



BIRDS & BATS UNLIMITED

Springbok Wind Energy Facility, Northern Cape Province Application for Extension of the Environmental Authorisation Avian Specialist Comment, 2023

This specialist comment is required for the proposed (2023) Extension of the Environmental Authorisation granted to Mulilo Springbok Wind Power (Pty) Limited's Springbok Wind Energy Facility (WEF) for another five years beyond 2023.

1 Background (from Savannah Environmental)

Mulilo Renewable Projects Developments (Pty) Ltd (Mulilo) trading as Mulilo Springbok Wind Power (Pty) Ltd is proposing to amend the Environmental Authorisation (EA) for the Springbok Wind Energy Facility, by extending the EA validity by an additional five (5) years. Extension of the validity of the EA will ensure that the EA remains valid for the undertaking of the authorised activities.

The EA Amendment will be completed in terms of Regulation 30(1)(a) of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, including the additional studies and public participation required by the DFFE. Condition 1.7 of the First Issue Environmental Authorisation, Issued on the 27th of July 2011, DEA Reference 12/12/20/1721 states that:

"This activity must commence within a period of three (3) years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

Amendments to extend the validity of the authorisation have been made as follows:

- 12/12/20/1721 – authorised on 27 June 2014 extending the validity to 27 June 2016
- 12/12/20/1721/AM3 – authorised on 18 May 2016 extending the validity to 27 July 2018
- 12/12/20/1721/AM6 – authorised on 3 August 2018 extending the validity to 27 July 2021
- The most recent 12/12/20/1721/AM8 – 28 June 2021 extending the validity to 27 January 2023 which states the following:

"This activity must commence within a period of eleven (11) years and six (6) months from the date of issue of the authorisation (i.e., the EA lapses on 27 January 2023). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

The 55.5 MW Springbok Wind Energy Facility was originally developed for operation under the government's Renewable Energy Independent Power Producer Programme ("REIPPP"). As the REIPPP has experienced numerous delays in moving forward in the last few years, it has required project developers to renew the Environmental Authorisation (EA) anticipating that the REIPPP programme would commence again in the near future, allowing the project to be bid and eventually constructed.



In 2021, the project had been assigned to a private off taker, and AM8 was granted to extend the EA beyond 10 years, by an additional 18 months. However, due to recent Eskom grid capacity constraints any further development and commencement of construction has been suspended to a future date.

Because the project is in an advanced stage of development, financing, and construction contracting, with vast amounts of monies having been spent to date, including additional environmental specialist work, and permitting such as rezoning (an application for which has been submitted). Furthermore, time is required to realise certain EA pre-construction conditions, such as updating the project's Environmental Management Programme (EMPr) and finalising the site layout. These processes are underway. The finalisation of the EMPr requires site visits and site walk-through surveys with certain specialists (including micro-siting), and plant search and rescue.

Additional **bird monitoring** was also undertaken in 2019 to ensure protection of birds and to update the bird monitoring database to be in line with current Best Practice guidelines. This happened prior to construction, and BBU did so in 2021 (BBU 2021).

2 Brief Summary of avian findings in 2021

BBU spent an additional 58 hours surveying the cliffs and proposed WEF area in May 2021 for flights and nests of Verreaux's Eagles (VE) and other Priority species with two observers. We found (BBU 2021):

- Within the smaller (revised) WEF area there were only 14 VE flights in 221 hours over all years, giving a **very low** hourly average Passage Rate of 0.063 eagles per hour.
- This rate of aerial traffic is 10-fold lower than the overall Passage Rates of 0.63 eagles/hour (computed in 2012, 2014/2015) and across the entire study area (0.62 eagles/hour, in 2021).
- This verified the low use of the smaller WEF area by VEs within which up to 13 maximum turbines are now proposed.
- This low use was verified by high resolution GPS-tracking of the resident Verreaux's Eagle in October, November, and December 2014, indicating no overlap of the foraging areas and the proposed turbines. BBU is, thus, satisfied that the amendments made to the turbine numbers and positions are positive for the collision-prone avian species at risk.

Given that some turbines may remain within 3-km from two active eagle nests, BBU (2021) recommended that all turbines receive additional mitigation in the form of:

- One painted blade (i.e., either "signal red" or black) for each turbine erected to increase visibility to eagles subject to approval from SA Civil Aviation.
- For turbines that may kill more >1 Red Data species per year, this must trigger an assessment that re-assesses appropriate and additional mitigations for the species involved (faster response for the most threatened species). This may include additional shut-down-on-demand (SDOD) mitigation.

3 Current requirements

To satisfy the Environmental Impact Assessment (EIA) Regulations of 2014 and the new NEMA GN 320 regulations, to extend the EA validity beyond 10 years, this amendment report must:

- Confirm the status of the environment compared to that of the original assessment and make a statement as to whether the environment has changed since the original assessment.
- Provide an indication as to whether the impact rating as provided in the initial assessment remains valid and if mitigation measures provided are still applicable, or if new measures need to be included.



- An indication if any new assessments/guidelines, which were not included as part of the initial assessment, must be taken into consideration and addressed in the report.
- A description and an assessment of the surrounding environment in relation to new developments, or changes in land use which might impact the project:
 - (i) within a 30-km radius; and
 - (ii) cumulative impacts.

4 Amendment Statement (Avian)

Our 2021 site visit confirmed that the Springbok environment had not changed, and that the main species of concern was still present, despite the fluctuations in rainfall regime over the years. More importantly, the (smaller) area occupied by the wind farm and the wind turbines continued to exhibit a very low frequency of flights.

We see no reason that this will change since Verreaux's Eagles are known to concentrate their flights (and foraging) along ridge lines and other slopes that give them orographic lift (Murgatroyd et al. 2020) – thus, they rarely use areas giving them no lift. The terrain of the revised wind farm is gently undulating with no steep cliffs, explaining the very low use of the area, despite the breeding pairs of resident eagles.

The significance of the impact rating is unlikely to have changed for the reasons stated above – the landscape topography is not conducive to Verreaux's Eagle flights, and the presence of subsistence farmers with their flocks of goats will ensure that the Rock Hyrax (the eagles' main prey) will be limited. Goats compete with the hyrax for food and, in this way, limit their numbers, and also affect where the eagles forage and how well they breed.

The Birdlife South Africa guidelines (Ralston and Murgatroyd 2021), revised since 2017, state that turbines should not be closer than 3.7-km from active nests in the absence of VERA (Murgatroyd et al. 2020) having been applied.

Because BBU were satisfied that very low flight activity was apparent between the nests, and because of the nature of the undulating topography (away from steep slopes) based on several years of Vantage Point observation (which was supported by GPS-tracking one of the breeding eagles) we are confident that this is not necessary in this case.

The buffer approach is designed to reduce risk to the eagles (or other species) in the absence of better data. We have collected better data that shows that VE flights within the proposed wind farm boundary are 10-fold lower (0.06 flights/hour) than the average for the entire study site (0.63 flights/hour).

Developing turbines here with appropriate mitigations (striped-blade and SDOD) will reduce risk to very low levels.

Cumulative impacts from renewable energy facilities surrounding the proposed Springbok wind farm may have reduced since it was last assessed. The Renewable Energy Applications given in the DFFE online GIS resources https://egis.environment.gov.za/data_egis/data_download/current indicate that two applications in the central areas and north-west has fallen away between 2018 (Figure 1a) and the last quarter of 2022 (Figure 1b). Thus, cumulative impacts will have reduced.

The two applications to have fallen away are:

- (i) 300MW PV Solar Energy Facility on the Farm Biesjesfontein in Victoria West, Northern Cape; and
- (ii) Karen Energy Groenbank Solar Park on Farm 22, near Steinkopf, Namaqualand, Nama Khoi Municipality, Northern Cape.



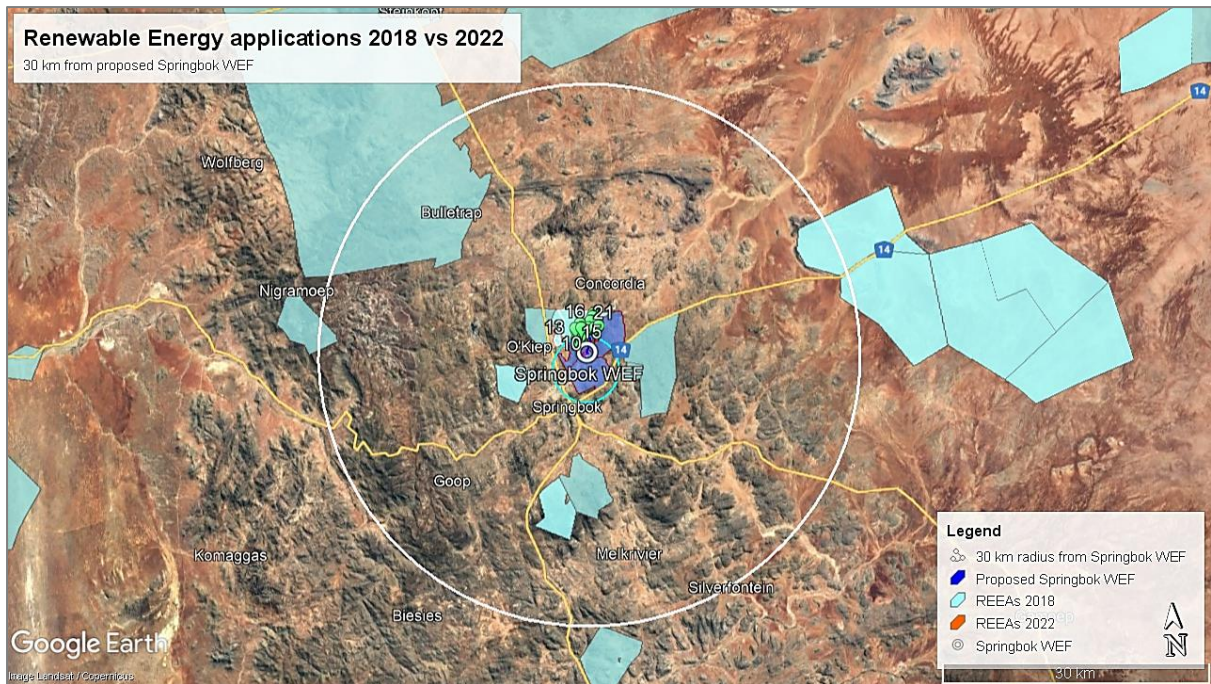


Figure 1a. The 2018 Renewable Energy applications on file with the DFFE (= blue polygons) within 30-km of the proposed Springbok WEF.

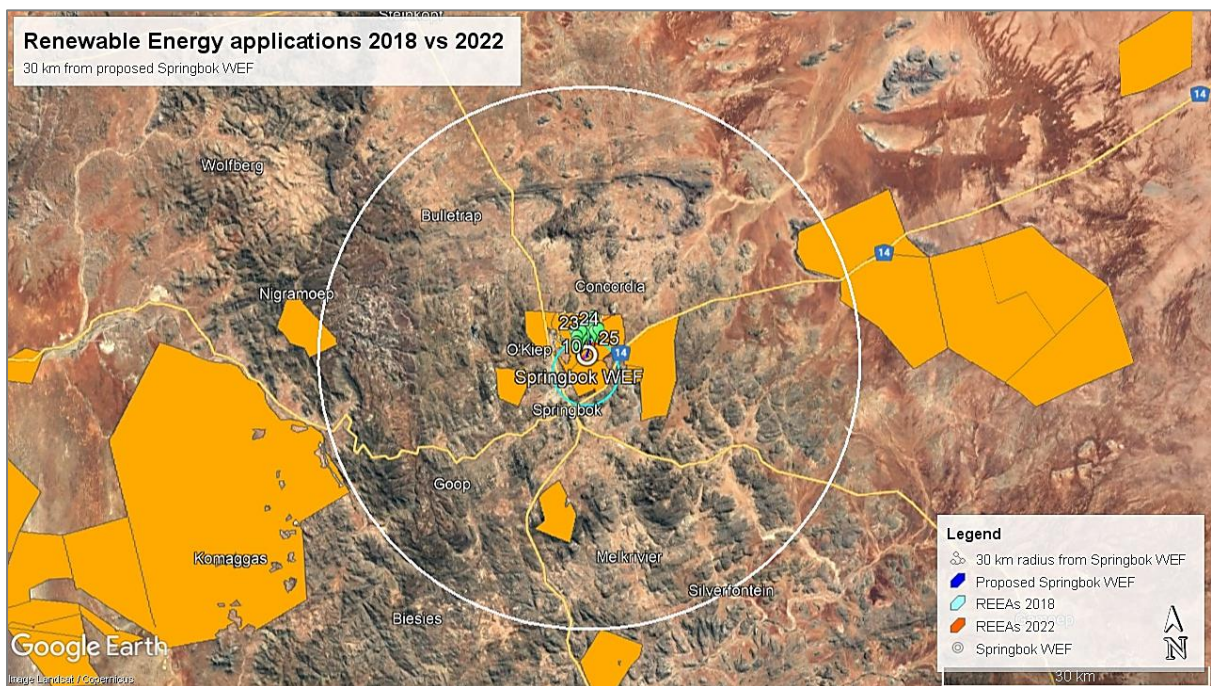


Figure 1b. The 2022 Renewable Energy applications on file with the DFFE (= orange polygons) within 30-km of the proposed Springbok WEF.

5 Conclusions

Birds & Bats Unlimited have re-assessed several variables with respect to the avifauna associated with this application for an extension to the environment authorisation. We found, in 2021, that the reduction in size of the WEF area, and in the number of turbines, reduced the potential risk to Verreaux's Eagles in the proposed Springbok WEF. Given the flat topography of the WEF this is not likely to change for the eagles in future years. Cumulative impacts associated with surrounding renewable energy projects are expected to decrease as two proposed renewable energy projects lapsed between 2018 and 2022 (300MW in Victoria West, and the Karen



Energy Groenbank Solar Park). We conclude that we have no objection to the EA being extended for the proposed Springbok WEF project with respect to the avifaunal component.

6 Bibliography

- Birds & Bats Unlimited 2021.** Springbok Wind Energy Development Area: Final Avian Report and additional monitoring to assess the revised turbine layout, May 2021. BBU report to Mulilo (Pty) Ltd, Cape Town.
- Drewitt, A.L. & Langston, R.H.W.** 2006. Assessing the impacts of wind farms on birds. *Ibis* 148: 29-42.
- Drewitt, A.L. & Langston, R.H.W.** 2008. Collision effects of wind-power generators and other obstacles on birds. *Annals of the New York Academy of Science* 1134: 233-266.
- De Lucas M, Ferrer M, Bechard MJ, Munoz AR.** 2012. Griffon vulture mortality at wind farms in southern Spain : distribution of fatalities and active mitigation measures. *Biological Conservation* 147: 184–189.
- Erickson, W.P., G.D. Johnson, M.D. Strickland, D.P. Young, K.J. Sernka, and R.E. Good.** 2001. Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee.
- Loss SR, Will T, Marra PP.** 2013. Estimates of bird-collision mortality at wind facilities in the contiguous United States. *Biological Conservation* 168: 201–209.
- May R, Nygård T, Falkdalen U, Åström J, Hamre Ø, Stokke BG.** 2020. Paint it black: Efficacy of increased wind turbine rotor blade visibility to reduce avian fatalities. *Ecology and Evolution*. 2020; 00:1–9.
- Murgatroyd M, Bouten W, Amar A.** 2020. A predictive model for improving placement of wind turbines to minimise collision risk potential for a large soaring raptor. *J Applied Ecol* <http://DOI: 10.1111/1365-2664.13799>
- Ralston-Paton S, Smallie J, Pearson A, Ramalho R.** 2017. Wind energy's impacts on birds in South Africa: A preliminary review of the results of operational monitoring at the first wind farms of the Renewable Energy Independent Power Producer Procurement Programme Wind Farms in South Africa. Birdlife South Africa, Cape Town.
- Ralston-Paton S.** 2017. Verreaux's Eagle and wind farms: guidelines for impact assessment, monitoring and mitigation. Birdlife South Africa Occasional Papers, Johannesburg.
- Ralston-Paton S. Murgatroyd S.** 2021. Verreaux's Eagle and wind farms: guidelines for impact assessment, monitoring and mitigation. Birdlife South Africa Occasional Papers, 2nd edition. Johannesburg.
- Simmons RE** 2010. Springbok wind energy facility. Final Environmental Impact Assessment: Birds. Unpublished report to Mulilo Renewables.
- Simmons RE** 2005. Verreaux's Eagle. In: Hockey P, Dean WRJ, Ryan P. (eds). Roberts birds of southern Africa. Pp 531-532. John Voelcker Bird Book Fund, Johannesburg.
- Simmons RE, Martins M.** 2015. Springbok wind energy facility Pre-construction monitoring for sensitive birds. Final report. Birds Unlimited. Report to Mulilo, Cape Town.
- Simmons RE, Martins M.** 2016. Photographic record of a Martial Eagle killed at Jeffreys Bay wind farm. Unpubl report Birds & Bats Unlimited.
- Simmons RE and Martins M** 2017. Amendment Report, Springbok wind energy facility. Hub height and blade length considerations for birds. Report prepared for Holland & Associates by Birds & Bats Unlimited, Cape Town.
- Stokke BG, May R, Falkdalen U, Saether SA, Astrom J, Hamre O, Nygard T.** 2017. Visual mitigation measures to reduce bird collisions – experimental tests at the Smøla wind-power plant, Norway.



Dr R.E. Simmons, M. Martins
Birds & Bats Unlimited
www.birds-and-bats-unlimited.com
Date: 31 March 2023

