ARCUS
An ERM Group Company

Susanna Nel
Landscape Dynamics
By email: susana@landscapedynamics.co.za

03 March 2023

Dear Susanna,

RE: Avifaunal Specialist Input for Portion D and Portion E of the Ukuqala Solar Photovoltaic Facilities near De Aar, Northern Cape Province

The purpose of this letter is to provide an avifaunal specialist opinion regarding the Extension of Validity of Environmental Authorisation for two authorised Solar PV Facilities on Portion D and Portion E (and now called the Ukuqala Solar PV Facility) on the Vetlaagte Farm (Remaining Extent of the Farm Vetlaagte No 4) as shown in Figure 1 below.

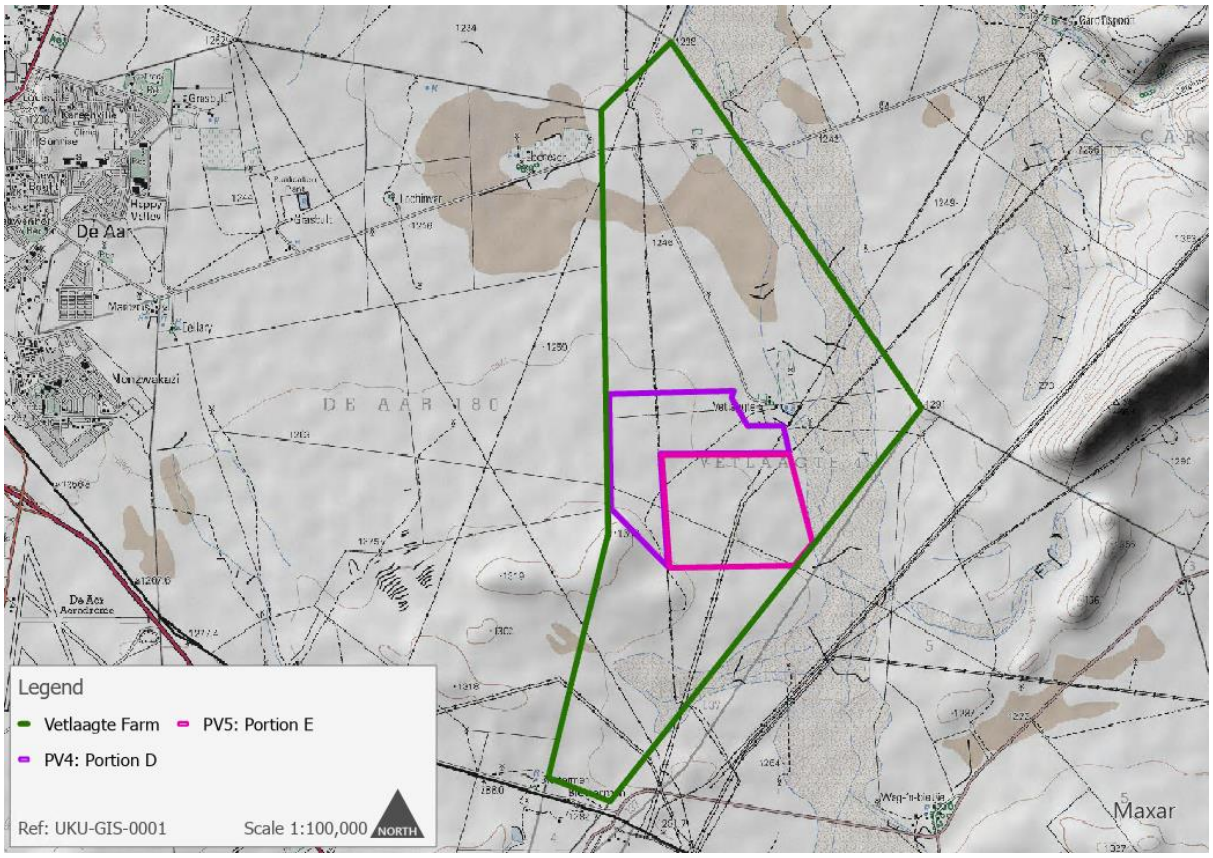


Figure 1: Extent of the two authorised Solar Photovoltaic Facilities for which the Environmental Authorisation Extension of Validity applies

The avifaunal community of the receiving environment is well understood and has been studied for over a decade, with impact assessments having been conducted in the immediate vicinity and

surrounds by Harebottle (2012)[1], WildSkies (2012)[2], Avisense (2014)[3] and Arcus (2021)[4]. In addition, a significant amount of avifaunal data has been collected by the Arcus specialist in and around both Portion D and Portion E in recent years associated with various proposed transmission line and renewable energy developments, such as the Mulilo Battery Energy Storage System (2020), Mulilo Total Hydra Storage Project (2021), Mulilo De Aar Solar Photovoltaic Grid Connection (2021), Mulilo De Aar PV project (2022), Vetlaagte (2022) and Wag 'n Bietjie Grid Connections (2022). Site Verification was therefore not considered necessary for the formulation of this document.

The avifaunal community observed and recorded during the monitoring conducted by Arcus Consultancy Services South Africa (Pty) Ltd (an ERM Group company), in 2021 and 2022 was comparable to the observations made by the previous studies (conducted by Harebottle, WildSkies and Avisense). During the monitoring there was a relatively low diversity and abundance of smaller passerine birds compared to the overall diversity of the broader region. This is due to the relatively low level of habitat diversity across the site, comprising largely of flat, lowland scrub. The current status of the environment under consideration is therefore considered to be practically unchanged from an avifaunal perspective since the original Environmental Impact Assessment was conducted (WildSkies 2012).

The Birds and Solar Energy Best Practice Guidelines (2017)[5] published in the intervening time period since the original assessment was conducted recommend that the avifaunal baseline be updated to allow for impacts of operational facilities to be measured through a before-after control-impact (BACI) analysis. This process was already conducted for the Mulilo De Aar PV project (2022), and recent baseline data is therefore available for these recommendations to be followed during operation.

The National Web-based Screening Tool currently lists 27 approved solar energy facilities within 30 km of the Ukuqala Solar Photovoltaic Facilities. Several impacts with significance to avifauna are already present in and around the development site, including operational solar PV facilities and overhead power lines that converge on the nearby existing Hydra Main Transmission Substation. The primary impacts associated with solar PV facilities are considered to include habitat destruction, disturbance and displacement and direct mortality through collisions with solar arrays or associated infrastructure such as overhead transmission lines. The relatively low avifaunal abundance and diversity recorded across the site makes it unlikely that the development will contribute significantly to the cumulative negative impact of habitat destruction to the avifaunal community of the receiving environment. The surrounding area is largely contiguous natural habitat that is more favourable to avifaunal species of conservation concern than the development site given the site's proximity to De Aar and the existing network of overhead power lines.

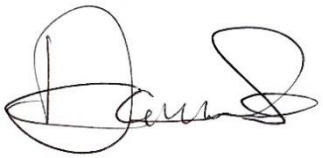
The impact ratings undertaken during the initial assessment are still valid, and indeed likely represent an over estimate of the potential impacts associated with the development of Portion D and Portion E PV facilities. The exclusion of avifaunal Species of Conservation Concern from the site through the development of solar infrastructure is likely to *reduce* the overall risk of collisions

[1] Harebottle, D. M. 2012. Construction of Three Photovoltaic Energy Facilities near De Aar, Northern Cape- Avifaunal Impact Assessment. Avifaunal Specialist Report Compiled for Mulilo Renewable Energy (Pty) Ltd, on behalf of Aurecon (Pty) Ltd (Unpublished report).
[2] Smallie, J. 2012. WildSkies Ecological Services. Avifaunal Impact Assessment for the Proposed Solar Power Generation Facilities on the remaining extent of the farm Vetlaagte No. 4, De Aar, Northern Cape (Unpublished report).
[3] Jenkins, A. and du Plessis, J. AVISENSE Consulting. 2014. Badenhorst Dam Solar PV Development Area - Pre-construction bird monitoring. Avifaunal Specialist Report Compiled for Mulilo Renewable Energy (Pty) Ltd (Unpublished report).
[4] Arcus Consultancy Services South Africa. 2021. Avifaunal Specialist Letter Compiled for Mulilo Renewable Energy (Pty) Ltd (Unpublished report).
[5] A.R. Jenkins, S. Ralston-Paton and H.A. Smit-Robinson. 2017. Birds & Solar Energy Guidelines for assessing and monitoring the impacts of solar power generating facilities on birds in southern Africa. BirdLife South Africa.

for species with existing transmission infrastructure. Mitigation measures provided in the initial assessment and the PV layouts as approved in 2012 remain applicable.

The environment in terms of avifauna has not changed significantly since 2012; therefore, there is **no objection** to the extension of the validity of the Environmental Authorisation.

Yours sincerely,



Dr Owen Rhys Davies Pr. Sci. Nat (Ecology)
Avifaunal Specialist