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## **AGGENEYS 1 SOLAR PHOTOVOLTAIC PV FACILITY - NORTHERN CAPE PROVINCE**

### **FRESHWATER DELINEATION AND IMPACT ASSESSMENT: SPECIALIST AMENDMENT IMPACT STATEMENT (PART II, SUBSTANTIVE AMENDMENT APPLICATION)**

**OCTOBER 2020**

#### **BACKGROUND**

In May 2019 Savannah Environmental conducted a freshwater delineation & impact assessment report for the ABO Wind Aggeneys 1 PV (Pty) Limited Aggeneys 1 Solar PV facility, Northern Cape Province. The project was subsequently authorised (DEFF Ref: 14/12/16/3/3/1/2019) on 23 July 2019.

#### **PROPOSED AMENDMENT TO FACILITY LAYOUT**

The proponent has determined that the implementation of a Battery Energy Storage System (BESS) would improve the energy efficiency and reliability of the facility. As such, ABO Wind Aggeneys 1 PV (Pty) Ltd is now proposing the construction and operation of a Battery Energy Storage System (BESS) with a contracted capacity of up to 500MW/500MWh as part of the authorised Aggeneys 1 solar energy facility. The purpose and utilisation of a Battery Energy Storage System (BESS) is to save and store excess electrical output as it is generated, allowing for a timed release when the capacity is required. BESS systems therefore provide flexibility in the efficient operation of the electricity grid through decoupling of the energy supply and demand.

The project is located on a site located 11km south-east of Aggeneys, within ward 4 of the Khai-Ma Local Municipality and within the greater Namakwa District Municipality in the Northern Cape Province on the Remaining Extent of Bloemhoek 61. The facility is located within the Springbok Renewable Energy Development Zone (REDZ).

The development area for the battery energy storage area is ~ 5ha and is proposed within the area assessed and authorised for the solar PV facility, and specifically to be located within the approved laydown area. The BESS will be located adjacent and as close as possible to the authorised on-site facility substation of the solar PV facility.

The following infrastructure is associated with the proposed BESS:

- Electrochemical battery storage systems with a maximum height of 3.5m; and
- Multi-core 22kV or 33kV underground cables, to follow internal access roads of the PV facility, to connect the battery storage area to the on-site facility substation.

It is the Developer's intention to bid the solar PV facility and the battery energy storage under the Risk Mitigation Independent Power Producer (IPP) Procurement Programme and/or Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) of the Department of Mineral Resources and Energy and/or any future relevant procurement programme. Ultimately, the development of the solar PV facility as well as the battery energy storage is intended to be part of the renewable energy projects portfolio for South Africa, as contemplated in the Integrated Resources Plan (IRP).

This proposed changes to the Aggeneys 1 Solar PV facility layout requires a Part II amendment process of the EA issued for the project, under Section 31 and 32 of the NEMA 2014 EIA regulations (as amended, 2017). As such, a specialist impact statement is required addressing the impact of the amendment proposed as compared to that assessed originally. That is, the inclusion of the BESS and infrastructure related thereto to the PV1 project layout not previously assessed, which this specialist amendment impact statement serves to address.

## **TERMS OF REFERENCE**

The following terms of reference have been used for this specialist amendment impact statement:

The statement must reflect:

- » An assessment of all impacts related to the proposed changes;
- » Advantages and disadvantages associated with the changes;
- » Comparative assessment of the impacts before the changes and after the changes; and
- » Measures to ensure avoidance, management and mitigation of impacts associated with such proposed changes, and any changes to the EMP.

The assessment must be clear on whether each of the proposed changes to the EA will:

- » Increase the significance of impacts originally identified in the EIA report or lead to any additional impacts; or
- » Have a zero or negligible effect on the significance of impacts identified in the EIA report; or
- » Lead to a reduction in any of the identified impacts in the EIA report.

## **FINDINGS**

Consideration of the proposed amendment and the results of the impact assessment undertaken for the solar energy facility indicated that the inclusions of the BESS will have a zero or negligible effect on the significance of impacts identified in the EIA report, due to the following:

- » The design of the Aggeneys 1 solar PV facility layout considered the delineated freshwater features as determined in the freshwater specialist impact assessment (2019), and specifically ensured that the laydown areas are not located within delineated freshwater features on site, or within the 15m buffer zone determined necessary for these features.
- » The proposed BESS infrastructure will be wholly contained within the laydown areas as approved for the facility and will therefore also be wholly located outside of the footprint and 15m buffer of any of the freshwater features delineated on site.
- » The findings of the 2019 freshwater assessment indicated that all impacts are of Low significance following implementation of mitigation measures, with only cumulative impacts remaining medium after mitigation. Impacts identified were:
  - o Construction: potential impacts associated with vegetation clearance in the watercourses; potential impacts associated with water quality in the watercourses; and potential impacts associated with movement of vehicles in the watercourses.
  - o Operation: Potential impacts associated with vehicle movement in the watercourses.
  - o Decommissioning: identical impacts to that of the construction phase.

No additional freshwater related impacts are anticipated due to the proposed BESS infrastructure within the laydown areas of the approved facility. No construction activities related to the proposed BESS will occur within the buffer zones or delineated footprint of any of the watercourses on site. The findings confirm that there will be no increase in the significance of impacts originally identified in the EIA report, and that all impacts may be mitigated to Low significance levels.
- » The specific conditions and mitigation measures included in the freshwater assessment regarding management of erosion, clearing of vegetation, siltation of watercourses, accidental leaks of fuel or oils into watercourses and movement of vehicles in or near the watercourses remain applicable. These are deemed effective for the management of impacts due to the BESS given the nature and location of the proposed BESS.

## **CONCLUSION & IMPACT STATEMENT**

The findings of the comparative assessment confirm that no impacts other than those already identified in the freshwater impact assessment are introduced by the inclusion of the BESS infrastructure on the approved laydown areas. In addition, the nature and significance of the impacts remain identical with consideration of the BESS, due to the laydown areas being utilised for the BESS infrastructure. Existing mitigation measures included in the freshwater assessment are thus deemed sufficient for the management of the freshwater impacts, and no additional mitigation measures are therefore suggested. The findings of the freshwater delineation and impact assessment report (2019) therefore remain valid and will not change with the inclusion of a BESS within the authorised laydown area.

It is therefore recommended that the proposed amendment of the facility layout by inclusion of the BESS be authorised from a freshwater impact assessment perspective, provide that the mitigation measures provide in the 2019 freshwater delineation and impact assessment (2019) are implemented.

Kind regards,

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