



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

Week of August 10th-15th, 2009

Otter Tail Power Company

Activities:

- **Activities this week:** HICO transformer was placed on the pad and assembly started on Thursday. Processing will follow with completion the middle of next week. Hv and Lv arrestors were not shipped with the transformer. Crews completed the outdoor conduits and wiring. EPS is on site testing breaker AC/DC circuits and CT ratios. Relay settings have been installed and testing will begin Saturday. Outdoor activities are nearing completion for the contractor and de-mobilization should begin next week. Meters were installed and the phone supplier was on site to install the equipment in the control house. T-Line fiber was spliced and tested from Pillsbury to Luverne by Aevenia.
- **Activities next week:** Testing the 230kv Line with MPC on Tuesday. OTP/MPC Scada checkout will follow the next day. SPS secondary phone circuit to Maple River should be supplied and checked out next Monday by Qwest. EPS will be doing functional checks and SEL engineering will be on site programming the SEL 3351 and 3332 processors.
- **Safety/Environmental:** Keep safety first as the project is nearing completion and minds tend to drift towards the next project or maybe a little vacation. Drink plenty of water and take a few breaks during this heat wave.
- **Lay down Yard:** None.
- **Electrical/Construction:** See above.
- **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 | 35% |

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 Luverne Wind, Substation, Construction Activities
 Report - Aug. 10 - 15, 2009

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 | 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 | 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% |