



BORDER WINDS ENERGY PROJECT

WEEKLY PROJECT REPORT

Weekly report no:	60
Report for week period ending COB Friday:	09/18/15
Calendar week no:	38

Executive Summary

Week's Highlights

- Safety has implemented additional measure and training to prevent future incidents at the substation.
- Completed near misses training for two near misses and new safety procedures are in place to avoid occurrence.
- Successfully completed the energization of Circuit 6 on 9/16/2015.
- Knife River completed the asphaltting for the O&M yard on 9/15/15.
- All junction boxes have been installed on Circuit 4. All junction box installation is now complete.
- Working with SCADA international to resolve fiber optic routing on Circuit 3 and circuit 4 as per the changes made on site during construction.
- Completed the LR 1600 crane 2 build at T62, on 9/18/2015, to complete the final circuit (2).
- Vestas commissioned eleven (11) turbines on Circuit 3.

Week's Key Issues

- The site had two near misses - arc flash at the substation and lowering the turning gear at T33 without proper drop zone established.
- Identified damage on the top section and blade at T75 which was not identified during the offloading process due to the location of the damage/defect.
- Erection team was waiting on a part for LR 1600 Crane build at T62. The part arrived on 9/16/2015 evening.
- Loss in production on Crane 1 due to damaged section at T75 and wind delays throughout the week.

Safety

Type	Lost Time	Recordable Injury (Medical Aid)	Minor Injury (First Aid)	Equipment Property Damage	Near Miss	Safety Walks
Current Period	0	0	0	1	2	16
Project To Date	1	5	14	43	87	689

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

TRIR: Previous Week = 2.8 / Current week = 2.7

RES Safety Index: Previous Week = 0.50/ Current week = 0.48

Weeks Highlights:

- Safety emphasized on the speed limit on site and ensures safe driving practices across the site. Safety monitored workers driving into the project to assure safe driving practices are being followed.
- Completed Circuit 6 energization on 9/16/2015 safely.
- Completed near misses training for two near misses and new safety procedures are in place to avoid occurrence.

Weeks Issues:

- The site had two serious near misses each flash at the substation and T-33 turning gear being lowered with no one manning the tag line and no drop zone established.
 - On 09/11/15, the turning gear at T33 was being lowered out of the bottom of the nacelle without manning the tag line and no drop zone established. No injuries occurred during this event, and safety stand down was held.
 - On 09/14/15, while two RES employee were attempting to connect the grounds on feeder for Circuit 6 at the substation, the man basket got too close to the PT wire on circuit 5 causing an arc flash and load boom. The low side tripping out the other feeders. No injuries were sustained during this event. The site held a safety stand down.

Project Work Hours:

- Weekly Man-hours: 10,034.00
- Total Project Man-hours: 434,062.00
- Hours since Last Recordable Injury: 20,502.00



Environmental

Type	Major Incident	Minor Incident	Near Miss	Observation
Current Period	0	0	1	1
Project to Date	0	79	8	76

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

Rolling Incident Score: Previous week: 0.53 / Current Week: 0.52

Comments:

- Completed the week with no spills/leaks.
- Received 0.74" of rain overnight on 9/16/15 night. Some of the roads were muddy and slippery.
- 2 gallons of Hydraulic fluid leaked inside the nacelle at T75. There was no leak on the ground. The hydraulic fluid was cleaned up using absorbent pad and was disposed into the contaminated soil bin on site. .

Quality

Type	RES Issued NCRs			Client Issued NCRs		
	Issued	Open	Closed	Issued	Open	Closed
Current Period	0	0	0	0	0	1
PTD	4	1	3	12	4	8

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

NCRs Issued Details:

- Xcel issued NCR-2015-034 for turnover of 75 climb assist pendants.
- Xcel issued NCR-2015-035 for Nacelle not having 220VAC outlets.

Week's Highlights:

- Xcel representative continue to review the job books. Working on resolving any questions identified during the review.



SCHEDULE STATUS

Project duration	68
No. of weeks into contract	65
Contract time passed (%)	96%

Key Activities (Construction)	Weighted %	Percentage Complete		
		Contract Schedule	Construction Schedule	Actual
Design Engineering	2.5%	100.0%	100%	100%
Roads & Crane Pads	20.0%	100.0%	86%	86%
Foundations	20.0%	100.0%	100%	100%
Collection System	21.5%	100.0%	100%	97%
Substation	15.0%	100.0%	100%	99%
O&M Building	6.0%	100.0%	100%	99%
WTG Delivery, Erection, & MCC	15.0%	94%	88%	87%
Overall Actual Percent Complete		99.1%	96%	94.7%

PROGRESS REPORT

PERMIT STATUS

Permit Type / Description	County / State	Responsible Group	Date Needed By	Status
FAA Part 2	Federal	RES	Final Height	OPEN

CONSTRUCTION STATUS

Certificates	Total	Submitted	Signed
Foundation Completion Certificate	75	75	75
Mechanical Completion Certificate	75	46	38
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 AND CRANE PADS

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Roads	70%	Roads			80.0%
Rough Grade	30%	137,622	137,622	-	100.0%
Sub Grade	30%	137,622	137,622	-	100.0%
1st Lift	20%	137,622	137,622	-	100.0%
Shoulders	10%	152,837	0	152,837	0.0%
Ditches	10%	152,837	0	152,837	0.0%
Crane Pads & Site Laydown	30%	Crane Pads & Site Laydown			100.0%
WTG Site Ready for Delivery	30%	75	75	0	100.0%
Cut & Subgrade Compacted	40%	75	75	0	100.0%
Material Placed & Compacted	30%	75	75	0	100.0%
Roads & Crane Pads Progress					86%

Comments:

- Reclaiming on turbine sites on circuit 6 and Circuit 5.

FOUNDATION

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Excavations	10%	75	75	0	100.0%
Mud Mats	5%	75	75	0	100.0%
Bases	40%	75	75	0	100.0%
Pedestals	20%	75	75	0	100.0%
Earthing Kit	5%	75	75	0	100.0%
Backfill	20%	75	75	0	100.0%
Foundation Progress					100.0%

Comments:

- All foundation work complete.



COLLECTION SYSTEM

Item	Weighted %	Quantity	Total Received	Total Remaining	Percent Complete
Deliveries	30.0%	Deliveries			100%
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%
Installations	50.0%	Installations			100%
Trench	40.0%	278,230	278,230	0	100.0%
MV & Fiber/Ground Cable	50.0%	297,945	297,945	0	100.0%
Junction Boxes	10.0%	28	28	0	100%
Terminations	20.0%	Terminations			82.2%
MV Cable at WTG switch gear	45.0%	45.0%	75	66	9
Junction Boxes	35.0%	35.0%	28	23	5
Underground MV Splices	20.0%	20.0%	51	43	8
Collection System Progress:					97.0%

Comments:

- Circuit 6 was energized successfully on 9/16/15.
- All junction boxes have been installed on Circuit 4. All Junction boxes on Circuit 4 were levelled to 18" into the ground as per the spec on 9/19/15.
- Fiber terminations in towers and splicing continues on Circuit 3
- Completed splicing for MV splices SP 4/5, 4/6, 4/7
- Completed excavating splice pits on Circuit # 4
- Completed fiber splices at 3/6, 3/7, 3/8 and fiber term at 4-1
- Working with SCADA international to resolve fiber optic routing on Circuit 3 and circuit 4 as per the changes made on site during construction.
- Completed HydroVac at fiber pits at County Rd bores between T15 & T16. The fiber splice was identified on the East side of the bore.
- Final fiber blowing for Circuit 6 at JB 6/1 and JB 6/2 will be done on Monday.

O&M BUILDING

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Design	4.0%	100%	100%	0%	100.0%
Earthworks	8.0%	100%	100%	0%	100.0%
Septic System	4.0%	100%	100%	0%	100.0%
Water Service and Filter	4.0%	100%	100%	0%	100.0%
Delivery	5.0%	100%	100%	0%	100.0%
Foundation Floor slab	9.0%	100%	100%	0%	100.0%
Electrical prep, rough-in and trim out	5.0%	100%	100%	0%	100.0%
Plumbing prep, rough-in and trim out	8.0%	100%	100%	0%	100.0%
Building Erect and enclose	8.0%	100%	100%	0%	100.0%
Internal Walls & Ceiling	9.0%	100%	100%	0%	100.0%
HVAC	8.0%	100%	100%	0%	100.0%
Finishes prep, rough-in and trim out	12.0%	100%	100%	0%	100.0%
Grading, Drainage	8.0%	100%	97%	3%	97.0%
Cleaning and Shop Finish	4.0%	100%	100%	0%	100.0%
Security System	4.0%	100%	100%	0%	100.0%
O&M Building Progress					99.7%

Comments:

- RES straightened the trees on the O&M yard that was slanted due to the strong winds (45-50 mph) observed the weekend the trees were planted.
- Knife River completed the asphaltting for the O&M yard on 9/15/15. Working with AB system to resolves issues regarding thickness, edges and exposed aggregate for the asphaltting.
- Discussion is ongoing with AB Systems regarding photo eye sensor installation for the gates and the water leak in the floor heating system.

SUBSTATION

Item	Weighted %	Budget	Total Completed	Total Remaining	Percent Complete
Engineering	10%	Engineering			100%
IFC Drawings	100%	100%	100%	0%	100%
Procurement and Delivery	20%	Procurement and Delivery			100%
Foundation Rebar & Cages	5.00%	100%	100%	0%	100%
Breakers - Low and High Sides	15.00%	100%	100%	0%	100%
Reactors, Cap Back and Switchers	20.00%	100%	100%	0%	100%
MPT 230/34.5KV	10.00%	100%	100%	0%	100%
Grounding Transformer	5.00%	100%	100%	0%	100%
EEE - Control Building with DC Station	15.00%	100%	100%	0%	100%
Grounding Wire, Rods and Accessories	5.00%	100%	100%	0%	100%
Dead End and Static Mast	5.00%	100%	100%	0%	100%
Structural Steel and Bus	10.00%	100%	100%	0%	100%
MET Tower Foundation	5.00%	100%	100%	0%	100%
Chain Link Fence and Gates	5.00%	100%	100%	0%	100%
Construction	70%	Construction			99%
Site Preparation & Grading	3.00%	100%	100%	0%	100%
Site Aggregate and Finishing Rock	3.00%	100%	100%	0%	100%
Foundations work for substation	9.00%	100%	100%	0%	100%
Breakers, Switches, PTs, CTs	12.00%	100%	100%	0%	100%
Reactors, Cap Back and Switchers	8.00%	100%	100%	0%	100%
EEE - Energize and Finish	4.00%	100%	100%	0%	100%
Ground Grid, Conduits, Trenwa	12.00%	100%	100%	0%	100%
Structural Steel, Risers, Bus	12.00%	100%	100%	0%	100%
Collection Risers/Feeders and GTs	8.00%	100%	100%	0%	100%
EEE Wire Pull, Termination and Test	5.00%	100%	100%	0%	100%
SCADA Fiber Optic Cables Pull	4.00%	100%	95%	5%	95%
Chain Link Fence, Gates	4.00%	100%	100%	0%	100%
MPT Testing and Commissioning	4.00%	100%	100%	0%	100%
MET Tower Install, Wiring and Testing	4.00%	100%	95%	5%	95%
Substation Commissioning	6.00%	100%	100%	0%	100%
Handover of Job Books	2.00%	100%	80%	20%	80%

Substation Progress

99.4%

Comments:

- Circuit 6 was energized successfully on 9/16/15.
- Circuit 1A is scheduled for energization on 9/24/15.

TURBINES

Item	Weighted %	Budget	Total Received	Total Remaining	Percent Complete
Deliveries	20.0%	Delivered to turbine pad			100.0%
Base	15.0%	75	75	0	100.0%
Mid	14.0%	75	75	0	100.0%
Upper Mid	14.0%	75	75	0	100.0%
Top	14.0%	75	75	0	100.0%
Nacelle	14.0%	75	75	0	100.0%
Hub	14.0%	75	75	0	100.0%
Blades	15.0%	75	75	0	100.0%
Erection	60.0%	Erection			90.2%
Base	17.0%	75	75	0	100.0%
Mid	16.0%	75	75	0	100.0%
Upper Mid	16.0%	75	64	11	85.3%
Top	17.0%	75	64	11	85.3%
Nacelle	17.0%	75	64	11	85.3%
Blades	17.0%	75	64	11	85.3%
Mechanical Completions	20.0%	Mechanical Completions			62.2%
Walk downs	33.3%	75	56	19	74.7%
MCC Submitted	33.3%	75	46	29	61.3%
MCC Signed	33.4%	75	38	37	50.7%
Turbines Progress					86.6%

Week's Highlights

- Installed one (1) upper mid-section; two (2) top, nacelle and blades sets;
- Completed the LR 1600 crane 2 build at T62 on 9/18/2015.
- Vestas commissioned eleven (11) turbines on Circuit 3.
- Completed walk downs on seven (7) turbines.
- RES completed the MCCs on all turbines on Circuit 1A.

Week's Issues

- Identified damage on the top section and blade at T75 which was not identified during the offloading process due to the location of the damage/defect.
- Erection team was waiting on a part for LR 1600 Crane build at T62. The part arrived on 9/16/2015 evening.
- Loss in production on Crane 1 due to wind delay throughout the week.

Exhibit 1 – Site Photographs



Site view



Asphalting at the O&M building



Nacelle installed at T73



Crane 2 built at T62 & Crane 1 at T73



Exhibit 2 – Safety Log

Formulas for TRIR and RES Safety Index calculation:

$$\text{TRIR} = ((\text{Lost Time} + \text{Medical Aid}) * 200,000) / \text{Total Project Man Hours} \quad ((1+3) * 200,000 / \text{Total Project Man Hours})$$

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

$$((1 * 64) + (3 * 16) + (14 * 4) + (40 * 1) + (85 * .25)) / \text{Total Project Man Hours} * 1000$$

#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
857	9/11/15	Normal Work Activities	Near Miss	RES Erection	At 0615 Matt Wilson who workers for the erection crew past the Vestas safety manager at a high rate of speed on county road 52 in a RES work truck on site property, Vestas Safety called me as soon as he pulled up behind Matt in the laydown yard.	Procedure re-training provided	I went out as soon as I got the call and pulled Matt Wilson into my office, I wanted to remove Matt from the project but his manager and mine talked me out of it, I gave him a strike and two days off without pay for careless driving and endangering other driver in a company truck on company property.
858	9/10/15	Normal Work Activities	Damage	RES Civil	County road 107 and by T-46 RES mechanic was attempting to remove a hinge with a pry bar on a grader when he put pressure against the glass frame the glass shattered.	Communication Addressed	Safety Supervisor talked to the RES mechanic to make sure to get with the manufactory to get the correct procedures or to ask someone who knows. Strike was not issued he said he did not know how to operate the grader, I told him from now on to get someone who can.



#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
859	9/10/15	Normal Work Activities	Damage	RES Civil	On county road 108 at the gravel pit the operator was trying to open the door on the front end loader to spite out some tobacco when the wind caught the door and slammed it against the back stop shattering the glass.	Communication Addressed	Safety Supervisor talked to the operator and addressed with the RES team to make sure and have a good grip on the doors when opening doors in high winds. Strike was not issued due to high wind conditions.
860	9/7/15	Safety Walk	Safe Work Observation	RES Erection	T-7 tower access was barricaded, outside dirty boots left outside, contact person's name and number left on sign, generator was grounded.		None required at this time.
861	9/9/15	Safety Walk	Safe Work Observation	RES Erection	T-11 T-Body installation prep & VLF testing, permit to test was present and signed, hot work permit present and signed, proper PEE worn.		None required at this time.
862	9/14/15	Normal Work Activities	Damage	RES Civil	T-44 Operator says the door to the John Deer Grader caught the tire and bent the door hinge.	Provide Details	Operator say's the door hinge was not installed correctly?
863	9/14/15	Normal Work Activities	Near Miss	RES Electrical	09/14/15 2 RES employees were attempting to land the grounds on feeder 6 when they got to close to the PT wire and it arched over to the man basket causing a large blue light and a loud boom. No injuries were sustained during this near miss.	Procedure re-training provided	Safety stand was held the next morning with the employees, on site management and corporate management to review why this happened and how to we avoid this from happening again, we all agree RASOP-011 was not followed and extra safety steps will be taken to assure we do not have a repeat.



#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
864	9/16/15	Safety Walk	Hazard Observation	RES Erection	T-33 A RES employee brought his personal vehicle on the pad location/ no personal vehicles are allowed on the site turbine location.	Communication Addressed	I ask the employee why he had his personal vehicle on the pad he stated that he was running late to work, I told him not to bring his vehicle on the pad location again or he will get a strike. Nor strike was given this time.
865	9/16/15	Safety Walk	Hazard Observation	RES Civil	On county road 107 a loader was driving down to T-23 with no RES escort.	Communication Addressed	I talked with the employee he said he was not aware of the escort policy but he would not let it happen again. I talked to his manager and he that were possible he might not have known. A warning was given no strike issued.
866	9/16/15	Safety Walk	Hazard Observation	World Wind & Solar	T-22 Driving by I noticed a tag line out of the nacelle hatch but no drop zone was established.	Communication Addressed	I went up to the pad location and meet with the crew foreman he had stopped his work and was waiting for one of his team member to bring more cone's, no strike issued,
867	9/16/15	Safety Walk	Hazard Observation	VESTAS	T-26 2 trucks were observed with no cone when I stopped and got down to talk to the Vestas employee's one also was not wearing his safety glasses.	Communication Addressed	I talked to both Vestas employees and also talked their manager, they assured me they would take care of the issues. No strike was issued this time.
868	9/17/15	Safety Walk	Hazard Observation	World Wind & Solar	T-18 driving up to pad location truck was observed with no cones; tower door open and don not enter sign not on stairs.	Communication Addressed	I talked with their foreman and he his address issue, no strike issued this time.



#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
869	9/17/15	Safety Walk	Hazard Observation	VESTAS	At the 4 way intersection of 106 and 52nd a Vestas truck was observed running a stop sign.	Communication Addressed	I contacted the Vestas site manager and he addressed issue with all his employees on safe driving and site driving policy.
870	9/17/15	Safety Walk	Hazard Observation	RES Civil	RES mechanic states that he was driving down 52nd road as he was reaching for his radio he drove off the side of the road and became stuck muddy conditions.	Communication Addressed	After a full sized front end loader pulled the truck out I let our mechanic know that he needs to pull over to a safe location before retrieving his radio.
871	9/18/15	Safety Walk	Safe Work Observation	RES Erection	T-73 the crew was prepping a lower mid, JHA well done, crane barricades up, riggings in good condition, tailgate talk before work began.		None required at this time.
872	9/18/15	Safety Walk	Safe Work Observation	RES Erection	Over all everything looked good.		None required at this time.
873	9/18/15	Safety Walk	Hazard Observation	IFS	T-65 I observed two trucks with no cones, I walked up to the turbine to talk to the workers inside that when I noticed one was wearing tennis shoes and the other some type of plastic shoe with holes? One was not wearing safety glasses.	Communication Addressed	The workers said they did not want to get the inside of the turbine dirty, I agree on keeping it clean but proper foot wear is required I notified RES Manager, I also stopped them and had the other get a pair of safety glasses, I gave them until tomorrow to comply, no strike issued this time.



#	Date:	Incident Observed During:	Incident Type:	Company Involved:	Incident Details:	Corrective Action Details:	Actions Taken to Prevent Reoccurrence:
874	9/18/15	Safety Walk	Safe Work Observation	RES Erection	RES crew was installing climb assist, good job on JHA, clean boots in tower, proper climbing gear for the job. Location T-66.		None required at this time.
875	9/12/15	Safety Walk	Hazard Observation	RES Erection	A washer was found sitting in one of the wings of the nacelle.	Provide Details	A piece of duct tape was used to stick to the washer to remove it and keep it from falling.
876	9/14/15	Safety Walk	Safe Work Observation	RES Erection	T-67 the crew had little experience flying the blade.		Shannon stepped in and helps and made sure everyone followed his instructions and safety was maintained.
877	9/14/15	Safety Walk	Safe Work Observation	RES Erection	T-20 on MCC one truck was missing a cone Shannon put a cone out for this workers truck.		None required at this time.
878	9/18/15	Safety Inspection	Safe Work Observation	RES Site	3.2 House Keeping, office Trailers in compliance, tool trailers, in compliance, Laydown yard needs trashed picked up, turbine sites are being cleaned as erection crew move's to new pad location.		It has been communicated to our site management team that the laydown yards needs trash picked up.
879	9/18/15	Safety Inspection	Safe Work Observation	RES Site	3.3 Fire Prevention: All fire extinguishers have been inspected in offices, containers, laydown yard, and vehicles all in compliance		None required at this time.
880	9/18/15	Safety Inspection	Safe Work Observation	RES Site	3.17 Working at heights: Observed erection crew and MCC crews all in compliance no issues.		None required at this time.



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	CONTR ACTOR	DATE	INCIDENT DETAILS	ACTION TAKEN TO CORRECT SITUATION	ACTION TAKEN TO PREVENT REOCCURANCE
123	Observation	Weather Event	RES	9/16/201 5	Received 0.76" of rain on the site.	Perform BMP inspection.	Ensure all BMPs are installed properly
124	Near Miss	Equipment Failure or leak	RES	9/16/201 5	2 gallons of Hydraulic fluid leaked within the nacelle at T75. No leak on the ground.	Hydraulic fluid was cleaned with absorbent pads and was disposed into the special waste bin the laydown yard.	Ensure all equipment and parts are checked for leaks and maintained to avoid clean up



Exhibit 4 – Quality Log

- Incidents - None
- CPARs - 1
- NCRs - 10

NCR log

Description of Material	NCR Opened	NCR Closed	Total NCR Open	Total NCR Closed
	(Current Week)	(Current Week)	(As of this Week)	(As of this week)
Totals			5	8
NCR-2015-035 Not having 220VAC outlet in the nacelle	X			
NCR-2015-034 Turnover 75 climb assist pendants	X			
NCR-2015-026 Not having 115V outlets at work locations per page 1 exhibit I of the Purchase and Sale Agreement.			X	
NCR CPAR 23053-004 Sent to Vestas concerning the high rate of damage to the turbine blades during shipping			X	
NCR-2015-016 Backfills and compactions of the turbine bases in freezing conditions			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
23053-105	Kyler Leen	RES	Kyle Louis	REI	Feeder Fault Clearing Time	7/27/15	7/29/15	Substation		
23053-106	John Radabaugh	RES	Sean Simmons	Vestas	RES concerns regarding the turbine punch list	07/28/15	08/04/15	Turbine		
23053-108	Shabeeb Abdul Khader	RES	Peter Doherty	Xcel Energy - Generation	Substation Interconnect Data	08/25/15	08/28/15	SCADA		
23053-112	Chuck Marso	RES	Peter Doherty	Xcel Energy - Generation	Capacitor Test plan	09/15/15	09/21/15	SCADA		



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	\$ 11,907.00	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	\$ 2,300	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> <p>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.</p>



CO No.	Date Identified	Date Submitted	Date Executed	Description	Value of CO	Comments
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.
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 form any of the supplied specifications, since Xcel does not have a standard specification for 34.5kV capacitor banks.



CO No.	Date Identified	Date Submitted	Date Executed	Description	Value of CO	Comments
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.
TOTAL					\$ 379,294.00	