

PALAEONTOLOGICAL HERITAGE STATEMENT:

Proposed Greefspan PV Power Station II adjacent to Greefspan Substation near Douglas, Northern Cape Province.

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1. BACKGROUND

On 28 September 2011 the Department of Environmental Affairs granted an Environmental Authorisation to AEAMD Renewable Energy (Pty) Ltd for the proposed construction of a photovoltaic power station and its associated infrastructure on the farm De Rust, Remaining Extent of Portion 1 of the farm Kwartelspan No. 25, Pixley Ka Seme District Municipality in the Northern Cape. While an area of 150 ha was studied during the EIA process conducted at Greefspan substation, the final plans submitted with the EIA report only covered 44 ha. Van Zyl Environmental Consultants cc, Upington, has been appointed by AE-AMD Renewable Energy (Pty) Ltd to apply for the authorisation of a further, 40 MW, PV power station development that would cover the remainder of the study area (DEA REF: 12/12/20/2645) (Fig. 1). Each of the two developments on the study area would be registered to a separate SPV company.

A desktop palaeontological impact assessment for Greefspan PV Power Station 1, situated some 60 km south-west of Douglas, was carried out by Almond (2010).

2. IMPACT SIGNIFICANCE OF PROPOSED NEW DEVELOPMENT

The palaeontological assessment of the entire Greefspan study area, which includes the footprints of both the authorized and the new PV power stations, was summarized as follows (Almond 2010):

The development footprint is underlain by thin aeolian sands of the Quaternary Gordonia Formation (Kalahari Group) and calcretes. These are in turn underlain at depth by Permocarboneous age rocks of the Karoo Supergroup – viz. the glacially-related Mbizane Formation (Dwyka Group) and possibly also the post-glacial Prince Albert Formation (lower Ecca Group). This last rock unit is exceptionally fossil-rich in the Douglas region. However, the palaeontological sensitivity of the near-surface sediments at Greefspan is low, the development footprint is small, and extensive bedrock excavations that might intersect Karoo bedrocks are not envisaged. Therefore further palaeontological mitigation of this project is not considered necessary. Should substantial fossil remains be exposed during construction, however, these should be safeguarded – if possible in situ – and SAHRA should be notified by the responsible ECO as soon as possible so that appropriate palaeontological mitigation (fossil sampling and relevant data collection) can be undertaken.

For the same reasons outlined above, the proposed new PV power station development at Greefspan is considered to be of LOW significance in terms its potential impact on fossil heritage resources.

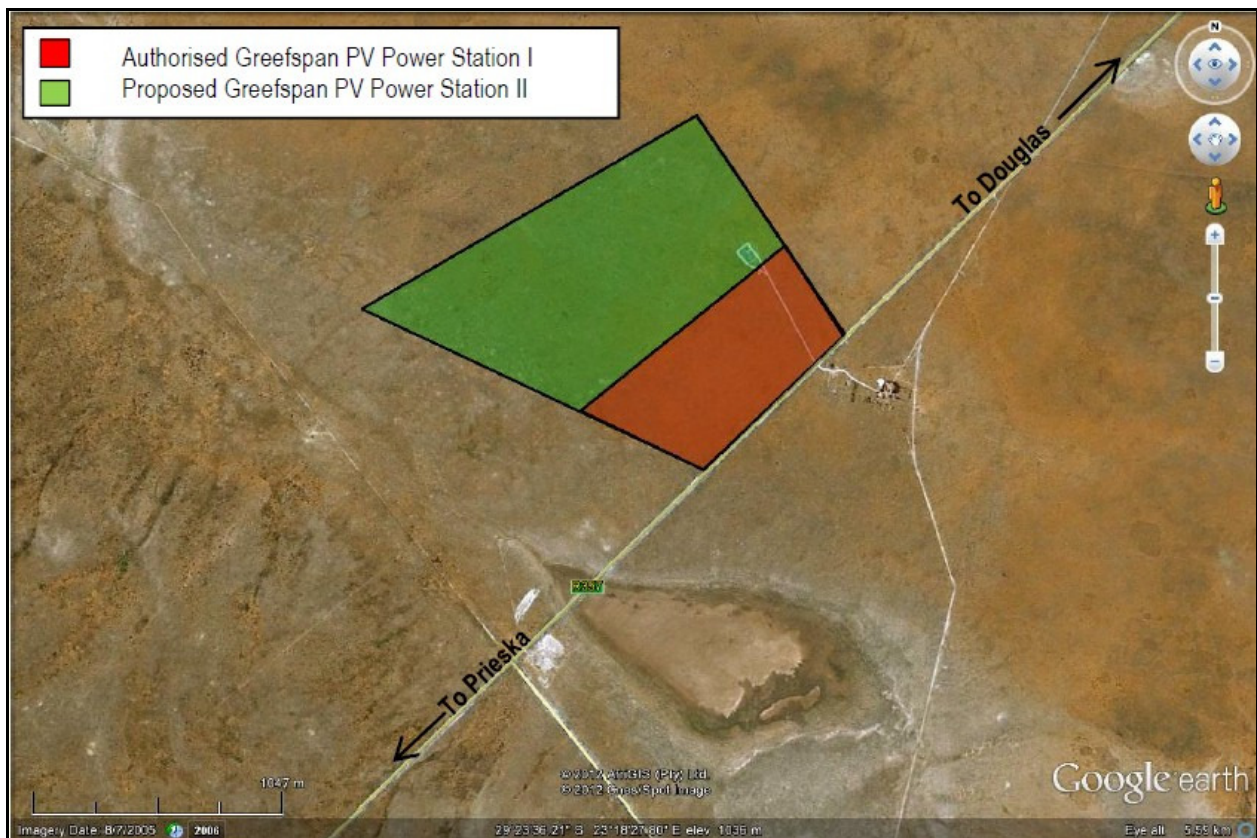


Fig. 1. Location of the proposed new Greefspan PV Power Station II as well as the authorised PV Power Station I at Eskom Greefspan Substation (Figure abstracted from the BID document supplied by Van Zyl Environmental Consultants cc, Upington).

3. CONCLUSIONS & RECOMMENDATIONS

Significant additional impacts on fossil heritage resources are not anticipated in the case of the proposed new PV Power Plant II at Greefspan. Given the generally low palaeontological sensitivity of the near-surface rocks in the study region, the cumulative impact of the two adjacent developments is assessed as low. Pending the discovery of new fossil material on site, further palaeontological studies or mitigation for this project are not considered necessary.

Should substantial fossil remains be exposed during construction, however, these should be safeguarded – if possible *in situ* – and SAHRA should be notified by the responsible ECO as soon as possible so that appropriate palaeontological mitigation (fossil sampling and relevant data collection) can be undertaken.

4. REFERENCES

ALMOND, J.E. 2010. Proposed photovoltaic power station adjacent to Greefspan Substation near Douglas, Northern Cape Province. Palaeontological impact assessment: desktop study, 22 pp. Natura Viva cc, Cape Town.

QUALIFICATIONS & EXPERIENCE OF THE AUTHOR

Dr John Almond has an Honours Degree in Natural Sciences (Zoology) as well as a PhD in Palaeontology from the University of Cambridge, UK. He has been awarded post-doctoral research fellowships at Cambridge University and in Germany, and has carried out palaeontological research in Europe, North America, the Middle East as well as North and South Africa. For eight years he was a scientific officer (palaeontologist) for the Geological Survey / Council for Geoscience in the RSA. His current palaeontological research focuses on fossil record of the Precambrian - Cambrian boundary and the Cape Supergroup of South Africa. He has recently written palaeontological reviews for several 1: 250 000 geological maps published by the Council for Geoscience and has contributed educational material on fossils and evolution for new school textbooks in the RSA.

Since 2002 Dr Almond has also carried out palaeontological impact assessments for developments and conservation areas in the Western, Eastern and Northern Cape under the aegis of his Cape Town-based company *Natura Viva cc*. He is a long-standing member of the Archaeology, Palaeontology and Meteorites Committee for Heritage Western Cape (HWC) and an advisor on palaeontological conservation and management issues for the Palaeontological Society of South Africa (PSSA), HWC and SAHRA. He is currently compiling technical reports on the provincial palaeontological heritage of Western, Northern and Eastern Cape, Gauteng, Limpopo and the Free State for SAHRA and HWC. Dr Almond is an accredited member of PSSA and APHP (Association of Professional Heritage Assessment Practitioners – Western Cape).

Declaration of Independence

I, John E. Almond, declare that I am an independent consultant and have no business, financial, personal or other interest in the proposed project, application or appeal in respect of which I was appointed other than fair remuneration for work performed in connection with the activity, application or appeal. There are no circumstances that compromise the objectivity of my performing such work.



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