

Your Ref.: Bloemsmond 1

Our Ref.: 5091

12 August 2020

ATT: Dale Holder
Cape EAPrac

TRAFFIC AND TRANSPORT SPECIALIST OPINION – PROPOSED AMENDEMENT OF BLOEMSMOND 1

In 2015, Savannah Environmental (Pty) Ltd. was appointed by AEP Bloemsmond Solar 1 (Pty) Ltd. as independent environmental assessment practitioners (EAP) to conduct the Environmental Impact Assessment (EIA) for the proposed Bloemsmond 1 project, a commercial PV energy facility and associated infrastructure near Upington in the Northern Cape Province (EIA Ref No: 14/12/16/3/3/2/815). The project was granted Environmental Authorisation (EA) on 26 April 2016.

AEP Bloemsmond Solar 1 (Pty) Ltd now wishes to include an up to 500 MWh Battery Energy Storage System (BESS), which will cover approximately 4.17ha, adjacent to the on-site substation within the approved project footprint. In terms of Regulation 31 and 32 of the 2014 National Environmental Management Act (NEMA) Environmental Impact Assessment (EIA) Regulations, AEP Bloemsmond Solar 1 (Pty) Ltd. wishes to apply for an amendment to the EA issued. Cape Environmental Practitioners (Pty) Ltd. have been appointed as the EAP to conduct the amendment assessment.

One of the potential environmental issues identified during the former EIA process was the potential traffic and transportation impacts caused by the construction and operation activities. A Traffic and Transport Impact Assessment, conducted by JG AFRIKA in 2015, was therefore included as one of the specialist studies.

Based on the requirements of Regulation 32 of the EIA Regulations, specialist input regarding the proposed amendments is required to enable the DEA to make an informed decision on whether to grant or reject the amendment application.

Traffic during construction

The original assessment estimated that the total trips would be between 3 000 and 4 000 heavy vehicle trips, which will be made over a 12-month construction period. Choosing the worst-case scenario of 4 000 heavy vehicles over a 12-month period travelling on an average of 22 working days per month, the resulting daily number of vehicle trips is 15.

Taking into account that the number of vehicle trips during peak hour traffic in a rural environment can roughly be estimated at around 20-40% of the average daily traffic, the resulting number of vehicle trips during peak traffic hours is calculated to be approximately 3-6.

Traffic as a result of the BESS (Construction Phase)

The exact design of the BESS will depend on the specific manufacturer. It is customary to develop the final detailed design of the facility only once an Independent Power Producer (IPP) is awarded a successful bid under the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), after which major contracts are negotiated and final equipment suppliers identified. Therefore, at this stage the exact supplier/manufacturer has not yet been identified. However, a BESS typically includes batteries that have been assembled in containerised/modular enclosures. While each manufacturer has slightly different individual battery container/module dimensions, they all typically fall within the following ranges:

- Length: 6m – 12m
- Width: 1.5m – 2.5m
- Height: maximum of 3m

Based on research, it is estimated that for BESS with a capacity of up to 500MWh, approximately 200-300 pre-assembled containers/modules would be required. Each one of these pre-assembled containers/modules would be transported to site on a flatbed trailer. Therefore, for a 500MWh BESS, the anticipated additional trips during the construction phase would range between 200 and 300. Choosing the worst-case scenario of 300 heavy vehicles over a 12 months period travelling on an average of 22 working days per month, the resulting daily number of vehicle trips is 1.14.

Taking into account that the number of vehicle trips during peak hour traffic in a rural environment can roughly be estimated at around 20-40% of the average daily traffic. Therefore, the resulting number of vehicle trips, during peak traffic hours, is calculated to be approximately 0.2-0.46.

The impact on general traffic on the N14 is therefore deemed negligible.

Traffic during operation

During operation approximately, 7 to 15 full-time employees will be stationed on site and hence vehicle trips generated are low and will have a negligible impact on the external road network.

Traffic as a result of the BESS (Operational Phase)

There will be minimal, if any, additional trips required during the operational phase. The impact on traffic is considered negligible.

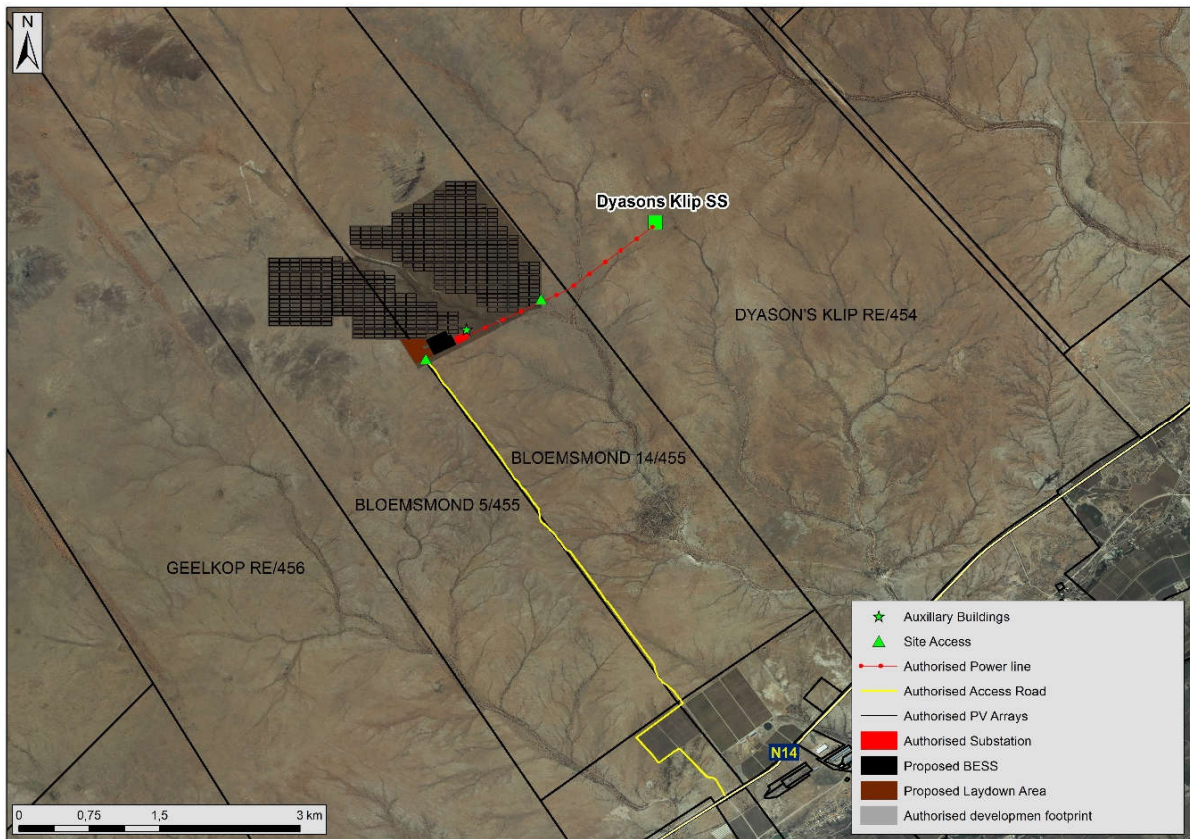
Conclusion

The above shows that the proposed amendments would not cause a significant change in the number of trips required and thus will not introduce any new traffic impacts, nor significantly alter the impacts considered in the former 2015 Traffic Report, for which the original project received Environmental Authorisation.

Yours sincerely

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for: JG AFRIKA (PTY) LTD



The approved site footprint with the proposed BESS

