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**PROPOSED DEEP RIVER WIND ENERGY  
FACILITY & ASSOCIATED  
INFRASTRUCTURE ON A SITE NEAR  
HUMANSDORP, EASTERN CAPE PROVINCE  
DEA ref: 12/12/20/1863**

**MOTIVATION FOR AMENDMENT OF  
ENVIRONMENTAL AUTHORISATION -  
SUBMISSION TO NATIONAL DEA**

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## **1. INTRODUCTION**

VentuSA Energy Pty Ltd obtained an authorisation for the construction of a wind energy facility and associated infrastructure on a site near Humansdorp, Eastern Cape Province (DEA Ref No: 12/12/20/1863) in August 2011.

This environmental authorisation (EA) included authorisation for up to 50 wind turbines with a hub height of up to 80 m in height.

Following the assessment of 12-months wind data it has become evident that in order for the wind energy facility to produce at an Economic Viable Rate, VentuSA Energy is now proposing to:

- Increase the maximum hub of the wind turbines from 80m to a maximum hub height of up to 120m
- Increase the rotor diameter from 90m to a maximum of 116m.

In terms of Condition 1.4 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 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 abovementioned amendment applications.

Savannah Environmental has prepared this motivation in support of this request/application on behalf of the 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 visual exposure as well as avifauna, 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 Deep River Wind Energy Facility site:

- » Project history: The project was authorised by DEA on 17 August 2011. Following the assessment of 12-months wind data collected on site from two installed wind monitoring masts it has now become evident that in order for the wind energy facility to produce at an Economic Viable Rate the proposed

maximum hub height of the turbines (and associated increase in rotor diameter) are necessary.

- » Environmental sensitivity: The increase in turbines 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 impacts for components of this development as follows:
  - Operation (Disturbance) - Medium
  - Operation (Mortality) – Medium

While the relationship between wind turbine height and collision risk for birds is not clearly understood, logic suggests that the proposed 50% increase in turbine height and nearly 30% increase in rotor diameter inherent in the application will increase the significance of all impacts on birds.

In light of these suggested changes to the project, the estimate from the avifauna specialist is that the post-mitigation impact ratings as expressed in the original EIA report would be revised as follows:

- Operation (Disturbance) – Medium-High
- Operation (Mortality) – Medium-High

The potential impacts on avifauna associated with the project would, however, still be regarded as acceptable from an environmental perspective.

- » Visual Impacts associated with the Wind Energy Facility: The Comparative Viewshed Analysis indicates the potential visual exposure of the wind turbine infrastructure at 80m hub height and the potential additional visual exposure at 120m hub-height. Although the extension of the wind turbines represents a theoretical 33% increase in turbine height, the potentially visible surface area increases by only 17%. The total surface area potentially visible (utilising the 80m hub-height wind turbines) is 111km<sup>2</sup> and is expected to increase by 19km<sup>2</sup> when utilising the 120m hub-height option. 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 proposed wind energy 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 from MetroGIS

**APPENDIX A**  
**AVIFAUNA - STATEMENT FROM ANDREW**  
**JENKINS OF AVISENSE**

**APPENDIX B**  
**VISUAL - STATEMENT FROM LOURENS DU**  
**PLESSIS OF METROGIS**