

Vryburg Solar 3, North West Province

Social Input for the amendment of the Environmental
Authorisation

October 2020

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Prepared for:

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PROJECT DETAILS

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SPECIALIST DECLARATION OF INTEREST

I, Lisa Opperman, declare that –

- » I act as the independent specialist in this application.
- » I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant.
- » I declare that there are no circumstances that may compromise my objectivity in performing such work.
- » I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity.
- » I will comply with the Act, Regulations and all other applicable legislation.
- » I have no, and will not engage in, conflicting interests in the undertaking of the activity.
- » I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing – any decision to be taken with respect to the application by the competent authority; and – the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority.
- » All the particulars furnished by me in this form are true and correct.
- » I realise that a false declaration is an offence in terms of Regulation 48 and is punishable in terms of section 24F of the Act.

Lisa Opperman

Name



Signature

October 2020

Date

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PURPOSE OF THE REPORT

Vryburg Solar 3 (Pty) Ltd proposes the development of Vryburg Solar 3, a PV solar energy facility and associated infrastructure on a site located within the Vryburg Renewable Energy Development Zone (REDZ), within Ward 4 of the Naledi Local Municipality and within Dr Ruth Segomotsi Mompati District Municipality 10km south-west of Vryburg. It is the Developer's intention to bid the solar PV facility, including 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.

Vryburg Solar 3 received Environmental Authorisation (EA) from the National Department of Environment, Forestry and Fisheries (DEFF) in accordance with the National Environmental Management Act (No. 107 of 1998) (NEMA), and the Environmental Impact Assessment (EIA) Regulations, 2014 (GNR 326) after the completion of a Basic Assessment (BA) process. The Environmental Authorisation was obtained on 07 December 2018 under the reference number 14/12/16/3/3/1/1941.

A Social Impact Assessment (SIA) Report was prepared by Rudolph du Toit of Applied Science Associates (Pty) Ltd in July 2018¹ to assess the positive and negative social impacts associated with the project.

Vryburg Solar 3 (Pty) Ltd is now proposing the construction and operation of a Battery Energy Storage System (BESS) of up to 500MW/500MWh within the authorised footprint of the solar PV facility. This results in a change of the project description and the infrastructure associated with the project. In addition, Vryburg Solar 3 (Pty) Ltd is also proposing a change in the description included in the EA pertaining to the on-site substation. The change relates to the addition of collector infrastructure as part of the authorised on-site substation and within the authorised footprint of the substation.

It must be noted that the inputs provided as part of this report assumes that no new areas or properties will be affected by the amendments (i.e. addition of the BESS and change of the on-site substation description), other than those previously assessed, and that no new listed activities in terms of the EIA Regulations, 2014, are triggered.

1. OVERVIEW OF THE PROJECT AS INDICATED AND CONSIDERED IN THE SIA

1.1. Project Description

Vryburg Solar 3 is located on Portion 1 of Retreat Farm 671; Portion 2 of Frankfort Farm 672; Remaining extent of Frankfort Farm 672; Portion 1 of Frankfort Number Farm 672; and the Remainder of Rosendal Farm 673.

¹ Applied Science Associates (2018) Social Impact Assessment (SIA) for the proposed development of a 115MW Solar Photovoltaic (PV) Facility (Vryburg Solar 3) and associated electrical infrastructure, near Vryburg, in the North West Province

Vryburg Solar 3 will have a generation capacity of up to 115MW and will make use of photovoltaic (PV) solar technology for the generation of electricity. The proposed project will comprise of the following key infrastructure and components:

- » PV Modules;
- » Single Axis Tracking structures (aligned north-south), Fixed Axis Tracking (aligned east-west) or Fixed tilt Mounting Structure (all options will be considered in the design);
- » Solar module mounting structures comprised of galvanised steel and aluminium;
- » Solar Modules substructure foundations to be drilled into the ground,
- » Offices, operational and maintenance control centre, warehouse, workshop, guard houses and ablution facilities;
- » Central inverter stations;
- » On-site Substation;
- » Internal distribution lines of up to 33kV;
- » Underground low voltage cables or cable trays;
- » Internal gravel roads;
- » Access road to site;
- » Fencing;
- » Panel maintenance and cleaning area;
- » Stormwater channels;
- » Temporary work area during the construction phase;
- » 132kV overhead distribution line (single or double circuit) to connect to the existing Eskom Mookodi Substation;
- » Gravel service road beneath the 132kV power line; and
- » Associated electrical infrastructure at the Eskom Mookodi Substation (including, but not limited to feeders and busbars at the Eskom Mookodi Substation).

1.2. Potential Social Impacts as determined through the EIA Process

The SIA that was undertaken as part of the EIA process for the solar energy facility identified impacts during both the construction, operation and decommissioning phases. Cumulative impacts were also identified. The impacts were identified through consideration of the proposed solar energy facility and the receiving social context within which the project will be developed.

During the construction phase the following social impacts were identified:

- » Disruption of local social structures as a result of the construction work force and in-migration of job seekers for the 14 month construction period;
- » Increased burden on existing social and bulk services as a result of workforce and job seeker influx;
- » Temporary employment creation from the estimated 40 to 50 skilled jobs and 200 to 250 unskilled jobs over the 14 month construction period;
- » Unrealistic expectations regarding local job creation, with associated discontent and potential negativity towards the proposed development;
- » Development of locally-owned support industries to respond to construction-related activities;
- » Increased risky social behaviour (including but not limited to sex work, transgenerational sex, and drug abuse) which is associated with increased levels of disposable income within a cash-poor, high unemployment area; and

- » Damage to farm property/loss of livestock due to negligent and/or criminal behaviour by members of the construction work force.

During the operation phase the following impacts were identified:

- » Establishment of a Community Trust and the associated economic benefits; and
- » Potential loss of farmland due to the construction of the proposed solar energy facility.

During the decommissioning phase a loss of employment and income as a result of the project being decommissioned is expected to occur.

The following social cumulative impacts are expected to occur:

- » Cumulative disruption of social structures as a result of the influx of large construction work forces from multiple renewable energy projects which serve to weaken existing social capital;
- » Cumulative increase in HIV/AIDS infection rates as a result of disposable income being used to engage the services of sex workers and procure drugs; and
- » Cumulative socio-economic benefit to the local community as a consequence of the combined temporary employment opportunities created by multiple renewable energy projects, as well as the combined effect of multiple community trusts being established by said projects to benefit local communities.

The overall impact significance was assessed as being low to very low with the implementation of the recommended mitigation measures.

The SIA concluded that considering the overall low significance (post mitigation) rating of identified negative impacts, the nature of such impacts and the status quo socio-economic conditions present in the affected area; the socio-economic benefits of the project appear to outweigh the negative impacts. It was recommended by the SIA that the project be authorised subject to the implementation of the recommended mitigation measures.

2. DETAILS OF THE AMENDMENTS

The requested amendment will result in a change in the layout, with the main change being the addition of a BESS to the associated infrastructure of the facility. The BESS will be located within the authorised development footprint and will not affect any areas not previously assessed as part of the SIA. The BESS will be developed within the authorised development footprint of Vryburg Solar 3, within the authorised laydown area (i.e. the construction compound area with a total extent of 15ha), and with an extent of no more than 5ha.

The generation capacity of the facility will remain at 115MW.

The amended layout illustrating the location of the BESS is included as **Figure 2.1**.

The proposed technology will be electrochemical batteries with a maximum height of 3.5m. The BESS will connect to the authorised on-site facility substation of Vryburg Solar 3 via multi-core 22kV or 33kV underground cables, to follow internal access roads of the PV facility.

In addition, Vryburg Solar 3 (Pty) Ltd is also proposing a change in the description included in the Environmental Authorisation pertaining to the on-site substation. The change relates to the addition of collector infrastructure as part of the authorised on-site substation and within the authorised footprint of the substation.

3. POTENTIAL FOR CHANGE IN THE SIGNIFICANCE OF SOCIAL IMPACTS AS A RESULT OF THE PROPOSED AMENDMENTS

In terms of Regulation 32(1)(a)(i) of the EIA Regulations, the following section provides an assessment of the social impacts related to the proposed amendments for Vryburg Solar 3. Understanding the nature of the proposed amendments and the fact that the addition of the BESS and change of the on-site substation description does not change the assessed and authorised development footprint, which was fully assessed as part of the SIA, it is concluded that the proposed amendments will not introduce any new social impacts, nor significantly alter the social impacts as previously assessed in the SIA. It is understood that the BESS may result in additional employment opportunities during the construction and operation phases, however these are limited and do not affect the significance ratings of the related impacts. The general purpose and utilisation of a 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. This is seen as a benefit from a social perspective but does not change the significance of the positive impact related to the project as previously assessed.

As required in terms of Regulation 32(1)(a)(iii) of the EIA Regulations, consideration was given to the requirement for additional measures to ensure avoidance, management and mitigation of impacts associated with the proposed change. Considering that there will be no change in the area to be affected and impacts, no additional mitigation or enhancement measures are required for the addition of the BESS to the layout and change of the on-site facility substation description from a social perspective. The recommendations, mitigation and enhancement measures provided in the SIA are considered sufficient for the enhancement of the positive impacts and the management and mitigation of the negative impacts to acceptable levels. Therefore, all enhancement and mitigation measures, as proposed in the SIA are still required to be implemented for the amended Vryburg Solar 3 development.

4. ADVANTAGES AND DISADVANTAGES OF THE PROPOSED AMENDMENTS

In terms of Regulation 32(1)(a)(ii) of the EIA Regulations, this section provides details of the advantages and disadvantages of the proposed amendments from a social perspective.

One advantage has been identified from a social perspective which is the opportunity provided by the installation of the BESS for flexibility in the efficient operation of the electricity grid.

No advantages are expected with a change in the on-site facility substation description.

No specific disadvantages have been identified from a social perspective with the implementation of the proposed amendments as part of the Vryburg Solar 3 project.

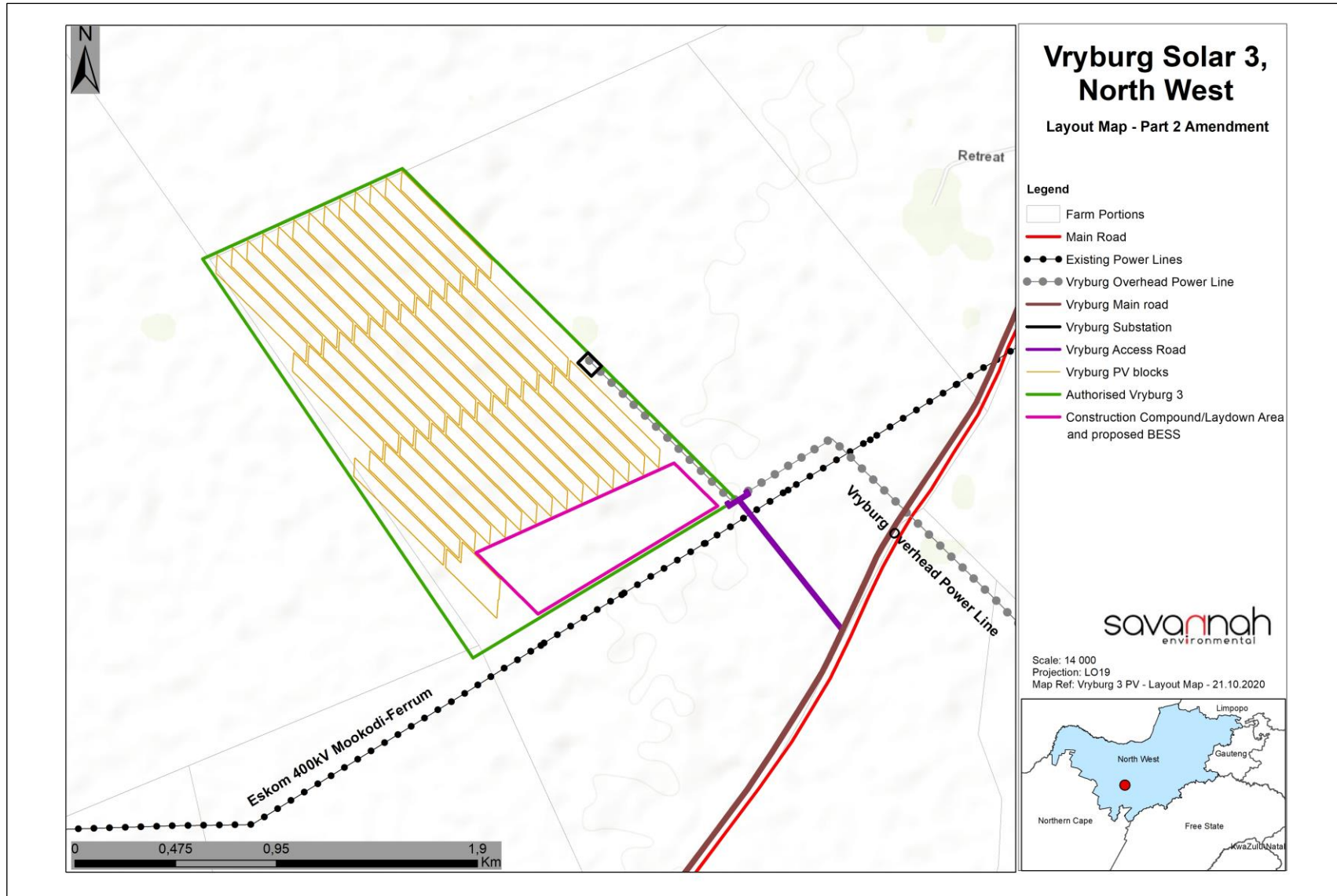


Figure 2.1: Proposed amended Vryburg Solar 3 layout map, as considered within this report.

5. CONCLUSION

Based on the nature of the proposed amendments for Vryburg Solar 3, and the fact that the proposed BESS and change in on-site substation description falls within the properties and development footprint which was fully assessed as part of the SIA (July 2018), it can be concluded that the amendments will not lead to any additional impacts other than those identified and assessed within the SIA (undertaken in 2018). No change in the significance of the impacts is expected to occur and there is no need for any additional recommendations or mitigation measures other than those already specified in the SIA (2018).

The proposed amendments are considered to be acceptable from a social perspective and can be approved, subject to the implementation of the mitigation and enhancement measures as specified in the SIA (July 2018).

