

Part 2 Environmental Authorisation (EA) Amendment Process for the Kudusberg Wind Energy Facility (WEF) Near Sutherland, Western and Northern Cape Provinces

1 BACKGROUND

Kudusberg Wind Farm (Pty) Ltd (hereafter referred to as “Kudusberg Wind Farm”) was issued with an Environmental Authorisation (EA) for the proposed construction of the 325MW Kudusberg Wind Energy Facility (WEF) and associated infrastructure, between Matjiesfontein and Sutherland in the Western and Northern Cape Provinces. The EA was granted on 25 March 2019 (DEFF Reference No.: 14/12/16/3/3/1/1976), and subsequently amended on 04 April 2019 to correct a minor naming error (14/12/16/3/3/1/1976/AM1).

The layout for the authorised Kudusberg WEF is presented in **Figure 1** below.

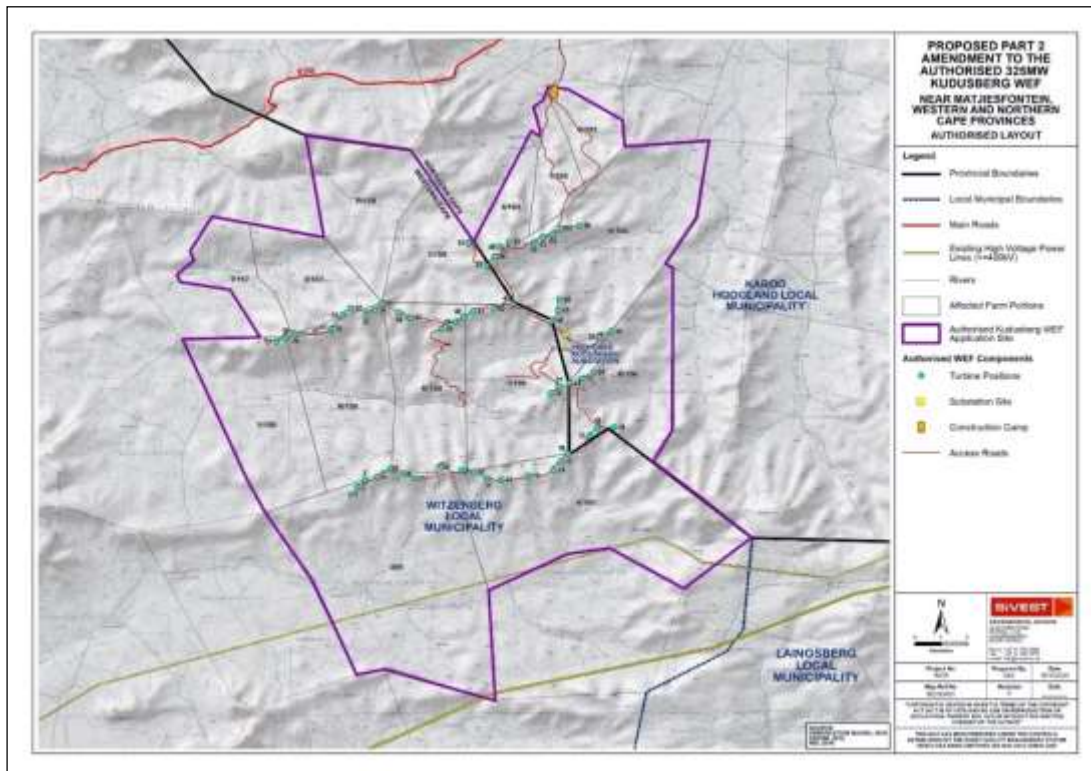


Figure 1: Layout map for authorised Kudusberg WEF (14/12/16/3/3/1/1976/AM1)

Kudusberg Wind Farm is now proposing to submit a Part 2 EA Amendment Application to split the authorised Kudusberg WEF (14/12/16/3/3/1/1976/AM1) into two (2) separate smaller WEF projects, namely the Kudusberg WEF and Oya WEF, which will result in a number of technical and administrative changes detailed below in **Table 1**. The split is being proposed to allow the projects to be suitable for numerous opportunities such as either the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), Risk Mitigation Independent Power Producer Procurement Programme (RMIPPPP), other government run procurement programmes that may arise or for sale to private entities, if enabled and/or required in the drive for energy security in South Africa.

Following the split, the northern section of the authorised WEF will become the Oya WEF (**Figure 2**), while the southern section of the authorised WEF will remain known as the Kudusberg WEF (authorised under 14/12/16/3/3/1/1976/AM1) (**Table 1**) (**Figure 3**). In addition to the split, the final layout for the Oya WEF is being submitted which has been informed by detailed specialist walk-throughs and on site micro-siting as per condition 29 of the Kudusberg EA¹.

The respective layouts for the proposed Kudusberg WEF (southern section of the authorised WEF) and Oya WEF (northern section of the authorised WEF) are presented in **Figure 2** and **Figure 3** below.

¹ Condition 29 of Kudusberg EA [DEFF Ref: [14/12/16/3/3/1/1976/AM1](#) – Page 15 of EA (page 17 of full document)]: *the final placement of turbines must follow a micro siting procedure involving a walk-through and identification of any sensitive areas by ecological, avifaunal, bat, surface water and heritage specialists.*

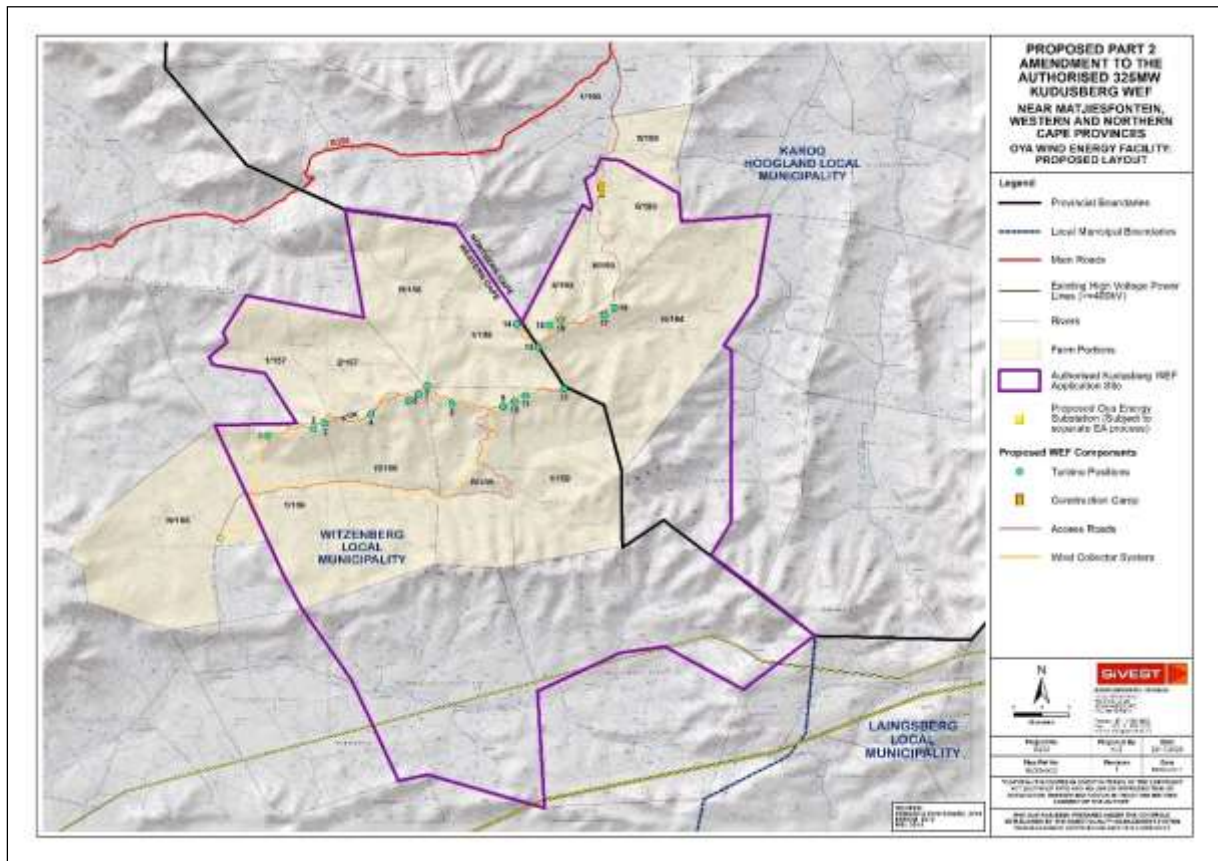


Figure 2: Layout map for proposed Oya WEF (northern section of the authorised WEF)

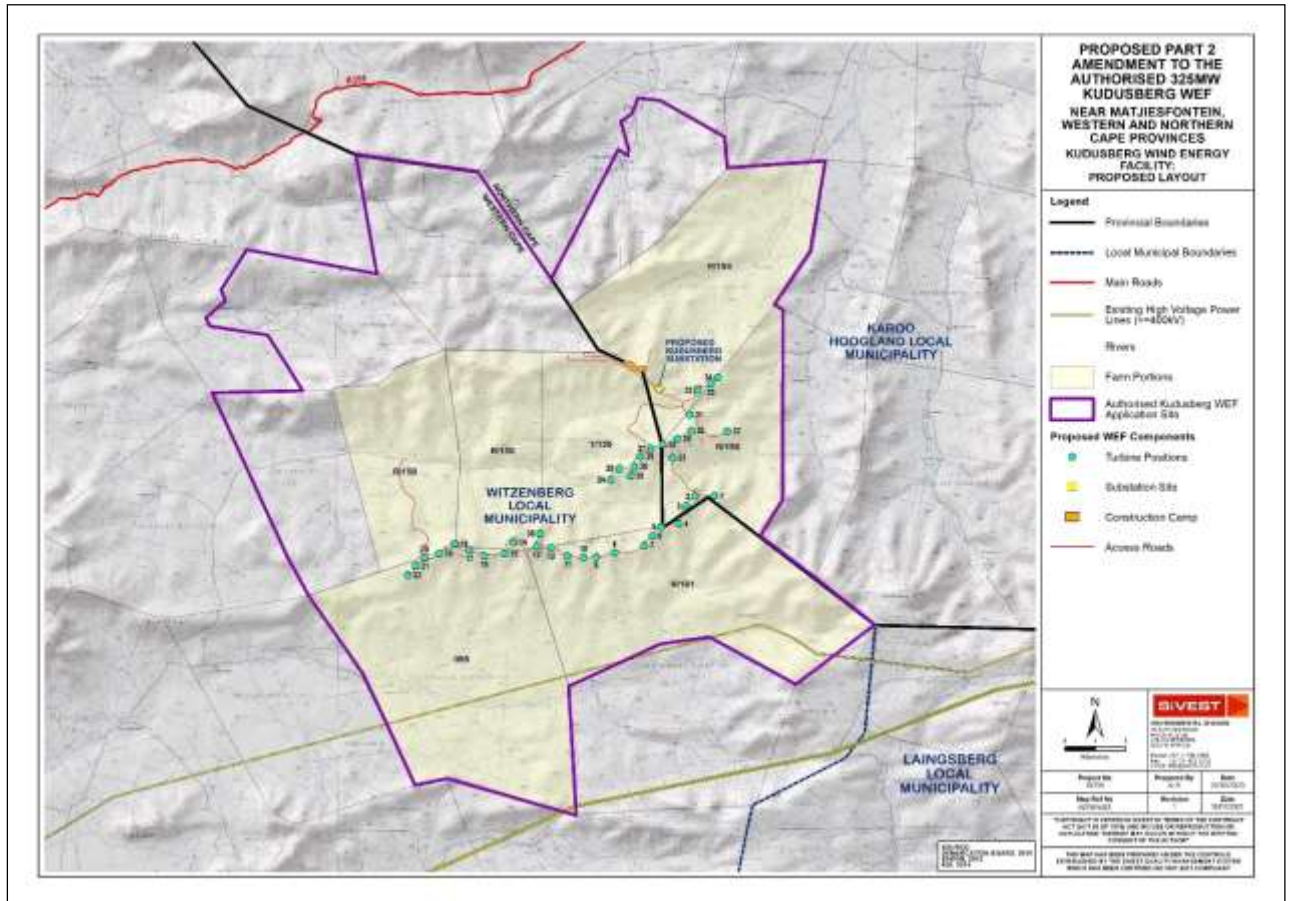


Figure 3: Layout map for proposed Kudusberg WEF (southern section of the authorised WEF)

Furthermore, the approved EMPr authorised as part of the Kudusberg EA is being amended to each WEF and to incorporate the final layout for the Oya WEF, management plans and the walk-throughs. This letter should be read in conjunction with the original noise impact assessment as the noise impact assessment methodologies, impact results and recommendations remain the same (Safetech Report Number 26/8377 of 16th October 2018).

The amendment details for the for each of the two (2) proposed WEF's mentioned are provided in **Table 1** below.

Table 1: Proposed Amendments

Aspect to be amended	Authorised	Proposed Amendment	
		Oya WEF	Kudusberg WEF
Administrative Aspects			
Amend the holder of the EA's	Kudusberg Wind Farm (Pty) Ltd	Oya Energy (Pty) Ltd	Kudusberg Wind Farm (Pty) Ltd
Amend the name of the WEFs	Kudusberg Wind Energy Facility	Oya Wind Energy Facility	Kudusberg Wind Energy Facility
Contact Details	kudusberg@g7energies.com	oya@g7energies.com	kudusberg@g7energies.com
Extend the validity of the EA	This activity must commence within a period of five (05) years from the date of issue of this environmental authorization.	This activity must commence within a period of five (05) years from the date of issue of this amended environmental authorization.	This activity must commence within a period of five (05) years from the date of issue of this amended environmental authorization.
Location of Activity and SG codes	<p>Western Cape</p> <ol style="list-style-type: none"> Portion 1 of 156 Gats Rivier Farm: C0190000000015600001 Portion 3 of 156 Gats Rivier Farm: C0190000000015600002 Remainder of 156 Gats Rivier Farm: C0190000000015600000 Portion 1 of 157 Riet Fontein Farm: C0190000000015700001 Portion 1 of 158 Amandelbloom Farm: C0190000000015800001 Remainder of 158 Amandelbloom Farm: C0190000000015800000 Portion 1 of 159 Oliviers Berg Farm: C0190000000015900001 Remainder of 159 Oliviers Berg Farm: C0190000000015900000 Portion 2 of 157 Riet Fontein Farm: C0190000000015700002 Remainder of 161 Muishond Rivier Farm: C0190000000016100000 Remainder of 395 Klipbanks Fontein Farm: C0190000000019500000 <p>Northern Cape</p> <ol style="list-style-type: none"> Portion 4 of 193 Urias Gat Farm: C0720000000019300004 	<p>Western Cape</p> <ol style="list-style-type: none"> Portion 1 of the Farm Gats Rivier No 156: C0190000000015600001 Portion 2 of the Farm Gats Rivier No 156: C0190000000015600002 Remainder of the Farm Gats Rivier No 156: C0190000000015600000 Portion 1 of the Farm Riet Fontein No 157: C0190000000015700001 Portion 2 of the Farm Riet Fontein No 157: C0190000000015700002 Portion 1 of the Farm Amandelbloom No 158: C0190000000015800001 Remainder of the Farm Amandelbloom No 158: C0190000000015800000 Portion 1 of the Farm Oliviers Berg No 159: C0190000000015900001 Remainder of the Farm Oliviers Berg No 159: C0190000000015900000 <p>Northern Cape</p> <ol style="list-style-type: none"> Portion 4 of the Farm Urias Gat No 193: C0720000000019300004 Portion 6 of the Farm Urias Gat No 193: C0720000000019300006 Remainder of the Farm Urias Gat No 193: C0720000000019300000 	<p>Western Cape</p> <ol style="list-style-type: none"> Remainder of the Farm Gats Rivier No 156: C0190000000015600000 Portion 1 of the Farm Oliviers Berg No 159: C0190000000015900001 Remainder of the Farm Oliviers Berg No 159: C0190000000015900000 Klipbanks Fontein No 395: C0190000000039500000 Remainder of the Farm Muishond Rivier No 159: C0190000000016100000 <p>Northern Cape</p> <ol style="list-style-type: none"> Remainder of the Farm Karee Kloof No 196: C0720000000019600000 Remainder of the Farm Matjes Fontein No 194: C0720000000019400000 <p>Properties affected by public road:</p> <ol style="list-style-type: none"> Zeekoegat Farm No 169: C0720000000016900000 Portion 1 of the Farm Roodeheuveld No 170: C0720000000017000001 Remainder of the Farm Roodeheuveld No 170: C0720000000017000000 Remainder of the Farm Wind Heuveld No 190: C0720000000019000000

Aspect to be amended	Authorised	Proposed Amendment	
		Oya WEF	Kudusberg WEF
	13. Portion 6 of 193 Urias Gat Farm: C0720000000019300006 14. Remainder of 193 Urias Gat Farm: C0720000000019300000 15. Remainder of 194 Matjes Fontein Farm: C0720000000019400000 16. Remainder of 196 Karree Kloof Farm: C0720000000019600000 Properties affected by public road: 17. 169 Zeekoegat Farm: C0720000000016900000 18. Portion 1 of 170 Roodeheuvel Farm: C0720000000017000001 19. Remainder of 170 Roodeheuvel Farm: C0720000000017000000 20. Remainder of 190 Wind Heuvel Farm: C0720000000019000000 21. Portion 1 of 190 Wind Heuvel Farm: C0720000000019000001 22. Portion 5 of 193 Urias Gat Farm: C0720000000019300005 23. Remainder of 171 Vinke Kuil Farm: C0720000000017100000 24. Alkant Re/220 Farm: C0720000000022000000 25. Portion 1 of 174 Lange Huis Farm: C0720000000017400001	13. Remainder of the Farm Matjes Fontein No 194: C0720000000019400000 14. Portion 5 of the Farm Urias Gat No 193: C0720000000019300005 Properties affected by access road: 15. Zeekoegat Farm No 169: C0720000000016900000 16. Portion 1 of the Farm Roodeheuvel No 170: C0720000000017000001 17. Remainder of the Farm Roodeheuvel No 170: C0720000000017000000 18. Remainder of the Farm Wind Heuvel No 190: C0720000000019000000 19. Portion 1 of the Farm Wind Heuvel No 190: C0720000000019000001 20. Portion 5 of the Farm Urias Gat No 193: C0720000000019300005 21. Remainder of the Farm Vinke Kuil No 171: C0720000000017100000 22. Alkant Farm No 220: C0720000000022000000 23. Portion 1 of the Farm Lange Huis No 174: C0720000000017400001 24. Remainder of the Farm Baakens Rivier No. 155: C01900000000015500000	12. Portion 1 of the Farm Wind Heuvel No 190: C0720000000019000001 13. Portion 5 of the Farm Urias Gat No 193: C0720000000019300005 14. Remainder of the Farm Vinke Kuil No 171: C0720000000017100000 15. The Farm Alkant No 220: C0720000000022000000 16. Portion 1 of the Farm Lange Huis No 174: C0720000000017400001
Technical Aspects			
Overall Capacity	325MW	99MW	226MW
Number of turbines	56	18	38
Hub height	Up to 140 m	Up to 101 m above the foundation	Up to 140 m
Rotor diameter	Up to 180 m	Up to 158 m	Up to 180 m
Blade length	Up to 90 m	Up to 79 m	Up to 90 m
Wind Measuring Lattice Masts	Up to 4 x 140 m high depending the final hub height.	2 x height of the hub height	2 x up to 140 m high depending the final hub height.
Layout	-	Layout submitted for final approval.	To be submitted prior to construction.
EMPr	The EMPr submitted as part of the Application for EA is hereby approved.	Approve Final EMPr	To be submitted based on final approval of layout.

2 INTRODUCTION

In 2018 Safetech were appointed by the CSIR to conduct an Environmental Noise Impact Assessment for the proposed construction of the Kudusberg Wind Energy Facility (WEF) between Matjiesfontein and Sutherland in the Northern and Western Cape Province. The facility will generate a maximum of 325 MW of electricity. The noise impact assessment was presented in Report Number 26/8377 of 16th October 2018.

The results of the study indicated the following conclusions:

- a) There will be a short-term increase in noise in the vicinity of the site during the construction phase as the ambient noise level will be exceeded by vehicle operations.
- b) The area surrounding the construction sites will be affected for short periods of time in all directions, should numerous construction equipment be used simultaneously.
- c) The number of construction vehicles that will be used in the project will add to the existing ambient levels and will most likely cause a disturbing noise for a limited time. The exact number of construction vehicles is not known at present. The duration of impact will however be short-term.
- d) The day/night-time SANS 10103:2008 noise limit of 45dBA will not be exceeded at any of the noise sensitive areas.
- e) The night-time guideline noise limit of 35dBA will not be exceeded at any of the noise sensitive areas.
- f) All turbine positions met the 500 m setback distance from noise sensitive receptors.
- g) The cumulative impacts will not exceed the day/night-time SANS 10103:2008 noise limit of 45dBA.
- h) The cumulative impacts will not exceed the night-time SANS 10103:2008 noise limit of 35dBA.

3 PROJECT DESCRIPTION

The split will involve the following technical changes as described below.

	Authorised	Oya WEF	Kudusberg WEF
Overall Capacity	325MW	99MW	226MW
Number of turbines	56	18	38
Hub height	Up to 140 m	Up to 101 m above the foundation	Up to 140 m
Rotor diameter	Up to 180 m	Up to 158 m	Up to 180 m
Blade length	Up to 90 m	UP to 79 m	Up to 90 m
Wind Measuring Lattice Masts	Up to 4 x 140 m high depending the final hub height.	2 x height of the hub height	2 x up to 140 m high depending the final hub height.

4 METHODOLOGY

The methodology used in the original study is still valid. No re-modelling of the noise impacts was necessitated. This reason for this is explained below.

5 SPECIALIST COMMENT

The following is applicable:

- The noise impacts identified as part of the original Kudusberg WEF will remain the same for the proposed Oya and Kudusberg WEF as the number of turbines has not increased.
- The turbines have not been placed any closer to any of the noise sensitive areas.
- There are no disadvantages to splitting the windfarm into smaller components from a noise impact perspective as the only implication will be administrative in nature i.e. allocating turbines to separate legal entities.
- No further mitigation measures are needed other than those already contained in the original study.

6 CONCLUSION

The noise impact has not changed based on the above comments and information. The proposed turbine layouts of the Oya and Kudusberg WEFs is acceptable. Due to the potential low impacts associated with the construction and operational phases of the proposed Oya and Kudusberg WEFs, it is recommended that both proposed WEFs receives Environmental Authorisation from a noise perspective.



Dr Brett Williams

Annexure A - SPECIALIST EXPERTISE

Dr Brett Williams
Name of Organization: Safetech
Position in Firm: Owner
Date of Birth: 21/04/1963
Years with Firm: 25
Nationality: South African

MEMBERSHIP OF PROFESSIONAL BODIES

- Southern African Institute of Occupational Hygienists
 - Institute of Safety Management
 - Mine Ventilation Society
 - National Clean Air Association
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BIOGRAPHICAL SKETCH

Brett Williams has been involved in Health, Safety and Environmental Management since 1987. He has been measuring noise related impacts since 1996. Brett is the owner of Safetech who have offices in Pretoria and Port Elizabeth. He has consulted to many different industries including, mining, chemical, automotive, food production etc. He is registered with the Department of Labour and Chamber of Mines to measure environmental stressors, which include chemical monitoring, noise and other physical stresses.

PROJECT EXPERIENCE

Dr Williams has been assigned to various projects to assess environmental noise impacts.

The list below presents a selection of Brett Williams' project experience, relevant to noise:

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- Arcus Gibb – Kouga Wind Energy Project
 - CSIR – Umgeni Water Desalination Plant
 - CSIR – Saldanha Desalination Plant
 - CSIR – Atlantis Gas to Power Project (current)
 - CSIR – Walvis Bay Port Extension
 - CSIR – Noise Impact Study of Namwater Desalination Plant
 - CSIR – Kouga Wind Energy Project – Background Noise Measurements
 - CSIR – Kouga Wind Energy Project
 - CSIR – Wind Current Wind Energy Project
 - CSIR – Langefontein Wind Energy Project
 - CSIR – Mossel Bay Wind Energy Project
 - CSIR – Coega IDZ Wind Energy Project
 - CSIR – Baakenskop Wind Energy Project
 - CSIR – Biotherm Wind Energy Project
 - CSIR – Innowind Mossel Bay
 - CSIR – Langefontein Wind Energy Project
 - CSIR – Bulk Manganese Terminal (Port of Ngqura)
 - CSIR – Phyto Amandla Biodiesel Project
 - CSIR – Vleesbaai Wind Energy Project
 - CES – Coega IDZ Gas to Power Project (Current)
 - CES – Coega IDZ Wind Energy Project
 - CES – Middleton Wind Energy Project
 - CES – Waainek Wind Energy Project
 - CES – Ncora Wind Energy Project
 - CES – Qunu Wind Energy Project
 - CES – Nqamakwe Wind Energy Project
 - CES – Plan 8 Wind Energy Project
 - CES – Qumbu Wind Energy Project
 - CES – Peddie Wind Energy Project
 - CES – Cookhouse Wind Energy Project
 - CES – Madagascar Heavy Minerals
 - CES – Richards Bay Wind Energy Project
 - CES – Hluhluwe Wind Energy Project
 - CEN – Kwandwe Airport Development Project
 - CEN – Swartkops Manganese Project
 - CEN – N2 Petro Port Project
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- Crown Chickens – The independent report review of a noise specialist report conducted as part of an EIA to establish a new broiler farm.
- BMW – The evaluation of the impact of the Rosslyn production facilities on the surrounding community.
- Victory Race Track - Specialist noise report conducted as part of an EIA to establish a new stock car racing track.
- Continental Tyre - The evaluation of the impact of production facilities on the surrounding community.
- Media 24 – The measurement portion of an investigation on the impact of a printing press on a local community. The main study was conducted by the University of Stellenbosch.
- Zwarteboosh Quarry - Specialist noise report conducted as part of an EIA to establish a new quarry.
- Milo Granite - Specialist noise report conducted as part of an EIA to establish a new quarry.
- Dunlop Tyres - The evaluation of the impact of production facilities on the surrounding community.
- Sasol Secunda - Independent report review of a noise specialist report conducted to determine the impact of production facilities on the surrounding community.
- Barlow World Coatings - The evaluation of the impact of production facilities on the surrounding community.
- Western Platinum Refinery - The evaluation of the impact of production facilities on the surrounding community.

TERTIARY EDUCATION

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- PhD - University of Pretoria (Environmental Management)
 - Various Health & Safety Courses.
 - National Diploma Health & Safety Management
 - Harvard University – Applications of Industrial Hygiene Principles – including noise
 - United States EPA Pollution Measurement course conducted at the University Of Cincinnati (EPA Training Centre)
 - US EPA Air Dispersion Modelling Training Course
 - Master of Business Administration (University of Wales) with dissertation on environmental reporting in South Africa.
 - Environmental Auditor (ISO 14001:2004)

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Annexure B - SPECIALIST DECLARATION

I, Brett Williams, as the appointed independent noise specialist, in terms of the 2014 EIA Regulations, hereby declare that I:

- I act as the independent specialist in this application;
- I perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- regard the information contained in this report as it relates to my specialist input/study to be true and correct, and do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I have no vested interest in the proposed activity proceeding;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I have ensured that information containing all relevant facts in respect of the specialist input/study was distributed or made available to interested and affected parties and the public and that participation by interested and affected parties was facilitated in such a manner that all interested and affected parties were provided with a reasonable opportunity to participate and to provide comments on the specialist input/study;
- I have ensured that the comments of all interested and affected parties on the specialist input/study were considered, recorded and submitted to the competent authority in respect of the application;
- all the particulars furnished by me in this specialist input/study are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

Name of Specialist: Brett Williams

Date: 02/11/2020