
PROPOSED AB's WIND ENERGY FACILITY & ASSOCIATED INFRASTRUCTURE ON A SITE NEAR INDWE, EASTERN CAPE

DEA ref: 12/12/20/1738

MOTIVATION FOR AMENDMENT OF ENVIRONMENTAL AUTHORISATION - SUBMISSION TO NATIONAL DEA

Prepared for:

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1. INTRODUCTION

DNA Wind Farm obtained an authorisation for the construction of a wind energy facility and associated infrastructure on a site near Indwe, Eastern Cape Province (DEA Ref No: 12/12/20/1738) on 27 June 2011. This environmental authorisation (EA) included authorisation for up to 24 wind turbines with a blade tip height of up to 140 m from ground level.

Analysis of the wind resource, as well as technology changes have resulted in proven turbines that capture more energy for a given wind speed. The project developer is now proposing to:

- Increase the maximum hub of the wind turbines from 90m to a maximum hub height of up to 105m
- Increase the rotor diameter from 100m to a maximum of 118m.

In terms of Condition 1.6 of the EA, an applicant can apply to the competent authority for a change or deviation from the project description. A request for amendment to the environmental authorisation has been prepared, and includes the motivation for the amendment, as well as an assessment of the increased hub height on avifauna, as well as potential visual impacts.

In terms of Regulation 56 of the EIA Regulations (2010), an opportunity is now provided for registered interested and affected parties to submit written comment on the amendment application.

Savannah Environmental has prepared this motivation in support of this request/application on behalf of the project developer, and provides some detail pertaining to the significance and impacts of the proposed change to the project description in order for the competent authority to be able to reach a decision.

In order to verify the potential for a change in the impacts on avifauna as well as visual exposure, the amendment has been presented to the avifauna and visual specialists engaged as part of the EIA for their review, consideration and comment. These are attached as Appendix A and Appendix B respectively.

2. MOTIVATION FOR AMENDMENT

The following is relevant to the AB's Wind Energy Facility site:

- » Project history: The project was authorised by DEA on 27 June 2011. Analysis of the wind resource, as well as technology changes have resulted in proven turbines that capture more energy for a given wind speed. The proposed maximum hub height of the turbines (and associated increase in rotor diameter) are therefore considered necessary.

- » Environmental sensitivity: The increase in turbine height and rotor diameter will not increase the potential disturbance impact of the wind turbines in any area of the site (including identified high sensitivity areas) as the proposed footprint of the structures remains the same as assessed in the EIA report. The only potential increased environmental impacts relate to avifauna collisions (due to increased rotor diameter and hub height change) and visual impacts (due to hub height increase).

- » Avifauna sensitivity: The avian impact study for this project rated the significance of anticipated post-mitigation operational impacts for this development as follows:
Disturbance - Medium
Mortality – Medium

While the relationship between wind turbine height and collision risk for birds is not clearly understood, simple logic suggests that the proposed increase in turbine height of only 7%, probably would not significantly affect these impact ratings.

- » Visual Impacts associated with the Wind Energy Facility: The increased dimensions translates to a practical comparison of the original turbines with a tip-height of 140m above ground level, to the amended turbines with a tip-height of 150m above ground level. The comparative viewshed analyses indicate the potential visual exposure of the wind turbine infrastructure at 140m tip-height and the potential additional visual exposure at 150m tip-height. The total surface area potentially visible when considering the installation of turbines with a 140m tip-height is 281 km² and the total area is expected to increase by only 6km² when utilising the 150m tip-height option. This implies a virtually negligible 2.1% increase in potential visual exposure. The area of additional visual exposure is not expected to encompass any additional sensitive visual receptors (observers at residences and homesteads within the region), as indicated in the Visual Impact Assessment report. The proposed increase in wind turbine dimensions is also not expected to significantly alter the influence of the facility on areas of higher viewer incidence (observers travelling along national, arterial/main or major secondary roads within the region). The proposed increase in turbine height is consequently not expected to significantly influence the anticipated visual impact, as stated in the original Visual Impact Assessment report.

3. LIST OF APPENDICES

The following Appendices are attached in support of the motivation for amendment:

Appendix A: Authorisation Avifauna – statement from Avisense

Appendix B: Visual – statement and viewshed analysis from MetroGIS

APPENDIX A
AVIFAUNA - STATEMENT FROM ANDREW
JENKINS OF AVISENSE

APPENDIX B
VISUAL - STATEMENT FROM LOURENS DU
PLESSIS OF METROGIS