



BULGANA
GREEN POWER HUB

Construction Update

ISSUE N°7

November 2018

Terminology:

The scope of works includes 220kV Terminal Station and Interface, 33kV Substation, 15km overhead 33kV line, two (2) 220 /33kV TXs, Battery Energy Storage System (BESS) as well as fifty-six (56) WTGs configured in four (4) Collector Groups (CGs).

CG 1: BU 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11;

CG 2: BU 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 25 & 26

CG3: BU 29, 30, 31, 32, 33, 34, 35, 36, 37, 49, 50, 51, 52 & 53

CG4: BU 40, 41, 42, 43, 44, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66 & 67

The Project is also split into groups of activities:

Terminal Station and Interface Including civil and electrical installation

CBoP (Civil Balance of Plant) including internal roads, Crane Hardstand areas and foundations

EBoP (Electrical Balance of Plant) including all electrical works to be prepared before WTGs can be energized (Cable trenches, Substation electrical installation, earthing circuits, etc.) and the Battery Energy Storage System (BESS)

Wind Turbine Generators (WTG) including shipping, transport to site, installation and commissioning.

Civil Works & Electrical Balance of Plant works are in progress on site. WTG components and towers manufacture are in progress. The first shipments of blades and towers has arrived in Portland in November 2018 and delivery to site will commence. For a short term, grouting and concreting works has been programmed to start prior from 6am due to the high afternoon temperature.

Progress detail

Terminal Station and Interface

- Boundary fencing and transformers HV testing completed
- Cable trenching complete and field wiring underway
- Switchyard and transformer rack structures erected
- Installation of equipment structures
- Protection and control testing underway

Civil & Structural Balance of Plant (CBoP) Activities

- WTG foundations 80% complete
- Internal Roads 94% complete
- Crane hardstand areas 85% complete
- O&M Building 25% complete
- External local road maintenance in progress;

Electrical & SCADA Balance of Plant (EBoP) Activities

- 33kV Switchgear & Switchboard manufacturing complete
- 33kV Cable delivery & installation in progress 29% complete
- Control Room construction (off site) in progress 80% complete
- BESS in progress

Wind Turbine Generator (WTG) Activities:

- Power Curve Verification (PCV) data collection in progress
- Manufacturing Status:
 - Tower sets 24 complete
 - Nacelle 31 complete
 - Drive train 42 complete
 - Hub 26 complete
 - Blade sets 41 complete
 - Elevator 56 complete
 - Switchgear 56 complete
- Shipping & Local Transport Status:
 - 1st Blade shipment complete
 - 1st tower shipment complete
 - Local transport to start Dec-18
- Installation, Commissioning & Testing
 - Installation to start Dec-18
 - Commissioning to start Jan-19

158,246

Hours worked on site

113

People on average on site



Figure 1- Seventeen Sets of Tower unloaded in Portland.



Figure 2- Twelve Sets of Blades Located at RJA Laydown Area in Portland.



Figure 3- Switch room Culvert & Foundation Works and Gantry Installation at background



Figure 4- Main Concrete Pour at BU59



Figure 5 – U/G Cable Trenching Work for POLE 53 Up to BU23