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BHB-AGL-HS-GEN-0154

26<sup>th</sup> October 2023

Dear Katrina,

**SSD – 11437498: Extended working hours bimonthly report (October 2023)**

AGL Energy Limited (**AGL**) received development consent under section 4.38 of the NSW *Environmental Planning and Assessment Act 1979* to construct the Broken Hill Battery Energy Storage System (**Project**) at Broken Hill, NSW on 8<sup>th</sup> September 2021. Following a request for modification of that development consent, revised conditions were granted by the Department on 15<sup>th</sup> July 2022 for SSD 11437498-Mod-1.

On 28<sup>th</sup> February 2023, the Department provided approval to undertake works as requested at the following times:

- Monday to Friday 7am to 6pm
- Saturday 7am to 6pm
- Sundays and NSW Public Holidays 8am to 1pm

As a condition of this approval, AGL provides a bimonthly report as requested, which includes details of works undertaken and complaints received. This is attached for your reference.

AGL intends to submit the next and final extended working hours bimonthly report by Friday 22<sup>nd</sup> December 2023. Construction of the project is in its final stages, with commissioning of the project anticipated to be completed in December.

AGL takes its regulatory compliance responsibility seriously and is committed to good environmental practice. If you require any further information, please do not hesitate to contact Vicki Brady, Senior Manager, Environment – Energy Hubs on [VBrady@agl.com.au](mailto:VBrady@agl.com.au) or 0499 304 473.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Hamid Shilani'.

Hamid Shilani  
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**BROKEN HILL BATTERY ENERGY STORAGE SYSTEM**

**OUT OF HOURS CONSTRUCTION WORK  
DPE BI-MONTHLY PROGRESS REPORT**

**29 AUGUST 2023 – 25 OCTOBER 2023**



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## 1 INTRODUCTION

### 1.1 PURPOSE

To provide an *Out of Hours Work* (OOHW) Report to the Department of Planning and Environment (DPE) NSW every two months as specified in the approval letter which was received on the 28<sup>th</sup> of February 2023 by the DPE Director of Compliance.

The report is to detail the progress of the project and address any complaints received.

### 1.2 SCOPE

For construction work to be conducted from 7am to 6pm on Saturdays and 8am to 1pm on Sundays and NSW public holidays for work outside normal construction hours which is 6am to 5pm from Mondays to Fridays.

The increase is for the duration of the project.

### 1.3 ROLES AND RESPONSIBILITIES

#### 1.3.1 Project Manager and Site Manager

- Overall responsibility for the implementation, monitoring and management of the extended work hours strategy inclusive of noise, vehicle movements and fatigue management.
- Compliance with all *working hours* within the boundaries of the development approval and consent for the project.
- Compliance with all *conditions* applied for working hours and associated activities within the development approval and consent for the project.

#### 1.3.2 Site Supervisors

- Management of approved working hours within the prescribed time-frames.
- Management of all activities and noise controls within the prescribed time-frames.
- Management of vehicle movements and noise within the extended work hours.
- Evaluation and control of fatigue related risk factors with all workers on the project.
- Monitoring of compliance with noise and vehicle movements and evaluation of control measures.

#### 1.3.3 Workers

- Compliance with the Extended Work Hours noise generation controls and vehicle movements.
- Management of change with noise and vehicle movement factors with associated controls.
- Identifying and reporting any potential or actual breach with noise generating activities and associated agreed controls.
- Monitoring self and others with noise generating activities.

#### 1.3.4 HSE Manager

- Assist with the implementation of the Extended Work Hours Strategy.
- Evaluate, monitor and report effectiveness with Extended Work Hours Strategy.
- Assist with the management of any complaints, resolution, reporting and corrective actions from noise producing activities.

## 1.4 DEFINITIONS

Term	Meaning
BESS	Battery Energy Storage System.
dBA	Noise measurement in decibels.
dBC	Measure of the strength of an instantaneous signal at radio frequency . The dBC increment is based on the decibel, a logarithmic measure of relative signal strength.
DC	Development Consent. Approval and a license to operate for the project within the boundaries of the conditions within the DC.
EIS	Environmental Impact Statement
JHEA	Job Hazard Environmental Analysis
NMLs	Noise Management Levels within Construction.
OOHW	Out of Hours Work
PCBU	Person Conducting Business or Undertaking for or on behalf of an organisation. A person in control of the work environment.
Time Weighting Fast	125 metres per second in dBA and dBC
Time Weighting Slow	1 time per second in dBA and dBC
WBS	Work Breakdown Structure of Plant and Machinery Noise Levels.

## 1.5 REFERENCES

- BESS Development Consent - SSD-11437498 (as modified) – Schedule 3 condition 13 Construction, Upgrading and Decommissioning Hours
- SSD – 11437498: Request to Amend Construction Working Hours
- Broken Hill Battery Letter Extension of Working Hours BHB-AGL-CX-0040
- 4017-PLA-HSE-021 BESS Extended Work Hours Strategy and Noise Report
- BESS OOHW Approval Letter – DPE 28/02/2023
- 4017-PLA-HS-008 BESS Fatigue Management Framework Extended Work Hours
- Appendix A – Plant and Equipment Machinery Work Breakdown Structure – Noise Controls
- Appendix B – Reporting Period Construction Progress and Weekly Lookaheads
- Appendix C – Complaints Register

## 2 PROGRESS REPORT – EXTENDED WORK HOURS

The following project report outlines current progress within the project from the inception of OOHW.

The project consortium shall manage noise related risks associated with the approved project controls for OOHW in context with planning considerations within the project life cycle and associated operational controls as specified within the approved submission by the consortium being the *4017-PLA-HSE-021 BESS Extended Work Hours Strategy and Noise Report*.

### 2.1 COMPLIANCE CONDITIONS WITH EXTENDED WORKING HOURS

The following conditions have been met during this reporting period with implementing and communicating the OOHW conditions and associated controls being:

- Machinery used during OOHW will only involve a pad roller, grader, 20-tonne and 6-tonne excavators, skid steer loader, truck and dog trailer and water cart;
- No pile driving, jack hammering, use of air compressors and delivery of materials that may disrupt local roads will occur during the OOHW;
- A complaints register will be developed; and
- The Construction Environmental Management Plan will be updated to reflect the OOHW.

### 2.2 PLANT AND EQUIPMENT USED FOR EXTENDED CONSTRUCTION WORK HOURS AND NOISE ASSESSMENT

A detailed listing of equipment used within this reporting period for extended work hours and associated construction noise assessments from an initial baseline survey is detailed in *Appendix A – Plant and Equipment Work Breakdown Structure – Noise Controls*, and includes the following plant and equipment:

- 6 Tonne Excavator;
- 25 Tonne 320 Cat Excavator;
- Skid Steer Loader;
- Pad Roller;
- Truck and Dog Trailer; and
- Water Cart.

### 2.3 OPERATIONAL CONTROLS

The following operational controls have been established within the Extended Work Hours Strategy and Framework for implementation, monitoring, evaluating and controlling, which includes:

- Duties of a PCBU and persons in management and control of a workplace to understand and apply such duties as required by section 20 of the NSW WHS Act, inclusive of extended hours obligations and associated conditions.
- Noise generating activities and controls defined daily and weekly with operational controls documented on the Job Hazard Environmental Analysis (JHEA) with noise activities and monitored for compliance.
- Wind factors evaluated and monitored daily to establish wind direction, noise carry and associated controls.
- Noise assessments conducted for peak periods or noisy equipment to confirm boundary noise compliance.
- Controls with noisy activities complied with for Saturdays, Sundays and Public Holidays. Refer to *Section 2.1 Compliance Conditions with Extended Working Hours* of this report.

## 2.4 PROGRESS OF THE PROJECT

The reporting period includes Construction Weekly Lookaheads and overall progress with construction works and OOHW activities. Refer to *Appendix B – Reporting Period Construction Progress and Weekly Lookaheads*.

## 3 COMPLAINT PROCESS FOR EXTENDED WORKING HOURS

A complaint process has been established as detailed in the:

- 4017-PLA-GE-002 - Stakeholder Management Plan; and
- 4017-PLA-GE-003 - Regulatory Compliance Plan.

**To confirm no complaints have been submitted within this reporting period for OOHW.**

All complaints are formerly submitted within the Altrad Information Reporting (AIR) System and events recorded in the Project Complaints Register. Refer to:

- *Appendix C – Complaints Register*

## 4 CONCLUSION

The controls established for OOHW with construction activities have been communicated with the project workforce and integrated within the *4017-PLA-HS-008 BESS Fatigue Management Framework Extended Work Hours*.

Controls for OOHW activities are monitored and evaluated daily and weekly with operational controls which are documented and detailed within the workgroups *Job Hazard Environmental Analysis (JHEA)* which are formerly reviewed and RESET each Monday by each workgroup.

All JHEAs are aligned to Safe Work Method Statements, Permit to Works and are handwritten, verified, and approved by the Principal Contractor Valmec Australia Site Manager and Site HSE Manager to manage risk, opportunity and change.

Such documentation is also verified daily by the onsite AGL client representative.

Oversight is also provided 3 weekly by the AGL HSE Manager for Energy Hubs who attends site to verify HSE activities and supports any project requirements proactively.

To date there has been zero noise or disturbance complaints received by Valmec on this AGL Broken Hill BESS Project.

Valmec Australia submits this report for OOHW and encourages any feedback from the Department of Planning and Environment to ensure the project is meeting all obligations as specified.





**APPENDIX A – PLANT AND EQUIPMENT WORK BREAKDOWN STRUCTURE – NOISE SAMPLING AND CONTROLS**

Activity	Equipment	Location	dBA Time Weighting Measurement Fast	dBA Time Weighting Measurement Slow	Date	Time	Observed Weather Condition	Comments
Boundary Noise Measurement from Outside of Construction Footprint	All equipment in operation	North Boundary - Central Reading	49.2 dBA	48.3 dBA	Saturday, 2 September 2023	9:27 AM	Clear 12 °C Wind Speed 6.3 km/h	Equipment and activities were focused on Area 2 of BESS at the time of the survey which is the Western Boundary Fenceline of Stage 1.
		East Boundary - Central Reading	47.8 dBA	48.2 dBA				
		South Boundary - Central Reading	50.9 dBA	52.4 dBA				
		West Boundary - Central Reading	66.6 dBA	71.5 dBA				
Backfilling Switchyard Trenches	6 Tonne Excavator	North West Corner Area 1	67.2 dBA	71.9 dBA	Saturday, 9 September 2023	1:40 PM	Clear 12 °C Wind Speed 8 km/h	Reading taken 10 metres from Excavator Operating
Installing bedding material in trenches	Skid Steer Loader	North West Corner Area 1	66.1 dBA	69.8 dBA	Saturday, 9 September 2023	1:58 PM	Clear 12 °C Wind Speed 8 km/h	Reading taken 5 metres from Skid Steer Operating
Backfilling Thermal Sand within TransGrid bellhole	6 Tonne Excavator	TransGrid Western Fence within Transmission Line	64.9 dBA 72.1 dBA (reversing)	67.2 dBA 76.2 dBA (reversing)	Sunday, 17 September 2023	11:00 AM	Clear 33 °C Wind Speed 9.4 km/h	Reading taken 12 metres from Excavator Operating. Second reading with Excavator reversing with Squaker on
Ripping along the TransGrid pond batter in preparation for Pond Seeding	25 Tonne 320 Cat Excavator	TransGrid Western Fence within Transmission Line	71.3 dBA	78.8 dBA	Sunday, 1 October 2023	8:45 AM	Partly Cloudy 21 °C Wind Speed 15.4 km/h	Reading taken 6 metres from operations
	Skid Steer Loader							
	Water Cart							
Watering of Seeded of Transmission Line	Water Cart	Transmission Line - South East	49.8 dBA	47.1 dBA	Sunday, 8 October 2023	7:58 AM	Clear 12 °C Wind Speed 8.6 km/h	Reading taken 6 metres from operations





## **APPENDIX B – REPORTING PERIOD CONSTRUCTION PROGRESS AND WEEKLY LOOKAHEADS**

The following construction schedules outline activities with project progress aligned with OOWH conditions and include the following periods:

- Week ending 03 September 2023;
- Week ending 10 September 2023;
- Week ending 17 September 2023;
- Week ending 01 October 2023; and
- Week ending 08 October 2023.

## Construction

### ☐ Activities for week ending 01/10/2023

#### Area 1 Electrical

- Commence 22kV Cable terminations in Switch Yard.
- Commence CT and VT terminations in Switch Yard.
- Commence terminations to marshalling panel in Switch Yard.
- Completed earthing of Busduct to support and Transformer.
- Completed CT terminations in RMU-01 and 03.

#### Area 2 Electrical

- Continued Inverter terminations.
- Completed CT terminations in RMU-02

#### Area 1 Civil Works

- Continued install of road base in area 1 up to FBL.
- Completed new kerbing along Pinnacles Place and backfilled.

#### Area 2 Civil Works

- Completed western side soil levels to subgrade, ready for road base install.
- Commenced grouting of Busduct supports.

#### Area 1 & 2 Mechanical Works

- Refit of Busducts connections and cover plates after testing activities.
- Removed cover plates on Transformers for VLF testing.

#### Stage 2 Works

- Marked out TransGrid Pond.
- Identified services around pond excavation area and marked.
- Completed TransGrid pond excavation.
- Ripped and seeded pond bank with stock material and watered.
- Commenced removal of stockpile on Western fence external area, and relocated to waste facility.

#### Commissioning Activities

- 415 Panel Isolations in Control Room.
- External Interface Check of RMU-01/RMU-02/RMU-03.
- Prot. Panel +1B1 External Interface Check.

## ☐ Activities this week Ahead.

### Area 1 Electrical

- Continue CT and VT Terminations in Switch Yard.
- Continue 22kV Terminations in Switch Yard.
- Terminate data cables in OCTE cabinets.

### Area 2 Electrical

- Continue Inverter Terminations.
- Cube to Cube LV terminations.
- Commence OCTE terminations.
- Terminate data cables in OCTE cabinets.
- 

### Area 1 & 2 Civil Works

- Continue Install Road base in area 1 and 2.
- Relocation of stockpile outside Western fence line to Waste Facility.
- Commence rehabilitation works outside Western fence line.

### Area 1 & 2 Mechanical Works

- Complete all Busduct connections.
- Complete cover installs of OCTE and Inverter Cabinets.
  
- **Stage 2 Works**
- Commence Rehabilitation Works on Western External Fence Line and Corridors.
- Install TransGrid pond overflow pipe.
- Transmission line corridor, fill low spots and grade.

### Commissioning Activities

- NOE 9, For UPS and 42 RU Server and Network rack 1 & 2.

#### Crew 1.

- Protection. Relay J11 Test.
- Protection. Relay J12 Test.
- Protection. Relay J31 Test.
- Protection. Relay J41 Test / Prot. Relay RMU-01 Test.
- Protection. Relay RMU-02 Test / Prot. Relay RMU-03 Test.
- Earthing System Integrity Test.

Crew 2.

- Area-02 Earthing Continuity Test.
- Scheme Check of RMU-01, 02 and 03.
- Scheme Check of +1B1 Protection. Panel
- 22kV Switchyard CTs & Aux. Transformer CT testing.
- RMU-01 / RMU-02 Circuit Breaker Test.

## Construction

### ☐ Activities for week ending 03/09/2023

#### Area 1 Electrical

- Continue Termination in Control Room.
- Control Room UPS Fit Out.
- Completed Station Post Insulators and Buss Bars to Switch Yard.
- Position Temporary Power Generator for control room.
- Earthing of Busducts.
- Completed Light Pole Earthing.
- NBN Install to Control Room Completed.
- Completed Earth Grid Changes to 4.1 and 4.9 on Southern Fence Line
- Completed CT Installation in RMU-1 and 3

#### Area 2 Electrical

- Completed CRT cable terminations for phase rotation Core 11 and 10.
- Continued Battery cube2CRT connections.
- Completed conduit installation and connection to CCTV Poles.
- Completed Cable Ladder Installation.
- Completed Earth Connections to Batteries and CRT Cabinets.
- Completed CT Installation in RMU-2
- Commence Cad Welding Earth Grid Under Retention Pond to Western Fence Line.

#### Area 1 Civil Works

- Completed Vehicle Entrance, External and Internal.
- Backfilling of Road Base and Compacting around the Control Room.
- Back Filling along Eastern Fence Line.
- Back Fill Earth Grid Changes to 4.1 and 4.9 on Southern Fence Line.
- Completed Concrete Pour over Conduits in Bess Switch Yard.

#### Area 2 Civil Works

- Completed Core Drilling of Culverts for CCTV Conduit Install.
- Excavate and Back Fill Western Earth Grid.
- Commence Excavation of earth grid under pond.
- Commence 22kV Cable Bedding and Hard Cover Placement at Bess Switch Yard.

#### Area 1 Mechanical Works

- Install Station Post Insulators and Buss Bars to Switch Yard.
- Remove Flexible Connectors for Resistance Testing from Busducts to Inverters.
- Clamping of 22kV Cables to Switch Yard Supports.
- Disconnect Elbow Terminals on RMU 1 and 3 for CT Testing.

## **Area 2 Mechanical Works**

- Remove Flexible Connectors for Resistance Testing from Busducts to Inverters.
- Disconnect Elbow Terminals on RMU 2 for CT Testing.

## **Stage 2 Works**

- Completed backfilling and capping to trench B (24m)
- Fibre Data Cable pull/Blow.
- Removed all temp barricading except sediment fences on south side of project area.
- Re-Open Dirt Road 19 and Remove Water Barricades and Electronic Safety Signs.
- Completed 800mm<sup>2</sup> Cable pulling into Switch Bays.
- Completed Fibre Data Cable Pull from Bess to Transgrid.

## **Commissioning Activities**

- Insulation Resistance, and Polarisation Index Testing on Auxiliary Transformer.
- SFRA Testing on Transformers 8, 9, 10 and 11
- Area 1 Ductor Testing of Busducts.
- Area 1 Earthing Continuity Testing, Including Control Room.
- Area 1 RMU 1 Busbar (Insulation Resistance & Contact Resistance Test)
- RMU 1 VTs (R1-VT10, R1-VT20)
- Develop ITP for Cable VLF testing.

## **□ Activities this week**

### **Area 1 Electrical**

- LV Terminations on RMU -03
- Clamping Earth Bonding from Busducts to Transformer and Inverters.
- Light Pole Terminations.
- Switch Yard Earthing.
- Cut and Clamp 22kV Cables in Switch Yard.
- Commence Termination of 22kV Cables at Bess End.
- Pre Punch List Walkdown

### **Area 2 Electrical**

- LV Terminations on RMU -03.
- OCTE Cabinet Terminations.
- Inverter Terminations.
- Cube to Cube Connections ELV Cable Terminations.
- Cube to Cube LV Terminations.
- Earthing of Busduct to Transformer and Inverter.

### **Area 1 Civil Works**

- Complete Backfill and Compaction on Northern side of Culverts of Control Room.
- Trench and Install Control Conduits from Culvert to Switch Yard.
- Trench and Install Earth Grid to Switch Yard.
- Trench and Install Harmonic Filter Conduits.
- Provide 100mm Separation of 22kV Cables at Bess Bell Hole.
- Survey Cables and AS Built.
- Place Hard Cover over Cables and Thermal Sand.
- Backfill Bell Hole.

### **Area 2 Civil Works**

- Continue Earth Grid under Retention Pond.
- Compact along Fence Line.

### **Area 1 Mechanical Works**

- Reconnect Flexible Connectors for Resistance Testing from Busducts to Inverters.
- Install Sunshades on Busducts.

### **Area 2 Mechanical Works**

- Complete torquing of Switch Yard, complete ITR sign off.

### **Stage 2 Works**

- Feed 22kV Cables in to Transgrid.

### **Commissioning Activities**

- Commence Battery Coolant Fill.
- Permit Authority arriving on site.



## Construction

### ☐ Activities for week ending 01/10/2023

#### Area 1 Electrical

- Commence 22kV Cable terminations in Switch Yard.
- Commence CT and VT terminations in Switch Yard.
- Commence terminations to marshalling panel in Switch Yard.
- Completed earthing of Busduct to support and Transformer.
- Completed CT terminations in RMU-01 and 03.

#### Area 2 Electrical

- Continued Inverter terminations.
- Completed CT terminations in RMU-02

#### Area 1 Civil Works

- Continued install of road base in area 1 up to FBL.
- Completed new kerbing along Pinnacles Place and backfilled.

#### Area 2 Civil Works

- Completed western side soil levels to subgrade, ready for road base install.
- Commenced grouting of Busduct supports.

#### Area 1 & 2 Mechanical Works

- Refit of Busducts connections and cover plates after testing activities.
- Removed cover plates on Transformers for VLF testing.

#### Stage 2 Works

- Marked out TransGrid Pond.
- Identified services around pond excavation area and marked.
- Completed TransGrid pond excavation.
- Ripped and seeded pond bank with stock material and watered.
- Commenced removal of stockpile on Western fence external area, and relocated to waste facility.

#### Commissioning Activities

- 415 Panel Isolations in Control Room.
- External Interface Check of RMU-01/RMU-02/RMU-03.
- Prot. Panel +1B1 External Interface Check.

## ☐ Activities this week Ahead.

### Area 1 Electrical

- Continue CT and VT Terminations in Switch Yard.
- Continue 22kV Terminations in Switch Yard.
- Terminate data cables in OCTE cabinets.

### Area 2 Electrical

- Continue Inverter Terminations.
- Cube to Cube LV terminations.
- Commence OCTE terminations.
- Terminate data cables in OCTE cabinets.
- 

### Area 1 & 2 Civil Works

- Continue Install Road base in area 1 and 2.
- Relocation of stockpile outside Western fence line to Waste Facility.
- Commence rehabilitation works outside Western fence line.

### Area 1 & 2 Mechanical Works

- Complete all Busduct connections.
- Complete cover installs of OCTE and Inverter Cabinets.
  
- **Stage 2 Works**
- Commence Rehabilitation Works on Western External Fence Line and Corridors.
- Install TransGrid pond overflow pipe.
- Transmission line corridor, fill low spots and grade.

### Commissioning Activities

- NOE 9, For UPS and 42 RU Server and Network rack 1 & 2.

#### Crew 1.

- Protection. Relay J11 Test.
- Protection. Relay J12 Test.
- Protection. Relay J31 Test.
- Protection. Relay J41 Test / Prot. Relay RMU-01 Test.
- Protection. Relay RMU-02 Test / Prot. Relay RMU-03 Test.
- Earthing System Integrity Test.

Crew 2.

- Area-02 Earthing Continuity Test.
- Scheme Check of RMU-01, 02 and 03.
- Scheme Check of +1B1 Protection. Panel
- 22kV Switchyard CTs & Aux. Transformer CT testing.
- RMU-01 / RMU-02 Circuit Breaker Test.

## Construction

### ☐ Activities for week ending 10/09/2023

#### Area 1 Electrical

- Completed Termination in Control Room.
- Completed Control Room UPS Fit Out.
- Completed Station Post Insulators and Buss Bars to Switch Yard.
- Completed NBN Install to Control Room
- Completed Earth Grid under retention pond and earthing to Western fence line.
- Continue with LV terminations in RMU 1 and 3
- Switch yard 22kV cable clamped to structure.
- Commence CT install in Switch Yard.
- Earthing cable installation around switchyard including CAD welding.

#### Area 2 Electrical

- Completed Earth Grid under retention pond and earthing to Western fence line.
- Complete Inverter Terminations on Cores 6,7 and 8.
- Continue with LV Terminations on RMU 2.
- Run power cables to light poles.
- Earth Connections to Busducts.
- Completed CT Installation in RMU-2

#### Area 1 Civil Works

- Completed backfill of 22kV conduits in Switch Yard.
- Continued backfilling of road base and compacting around the Control Room.
- Install 100mm conduits in Switch Yard for power and control cables.
- Installed Harmonic Filter conduits in Switch Yard.
- Installed data cable conduits into Culvert and backfilled.
- Backfill of conduit trench and earthing in switchyard, hard cover and soft tape installed and surveyed.

#### Area 2 Civil Works

- Completed Core Drilling of Culverts for CCTV Conduit Install.
- Excavate and back fill Western earth grid.
- Completed excavation of earth grid under retention pond.
- Backfilled earthing under retention pond.
- Backfilled and compacted Western fence line.

#### Area 1 Mechanical Works

- Torqued all bolts on switch yard structure.
- Re-connect Flexible connections to Busduct at Transformer and Inverter.

- Install scaffold platform at RMU's for LV terminations.

### **Area 2 Mechanical Works**

- Reinstate Flexible Connectors for Resistance Testing from Busducts to Inverters.
- Install scaffold platform at RMU's for LV terminations.

### **Stage 2 Works**

- Removed temporary fencing.
- Compaction testing on backfilled trenches.
- Mark and identify 22kV cables going into Transgrid.

### **Commissioning Activities**

- Visual inspection of cubes in area 1 and data capture.

## **Activities this week**

### **Area 1 Electrical**

- LV Terminations on RMU 1 and 3
- Complete earth grid in Switch yard.
- Cut and Clamp 22kV Cables in Switch Yard.
- Install CT's in Switch yard.

### **Area 2 Electrical**

- LV Terminations on RMU 2.
- OCTE Cabinet Terminations.
- Inverter Terminations.
- Cube to Cube Connections ELV cable terminations.
- Cube to Cube LV terminations.

### **Area 1 Civil Works**

- Install stabilised sand around 22kV conduits.

### **Area 2 Civil Works**

- Soil compaction of Switch yard.

### **Area 1 Mechanical Works**

- Install Sunshades on Busducts.

### **Area 2 Mechanical Works**

- Reconnect Flexible Connectors for Resistance Testing from Busducts to Inverters.
- Install Sunshades on Busducts.

### **Stage 2 Works**

- Feed 22kV Cables in to Transgrid.
- Commence back fill of Transgrid bell hole.

### **Commissioning Activities**

- Commence Battery Coolant Fill.
- Auxiliary Transformer oil testing.
- VLF testing.

## Construction

### ☐ Activities for week ending 17/09/2023

#### Area 1 Electrical

- Completed RMU 01 and 03 LV Terminations.
- Completed Grid Earthing in Switch yard area.
- Completed cable runs to Switch yard.
- Completed LV cable testing on RMU 01 and 03.
- Commenced fibre cable pull from culvert into Control Room.
- Start set out and clamping of 22kV cables in Switch Yard.

#### Area 2 Electrical

- Completed LV Terminations on RMU 2.
- Run Cat6 cable from RMU 3 to OCTE Cabinet 11.
- Continued earthing connections to batteries cubes and CRT cabinets.
- Continued Inverter terminations.

#### Area 1 Civil Works

- Completed backfill of 22kV conduits in Bess Switch Yard.
- Completed backfilling of road base and compacting around the Control Room.
- Grouting of RMU 1 and 3.
- Commenced Eastern fence line cut to subgrade and backfill with road base.
- Completed excavation and backfill for earth grid in Switch yard.

#### Area 2 Civil Works

- Completed data cable conduits into Culvert and concreted haunching against culvert.
- Placed fill in Northwest corner of area 2 and compacted.
- Backfilled and compacted Western fence line.
- Start installing additional Cat 6 cable.

#### Area 1 & 2 Mechanical Works

- Installed scaffold platform at RMU's 1, 2 and 3 for LV terminations.
- Commenced install of Uni-Strut for 22kV cables on Switch yard.
- Commenced scaffold build in Switch yard.
- Install busduct connections and closures.

#### Stage 2 Works

- Completed 22kV cable pull into TransGrid.
- Built scaffold for access in TransGrid for 22kV terminations.
- Reduced cable length and capped 22kV cables in TransGrid yard.



- Positioned 2 x 22kv Cables.
- Commenced placement of TR 0.75 sand cover over 22kv cables.

### Commissioning Activities

- Auxiliary Transformer OTI, WTI, and PRD alarm & trip signals up to MK Panel.
- RMU-01 VT & CT test.
- RMU-03 VT test.
- RMU-02 CT test.

### Activities this week

#### Area 1 Electrical

- Cut and Clamp 22kV Cables in Switch Yard.
- Install CTs in Switch yard.
- Termination of cables into Marshalling Panel.
- Complete earthing of disco and handle tails.
- Splicing of data cable from TransGrid into control room.
- Complete 22kV Disconnecter Earthing in Switch yard area.

#### Area 2 Electrical

- OCTE Cabinet Terminations.
- Inverter Terminations.
- Cube to Cube Connections ELV cable terminations.
- Cube to Cube LV terminations.

#### Area 1 & 2 Civil Works

- Install road base in area 1.
- Grouting of RMU -03
- Grouting of Busduct supports.
- Punch list works for Transformer pads.

#### Area 1 & 2 Mechanical Works

- Complete all Busduct connections.
- Assist with cable install in Switch Yard.
- Sunshades on Busducts.

#### Stage 2 Works

- Continue back fill of TransGrid bell hole.
- Commence 22kV Terminations.
- Mark out TransGrid pond.

- Commence pond excavations.
- Remove any unseeded stockpiles of soil from site.
- Use soil removed from TransGrid pond in backfill.

### **Commissioning Activities**

- Commence Battery Coolant Fill.
- 22kV Cable VLF test.
- RMU-01, 02 and 03 Feeder Prot. Relay test
- Area-2 Earth Continuity Test.
- RMU-01 Scheme / Functional Check.
- RMU-02 Scheme / Functional Check.
- Earthing system integrity test.
- Earth Resistance Meas by Fall of Potential Method.  
Step and Touch Potential Measurement.



**AGL – Broken Hill BESS Project**  
**Out of Hours Construction Work Bi-Monthly Report**



**APPENDIX C – COMPLAINTS REGISTER**

AIR Event No.	Date Reported	Complainant Source	Complaint Type and Detail	Corrective Action(s)	Responsible Person(s)	Actions Due Date	Actions Closed Date
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A