



**Luverne Wind Farm
Substation Construction
Plan of the Week (POW)**

Week of August 3rd-7th, 2009

Otter Tail Power Company

Activities:

- **Activities this week:** Crews transported the Barnes 230kV breaker to Luverne and installed the jumpers and completed the 230kv Jumpers. Completed the 34.5kV bus welding and jumpers. Installed the outdoor control cable and started the terminations. Completed the above and below grade grounding. Crews completed and tested the control panel wiring. Battery bank was installed and all of the breakers were filled with SF6 gas. OTP SCADA cabinet was installed and the phone power supply system.
- **Activities next week:** Complete the outdoor control cable terminations. EPS will start the testing on Monday in the control house and start testing equipment and outdoor wiring on Wednesday. Phone service should be installed by the end of the week. OTP will work on the metering and SCADA equipment and wiring. The HICO transformer should be on site by Tuesday or Wednesday.
- **Safety/Environmental:**
Disturbed soils are showing good re-growth from the seedings.
- **Lay down Yard:**
None.
- **Electrical/Construction:**
Working with Minnkota on the communications needs at the Maple River substation for the secondary SPS path.
- **Potential Schedule Delays:**
None.

General Information and Announcements

Construction	% Complete
Luverne Substation	
Sub Grade Yard and Road	100%
Final Grading Yard and Road-Class V	100%
Concrete Foundations	100%
Install Ground Grid	100%
Install Steel3	100%
230 & 35kV bus / Outdoor Welding Conduit	95%
Complete Outdoor Equipment Installation, etc.	95%
Install Fence	100%
Construct Control House	100%
Install Control House Equipment & Wiring	100%
Install Control House Relay Panels and Wiring	95%
Install Yard Rock	0%
Testing & Commissioning	0%

PU-09-407 Filed: 8/11/2009 Pages: 2
Luverne Wind, Substation, Construction Activities
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Otter Tail Corporation

Material Delivery	Required	Rec'd
Luverne Substation		
High Voltage 230kV Circuit Breaker at Barnes Substation	1	1
High Voltage 230/34.5kV Transformer-HiCO	1	
Metering CT/PT Combo, 230kV	3	3
Three phase 35kV group-operated Switch, 4000 amp	1	1
SF6 Circuit Breaker, 69kV	9	9
Three phase 230kV group-operated Switch, 2000 amp	1	1
Single Phase hookstick Disconnect Switch, 35kV, 1200 amps	48	48
Reactor, Neutral Grounding, 34.5kV	1	
Potential Transformer, 35kV, Single Bushing	11	11
Station Class Surge Arrester Polymer Type 152 MCOV	3	3
230kV Station Post Insulator	3	3
35kV Station Post Insulator, TR-231	18	18
35kV Station Post Insulator, TR-210	84	84
Outdoor Control Cable (4 & 12 Conductor #10)	Lot	100%
Aluminum Bus Tubing and Welded Connectors	Lot	100%
Steel Structures (230 & 35kv Bays)	Lot	100%