the previous weekly report: two pedestal bolts at T-25 were damaged by a grader working in the area. The bolts were replaced by the foundation subcontractor Nelson Wind as per procedure approved by engineering. The surface damage on the concrete will be scheduled for repair.



## SCHEDULE STATUS

Project duration	68
No. of weeks into contract	48
Contract time passed (%)	70%

Key Activities (Construction)	Weighted %	Percent Complete		
		Contract Schedule	Construction Schedule	Actual
Design Engineering	2.5%	100%	100%	100%
Roads	14%	100%	90%	87%
Crane Pads	6%	15%	15%	5%
Foundations	20%	100%	98%	98%
Collection System	20%	57%	57%	52%
Substation	10%	57%	51%	43%
WTG Delivery, Erection, MCC	20%	0%	0%	0%
O&M Building	5%	100%	95%	88%
Completion	2.5%	0%	0%	0%
Overall Actual Percent Complete				52%

## PROGRESS REPORT

### PERMIT STATUS

Permit Type / Description	County / State	Responsible Group	Date Needed By	Status
O&M Well Permit	ND State	AB Systems	-	No permit required Awaiting documentation

### CONSTRUCTION STATUS

Certificates	Total	Submitted	Signed
Foundation Completion Certificate	75	71	71
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		<b>69.7%</b>	
Clear and Grub	20%	152,837	100.0%	0	100%
Subgrade	25%	152,837	92.0%	11,491	92%
Place and Compact Road Base	30%	207,469	89.0%	21,914	89%
Shoulders	15%	152,837	0.0%	152,837	0%
Ditches	10%	152,837	0.0%	152,837	0%
Crane Pads	30%	Crane Pads		<b>5%</b>	
Shape and Compact Sub Grade	40%	75	5	70	7.1%
Place and Compact Road Base	60%	75	6	69	8%

**Comments:**

- Completed four (4) crane pads with road base;
- Completed three (3) crane pad sub-grade and proof roll test;
- Continued cement stabilization of 52<sup>nd</sup> Ave., 106<sup>th</sup> St, 107<sup>th</sup> St, & started stabilization on 109<sup>th</sup> St.;
- Placed clay material on T9, T10 and T11 access road to allow access for concrete trucks to complete the foundations;
- Additional water trucks have been obtained to assist in keeping dust under control.
- Worked on the turning radius at US 281/52<sup>nd</sup> Ave., 52<sup>nd</sup> Ave/106<sup>th</sup> St East & West, and 52<sup>nd</sup> Ave/107<sup>th</sup> Ave.

### FOUNDATIONS

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Excavations	10%	75	75	1	100%
Mud Mats	5%	75	74	1	98%
Bases	45%	75	74	1	98%
Pedestals	20%	75	72	3	95%
Backfilled	15%	75	71	4	95%
Vestas Ground Kit	5%	75	71	4	95%
<b>Foundation Progress</b>					<b>98%</b>

**Comments:**

- Foundation completion anticipated on Thursday, June 18, 2015.



**COLLECTION SYSTEM**

Item	Weighted %	Quantity	Total Received	Total Remaining	Percent Complete
<b>Deliveries</b>	<b>30.0%</b>	<b>Deliveries</b>			<b>100%</b>
MV Cable	50.0%	901,972	314,910	0	100%
Fiber	40.0%	335,107	336,590	0	100%
Junction Boxes	5.0%	28	28	0	100%
Grounding Transformers	5.0%	6	6	0	100%
<b>Installations</b>	<b>50.0%</b>	<b>Installations</b>			<b>39%</b>
Trench	60.0%	278,230	132,171	146,059	47%
MV & Fiber/Ground Cable	30.0%	297,841	146,523	151,018	49%
Grounding Transformers	5.0%	6	0	6	0%
Junction Boxes	5.0%	28	7	21	25%
<b>Terminations</b>	<b>20.0%</b>	<b>Terminations</b>			<b>3%</b>
Grounding Transformers	10.0%	6	0	6	0.0%
Junction Boxes	30.0%	28	3	25	11.0%
Turbines	60.0%	75	0	75	0.0%

**Collection System Progress: 52%**

**Comments:**

- Dolan demobilized from site and will mobilize again on 6/17/15 to perform final directional bores;
- Set JB 6/4;
- Excavated 13,209 ft. of collection line;
- Cleared 12,059 ft. of right of way for collection;
- Installed 14,273 ft. of MV cable;
- Backfilled 13,042 ft. of trench.

**O&M BUILDING**

Activity Description	Required	Unit	Remains	% Comp.
Earthworks	100	%	1	99%
Foundation	100	%	0	100%
Deliver Building	100	%	0	100%
Building Enclosed	100	%	0	100%
Building Interior Framing	100	%	0	100%
Building Electrical	100	%	8	92%
Building HVAC	100	%	15	85%
Plumbing	100	%	6	94%
Building Interior Trim & Finishing	100	%	2	98%
Septic System	100	%	0	100%
Water Well	100	%	60	40%
Fence and Yard Rock	100	%	55	45%
<b>Total</b>				<b>88%</b>

**Comments:**

- Completed the concrete placement for the remaining exterior area, east sidewalk and west apron;
- Completed all aggregate installation on the O&M yard and B&E confirmed that all compaction tests are 100%;
- Utility company completed the installation of the power to the O&M building and installed the transformer;
- Ongoing interior work and finishes – mill work, painting, bathroom accessories;
- Installed door locks, canopy for the 2 exterior doors on the east, final touch ups on doors painting, and sealed remaining doors;
- Well system installation started on Tuesday, June 9, 2015 and drilling was completed on Friday, June 12, 2015. Ongoing work to connect to the building;
- Transmitted Rev 9 drawing to Xcel;
- Xcel has approved the overall grading and landscaping plan.

**SUBSTATION**

Item	Weighted	Required	Total Completed	Total Remaining	Percent Complete
<b>Design</b>	<b>20%</b>	<b>Design</b>			<b>100%</b>
Design Drawings	20%	100	100	0	100
<b>Deliveries</b>	<b>35%</b>	<b>Deliveries</b>			<b>42%</b>
Structural Steel	15.0%	100	99	1	99%
Main Transformer	30.0%	1	0	1	0%
Control House	15.0%	1	1	0	100%
Relay Panel	15.0%	100	0	100	0%
Arrestors	5.0%	100	0	100	0%
Switches	10.0%	100	0	100	0%
Breakers	10.0%	100	100	0	100%
<b>Construction</b>	<b>45%</b>	<b>Construction</b>			<b>18%</b>
Grading & Drainage	15.0%	100	75	25	75.0%
Foundations	15.0%	77	69	8	90%
Underground/Grounding	10.0%	18	3	15	17%
Structural Steel Work	10.0%	100	7	93	7%
Equipment Installation	10.0%	100	3	97	3%
Control Building/Wiring	10.0%	100	0	100	0%
Transformer Fit Out	10.0%	100	0	100	0%
Commission	10.0%	100	0	100	0%
Fence, Gravel, & Clean Up	10.0%	100	0	100	0%

**Substation Progress: 44%**

**Comments:**

- The control building was received and installed on the foundation piers;
- Received cap banks;
- Continued Installing steel in MV breaker bay;
- Continued installing Trenwa and conduit in MV breaker bay and for control building;
- Installed dead end structure;
- Installed static mast.

**TURBINES**

Item	Weighted %	Quantity	Total Received	Total Remaining	Percent Complete
<b>Deliveries</b>	<b>20.0%</b>	<b>Deliveries</b>			<b>0%</b>
Base	10.0%	75	0	75	0%
Lower & Upper Mid	10.0%	75	0	75	0%
Top	10.0%	75	0	75	0%
Hub	10.0%	75	0	75	0%
Nacelle	35.0%	75	0	75	0%
Blades	25.0%	75	0	75	0%
<b>Installations</b>	<b>50.0%</b>	<b>Installations</b>			<b>0%</b>
Base	10.0%	75	0	75	0%
Lower & Upper Mid	10.0%	75	0	75	0%
Top	10.0%	75	0	75	0%
Nacelle	20.0%	75	0	75	0%
Rotor	30.0%	75	0	75	0%
Electrical Build out	20.0%	75	0	75	0%
<b>MCC &amp; Commissioning</b>	<b>50.0%</b>	<b>Terminations</b>			<b>0%</b>
MCC	50.0%	75	0	75	0%
Commissioning	50.0%	75	0	75	0%

**Turbine Progress: 0%**

**Comments:**

- Transportation and component delivery meeting held at the site in anticipation of deliveries starting next week;
- Main cranes at T23 and T47 being built and are planned be ready for third party inspection scheduled for 6/14/2015.

- **Exhibit 1 – Site Photographs**



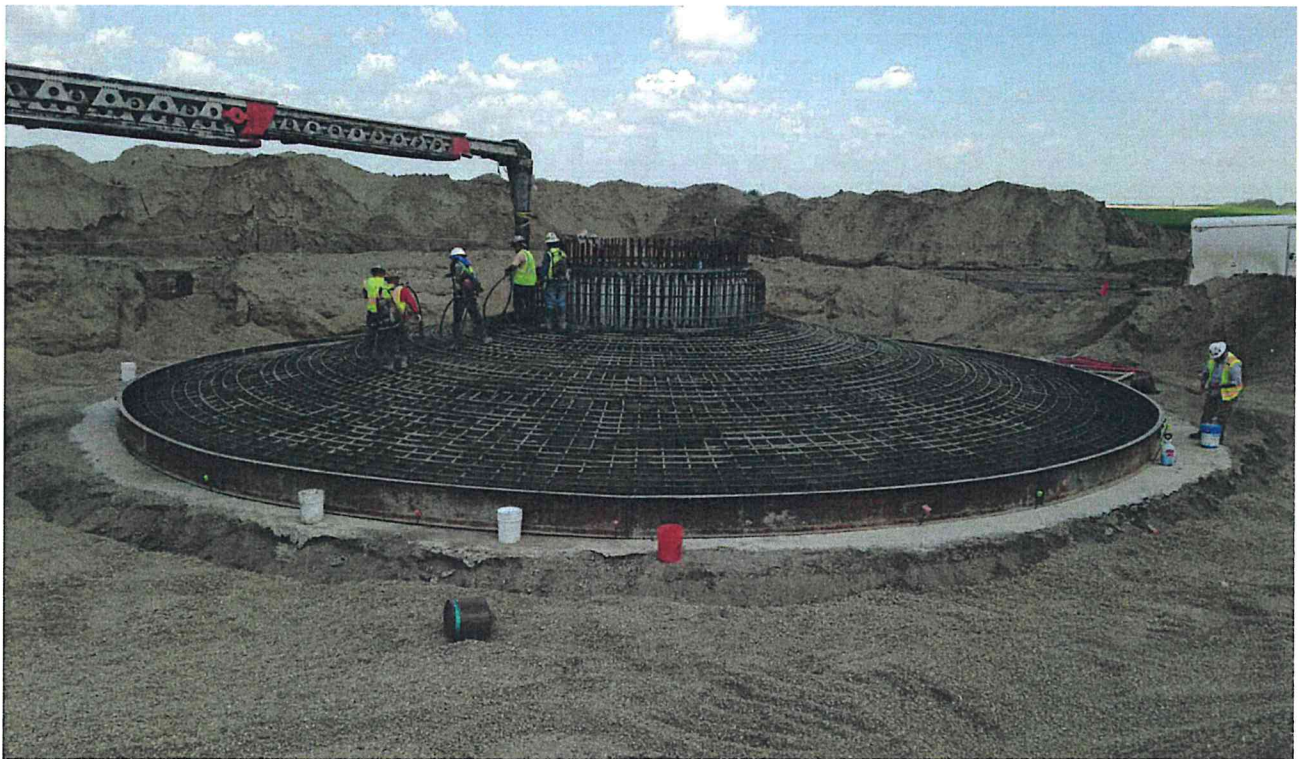
**T34 Access Road**



**O&M Grading**



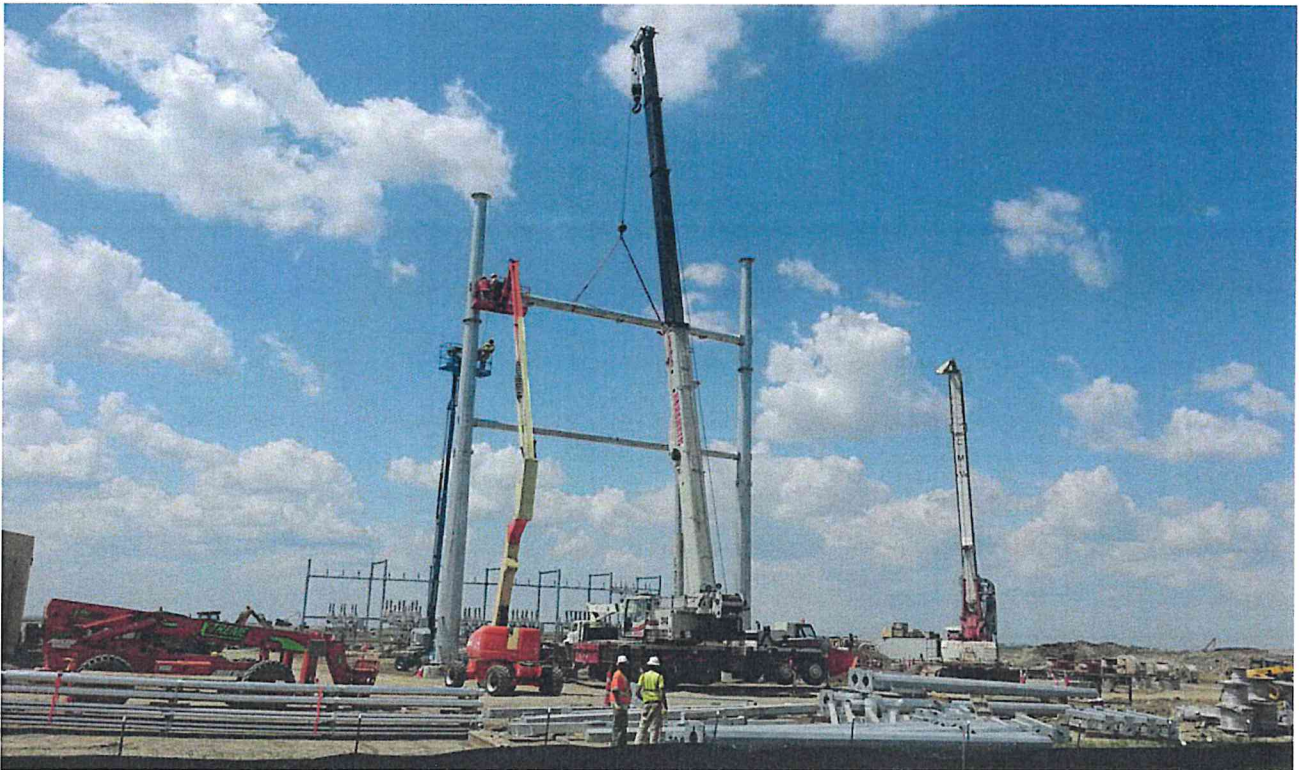
**O&M Building**



**T34 Foundation**



**Substation**



**Dead Mast**



## Exhibit 2 – Safety Log

**Formulas for TRIR and RES Safety Index calculation:**

$$\text{TRIR} = ((\text{Lost Time} + \text{Medical Aid}) * 200,000) / \text{Total Project Man Hours} \quad ((1+1) * 200,000 / \text{Total Project Man Hours})$$

$$\text{RES Safety Index} = ((\text{Lost Time} * 64) + (\text{Injury} * 16) + (\text{Minor Injury} * 4) + (\text{Damage} * 1) + (\text{Near Miss} * 0.25)) / \text{Man Hours} * 1000$$

$$((1 * 64) + (1 * 16) + (10 * 4) + (26 * 1) + (74 * .25)) / \text{Total Project Man Hours} * 1000$$

#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
630	6/10/2015	Safety Walk	Hazard Observation	RES Cable and Earth	Turbine site T-23 improper barricade erected two safety cones with a compressed gas cylinder.	Safety supervisors moved the cylinder to safe location off the pad.	Site Safety talked to the Cable and Earth crew and explain that this is not a proper barricade and high pressure cylinders must be standing up right and chained to prevent the cylinder from falling
631	6/10/2015	Safety Inspection	Hazard Observation	Evergreen Cassion	Evergreen worker was observed standing in the bucket of a skid steer leaning the mud off the drilling bit.	Site Safety stopped the unsafe act and explained to the worker why we don't use the bucket as a ladder I also talked to the Rosendin safety manager to make sure and talk to all the workers at the substation to stress the importance to use the proper tools and ladders for the task at hand.	Rosendin safety will address issue the workers at the substation in their morning safety meeting.
632	6/9/2015	Safety Inspection	Near Miss	Evergreen Cassion	On my safety inspection at the back corner of the yard at the substation a trench was not properly barricaded.	Site Safety brought one of the leads over and he barricaded the trench properly.	Site Safety dressed the issue with the foreman and the safety manager to make sure at the end of the work shift all open holes and trenches have proper barricades.
633	6/10/2015	Safety Inspection	Safe Work Observation	RES Civil	Monthly tool inspections on extension cords, tools with cords, and ladders in the laydown yard tool trailer for civil and cable.	None, this was a Safe Observation.	During my monthly inspection on extension cords and tools at this the tool trailer for civil and cable are properly inspected and fire extinguishers inspected also for the month of June.



634	6/10/2015	Safety Inspection	Hazard Observation	RES Erection	Monthly tool inspections on extension cords, tools with cords, and ladders in the laydown yard for erections cords not inspected 2 fire extinguishers with no monthly inspections.	Tool Manager received correct color code tape this week and will complete inspection; fire extinguishers need monthly inspection tags.	Follow up next week to assure all cords, tools and fire extinguishers have been inspected.
635	6/10/2015	Safety Inspection	Safe Work Observation	Rosendin Electric	Rosendin monthly tool inspections complete on cords, tools, ladders and fire extinguisher.	None, this was a Safe Observation.	None, this was a Safe Observation.
636	6/10/2015	Safety Inspection	Safe Work Observation	PCS	PCS and the other contractors have completed their monthly inspections on cords, tools, and ladders.	None, this was a Safe Observation.	None, this was a Safe Observation.
637	6/11/2015	Safety Walk	Hazard Observation	Nelson Wind	During my site walk at turbine T-4 trash left behind by Nelson Wind after rebar work, I picked up trash before leaving T-24.	Site Safety talked to Nelson winds foreman to make sure his employees are leaving the turbine pad clean of all trash before leaving.	Inspection follow ups will continue to assure Nelson Wind are keeping turbine pads clean.
638	6/11/2015	Safety Walk	Safe Work Observation	RES Erection	RES Lead showed worker how to rig and lift counter top from offload on the pad site correctly.	None, this was a Safe Observation.	None, this was a Safe Observation.
639	6/11/2015	Safety Walk	Hazard Observation	RES Erection	Drivers not staying in work area and not wearing PPE.	Crew on pad asked drivers to return back to work area and put on their PPE.	Foreman for delivery driver will take to driver about site rules and assure they understand and comply.



### Exhibit 3 – Environmental Log

Formula for the Rolling Incident Score =

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

#	CLASS	SUB-CAT	CONTRACTOR	DATE	INCIDENT DETAILS	ACTION TAKEN TO CORRECT SITUATION	ACTION TAKEN TO PREVENT REOCCURRENCE
063	Observation	Weather Event	All	6/09/15	The filled aluminum recycling bin has been removed off site.	None	Replace with new aluminum recycling bin on site.
064	Observation	Informational	All	6/10/15	Identified clay water mix from the well digging process, pushing the silt fence on the west side of the O&M building. Noticed water seeping between 2 silt fence. No damage to the silt fence	REC crew asked to fix silt fence and install straw wattles to ensure no silt goes into the adjacent property.	Ensure silt fence joints are well connected to avoid any seeping in between.
065	Observation	Informational	All	6/12/15	Approximately 2 gallons of hydraulic fluid leaked on the ground from equipment excavator while operation. The equipment will be checked periodically to ensure nothing leaks to the ground until the fix is complete.	The team applied absorbent pads to control the leak and the equipment operation was put of operation until the service team fix the issue. The equipment was checked next morning and the absorbent pads were replaced and applied a spill pillows in addition of the absorbent pads.	Equipment is removed from operation until fixed.



**Exhibit 4 – Quality Log**

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

**NCR log**

Description of Material	NCR Opened (Current Period)	NCR Closed (Current Period)	Total NCR Open (As of this Week)	Total NCR Closed (As of this Week)
Totals			2	6
NCR-2015-016 Backfills and compactions of the turbine bases in freezing conditions	X			
NCR-2014-38, T3 grounding was not installed per specifications			X	



### Exhibit 5 – RFI Log

Outgoing RFIs

	Generated By	Company	Sent To	Company	Subject	Date Sent	Response Requested By	Type: Civil, Electrical, etc.	Status / Comments	Date Closed
23053-30	Shabeeb 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 perform density test the week of 5/18/2015.	
23053-81	Shabeeb Khader	RES	Brad Morrison	Xcel Energy - Generation	Cap Switchers	5/1/2015	5/4/2015	Substation	Multiple responses.	6/3/15
23053-82	Emad Alaydi	RES	Brad Morrison	Xcel Energy - Generation	Substation testing and commissioning requirements	5/4/2015	5/8/2015	Substation		6/3/15
23053-087	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Border Winds-Reactor/Cap Bank Controls	5/22/2015	6/1/2015	Substation		6/3/15
23053-088	Emad Alaydi	RES	Brad Morrison	Xcel Energy - Generation	Bolted and welded bus connection	6/1/2015	6/5/2015	Substation		
23053-089	Emad Alaydi	RES	Brad Morrison	Xcel Energy - Generation	SCADA Commissioning	6/1/2015	6/8/2015	SCADA		6/10/15
23053-090	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Switch grounding detail	6/5/2015	6/12/2015	Substation		6/9/15
23053-091	Lester Archer	RES	Brad Morrison	Xcel Energy - Generation	Low side bus ground	6/5/2015	6/12/2015	Substation		



**Exhibit 6 - Change Order Request Log**

CO No.	Date Identified	Date Submitted	Date Executed	Description	Value of CO	Comments
1	06/11/15			Change in the landscaping design - larger trees for windbreak at O&M	\$ 3,176.00	RES and Xcel agreed to split total cost of \$6,352.00
2	06/11/15			Storm shelter changes at O&M	\$ 11,000.00	RES to request additional information from ABS on who directed the changes
3	06/11/15			Changes in final design vs specification of electrical layout at O&M	\$ 11,151.00	RES is still working through the changes
4	06/11/15			Changes in security system at O&M	\$ 8,936.00	Xcel requested breakdown of changes and the delta
5	06/11/15			Changes in the Control Building - Increasing the station service transformer, additional switch requests, and additional landings at entrance doors	\$ 36,141.00	<p>Station Service transformer sizing – Original station service transformer sizing was done at 50kVA. This was based on historic numbers initially and was later proven by station service calculations. Xcel requested to change this to 100kVA, since that is the Xcel standard (was requested at the 90% design review meeting). RES reviewed the Xcel standards provided and did not see this requirement anywhere in the standards provided. This increase in station service size also required upgrading multiple disconnect and safety switches from 200A to 400A rating in order to meet the requirements of the 100kVA station service transformer to be installed per the Xcel direction/request.</p> <p>Additional switch requests - Xcel requested during the 90% design review meeting that safety disconnect switches be moved from inside the control building to the outside. This requires the installation of waterproof cabinets for the switches. Xcel also requested an additional yard cabinet to connect and supply larger equipment from the AC system.</p>

CO No.	Date Identified	Date Submitted	Date Executed	Description	Value of CO	Comments
						Addition of landings at entrance doors – this was added at the 90% design review meeting per Xcel request and was not evident for the provided Xcel specifications.
6	06/11/15			Upgrade from SEL351 to SEL421 relay and bus relays at the substation	\$ 163,789.00	Industry standard for wind farm collection circuits are to install SEL351 relays (O/C & G/F) relays to protect the collector systems. Collection systems (although balanced) are considered distribution circuits, since they are four wire systems, with a ground reference transformer connected to each circuit. The collection circuits are insulated to 150kV BIL, which is further evidence that they are considered as distribution feeders (compared to the 200kV BIL insulation levels typically associated with transmission lines/circuits). Xcel identified the requirement to install SEL 351 relays on Distribution feeders. During design review meetings, Xcel classified these as transmission lines and required the installation of step distance protection (SEL421 relays). This resulted in additional cost. The 34.5kV bus differential relays subsequently were also upgraded from distribution bus relays to transmission class bus diff relays with 100% redundancy
7	06/11/15			Addition of three additional shield masts at the substation	\$ 73,838.00	The original substation design utilized a combination of shield masts and shield wires in order to establish a lightning shielding system for the substation equipment. During the 60% design review meeting Xcel indicated they do not allow shield wires to span over top of equipment and requested that the shield wires be removed and that lightning shielding protection be done with shield masts. This requirement is not seen in any of the supplied specifications. This required the addition of 3 additional shield masts and thus additional cost.



CO No.	Date Identified	Date Submitted	Date Executed	Description	Value of CO	Comments
8	06/11/15			Addition of anchor/rigging points for the oil containment based on the change to above ground containment system at the substation	\$ 36,907.00	Xcel required an above grade containment system with a removable wall and built in rigging/anchor points in the containment system. This was not evident in any of the provided specifications or the contract agreement. The above grade construction as such does not add cost, but the inclusion of the removable wall and the addition of the anchor/rigging points that is integrated into the oil containment system does add cost
9	06/11/15			Addition of separate relay/plc controller to control the capacitor banks at the substation	\$ 23,510.00	Typical capacitor bank controls on wind farms are done by the wind farm controller through the SCADA system. Xcel requested during the 90% design review not to control the equipment through the SCADA system, but rather have a separate relay/plc controller to control the capacitor banks. This required the installation of an additional relay in order to have a dedicated controller for the capacitor banks. This was not evident from any of the supplied specifications, since Xcel does not have a standard specification for 34.5kV capacitor banks.
10	06/11/15			Upgrade to the capacitor bank interlock system	\$ 10,846.00	Typical interlocks for capacitor banks only include a time delay after opening the associated capacitor/circuit switched to release a key that will unlock the ground switch and lock the switcher in the open position. Xcel requires a much more elaborate system, which in turn costs more. This was not identified in any of the supplied standard and was determined as designs progressed.
<b>TOTAL</b>					\$ 379,294.00	