

325 MW
Kudusberg Wind
Energy Facility
Amendment Letter
2021

This document was prepared for:

Kudusberg Wind Farm (Pty) Ltd and Oya Energy (Pty) Ltd

By:



URBAN-ECON DEVELOPMENT ECONOMISTS

Suite 20-102F, Building 20

The Waverley Business Park

Wycroft Road

Mowbray

7700

Tel: 021 447 3449

Fax: 021 447 3459

E-mail: cape@urban-econ.com

Website: www.urban-econ.com

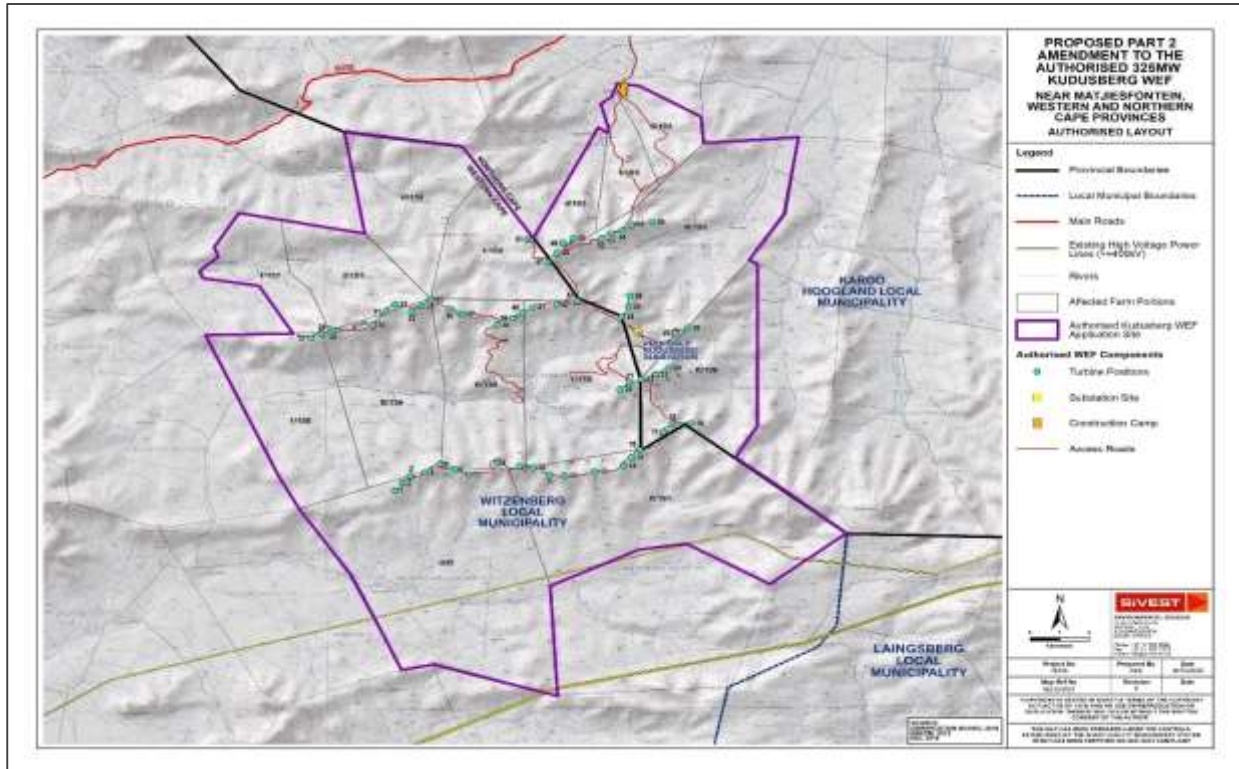
1. Introduction

Urban-Econ Development Economists (Urban-Econ) was requested by SIVEST Environmental Division to provide a socio-economic amendment letter for the authorised Kudusberg Wind Energy Facility (WEF) (14/12/16/3/3/1/1976/AM1). Urban-Econ conducted the initial assessment for the proposed development of the 325 MW Kudusberg Wind Energy Facility located west of the R354 between Matjiesfontein and Sutherland (Urban-Econ, 2018). This site is located within both the Western and Northern Cape Provinces. The assessment letter should be read in conjunction with the original report dated 26 October 2018 (Urban-Econ, 2018).

2. 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). **Map 1** provides a visual illustration of the authorised layout of the 325 MW Kudusberg WEF.

Map 1: Authorised Layout



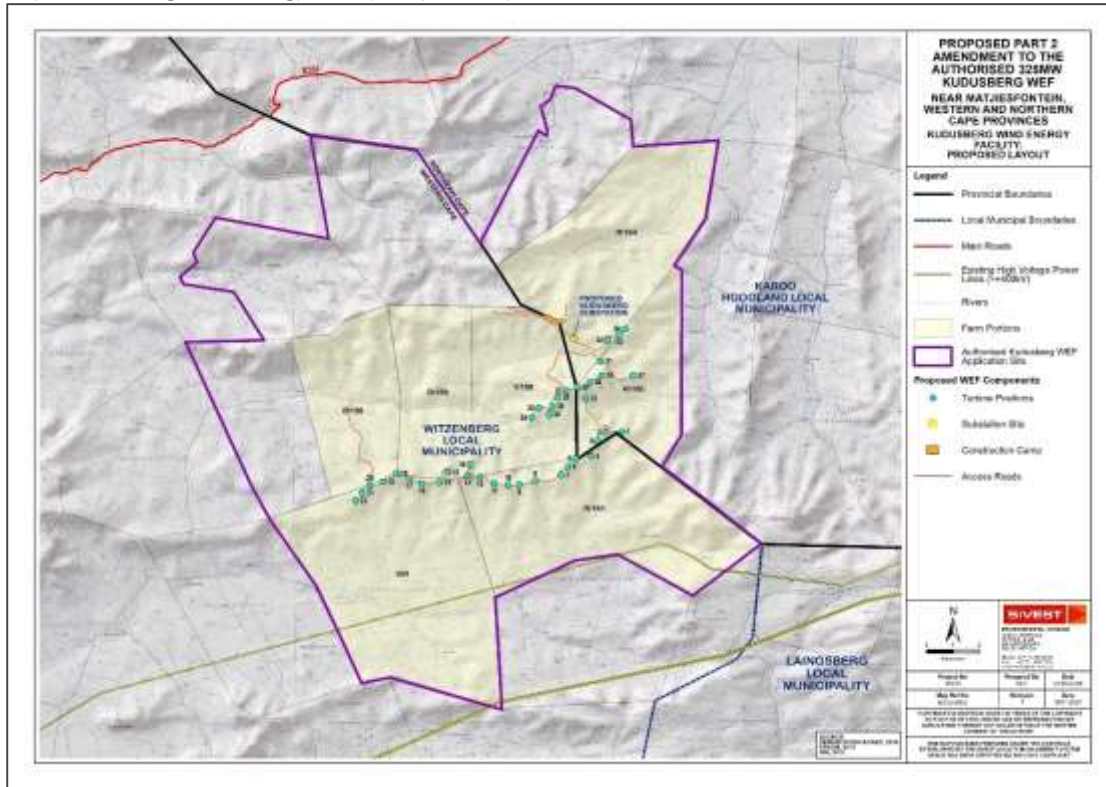
Kudusberg Wind Farm is now proposing to submit a Part 2 EA Amendment Application to split the authorised Kudusberg WEF (14/12/16/3/3/1/1976/AM1) into two (2) separate smaller WEF projects, namely the Kudusberg WEF and Oya WEF, which will result in several technical and administrative changes detailed 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) and 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, 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**). 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.

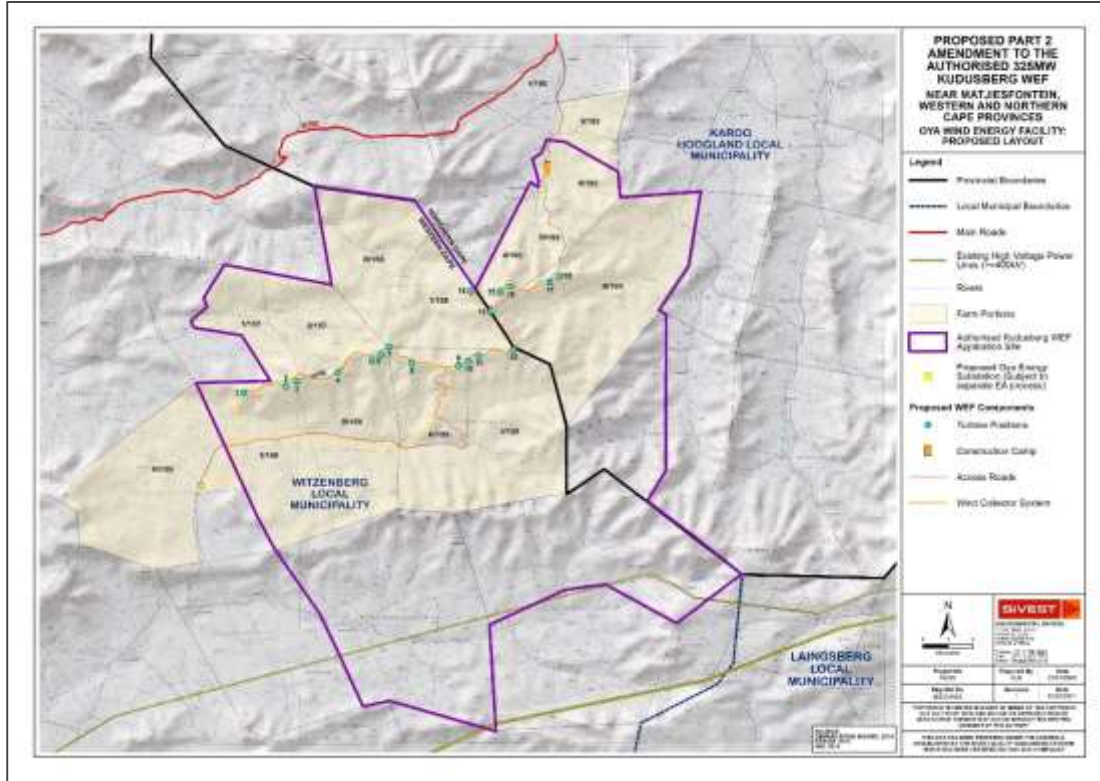
The amendment calls for the authorised layout to be split into namely the Kudusberg WEF and Oya WEF which are highlighted in **Map 2** and **Map 3**.

Map 2: Kudusberg Wind Energy Facility Proposed Layout



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.

Map 3: Oya Wind Energy Facility Proposed Layout



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. The amendments detailed in **Table 1** below are proposed for each of the two (2) WEFs mentioned above:

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 authorisation.	This activity must commence within a period of five (05) years from the date of issue of this amended environmental authorisation.
Location of Activity and SG codes	Western Cape 1. Portion 1 of 156 Gats Rivier Farm: C0190000000015600001 2. Portion 3 of 156 Gats River Farm: C0190000000015600002 3. Remainder of 156 Gats Rivier Farm: C0190000000015600000 4. Portion 1 of 157 Riet Fontein Farm: C0190000000015700001 5. Portion 1 of 158 Amandelbloom Farm: C0190000000015800001 6. Remainder of 158 Amandelboom Farm: C0190000000015800000	Western Cape 1. Portion 1 of the Farm Gats Rivier No 156: C0190000000015600001 2. Portion 2 of the Farm Gats Rivier No 156: C0190000000015600002 3. Remainder of the Farm Gats Rivier No 156: C0190000000015600000 4. Portion 1 of the Farm Riet Fontein No 157: C0190000000015700001 5. Portion 2 of the Farm Riet Fontein No 157: C0190000000015700002 6. Portion 1 of the Farm Amandelbloom No 158: C0190000000015800001	Western Cape 1. Portion 1 of the Farm Gats Rivier No 156: C0190000000015600001 2. Remainder of the Farm Gats Rivier No 156: C0190000000015600000 3. Portion 1 of the Farm Oliviers Berg No 159; C0190000000015900001 4. Remainder of the Farm Oliviers Berg No 159: C0190000000015900000 5. Klipbanks Fontein No 395: C0190000000039500000 6. Remainder of the Farm Muishond Rivier No 159: C0190000000016100000

Aspect to be Amended	Authorised	Proposed Amendment	
		Oya WEF	Kudusberg WEF
	7. Portion 1 of 159 Oliviers Berg Farm: C0190000000015900001 8. Remainder of 159 Oliviers Berg Farm: C0190000000015900000 9. Portion 2 of 157 Riet Fontein Farm: C0190000000015700002 10. Remainder of 161 Muishond Rivier Farm: C0190000000016100000 11. Remainder of 395 Klipbanks Fontein Farm: C0190000000019500000 Northern Cape 12. Portion 4 of 193 Urias Gat Farm: C0720000000019300004 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:	7. Remainder of the Farm Amandelboom No 158: C0190000000015800000 8. Portion 1 of the Farm Oliviers Berg No 159: C0190000000015900001 9. Remainder of the Farm Oliviers Berg No 159: C0190000000015900000 Northern Cape 10. Portion 4 of the Farm Urias Gat No 193: C0720000000019300004 11. Portion 6 of the Farm Urias Gat No 193: C0720000000019300006 12. Remainder of the Farm Urias Gat No 193: C0720000000019300000 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 Roodeheuveld No 170: C0720000000017000001	Northern Cape 7. Remainder of the Farm Karee Kloof No 196: C0720000000019600000 8. Remainder of the Farm Matjes Fontein No 194: C0720000000019400000 Properties affected by public road: 9. Zeekoegat Farm No 169: C0720000000016900000 10. Portion 1 of the Farm Roodeheuveld No 170: C0720000000017000001 11. Remainder of the Farm Roodeheuveld No 170: C0720000000017000000 12. Remainder of the Farm Wind Heuveld No 190: C0720000000019000000 13. Portion 1 of the Farm Wind Heuveld No 190: C0720000000019000001 14. Portion 5 of the Farm Urias Gat No 193: C0720000000019300005 15. Remainder of the Farm Vinke Kuil No 171: C0720000000017100000

Aspect to be Amended	Authorised	Proposed Amendment	
		Oya WEF	Kudusberg WEF
	17. 169 Zeekoegat Farm: C0720000000016900000 18. Portion 1 of 170 Roodeheuveld Farm: C0720000000017000001 19. Remainder of 170 Roodeheuveld Farm: C0720000000017000000 20. Remainder of 190 Wind Heuveld Farm: C0720000000019000000 21. Portion 1 of 190 Wind Heuveld 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	17. Remainder of the Farm Roodeheuveld No 170: C0720000000017000000 18. Remainder of the Farm Wind Heuveld No 190: C0720000000019000000 19. Portion 1 of the Farm Wind Heuveld 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	16. The Farm Alkant No 220: C0720000000022000000 17. Portion 1 of the Farm Lange Huis No 174: C0720000000017400001
Technical Aspects			
Overall Capacity	325 MW	99 MW	226 MW
Number of turbines	56	18	38
Hub height	Up to 140 m	Up to 101 m above the foundation	No Change i.e. up to 140 m
Rotor diameter	Up to 180 m	Up to 158 m	No Change i.e. up to 180 m
Blade length	Up to 90 m	Up to 79 m	No Change i.e. up to 90 m

Aspect to be Amended	Authorised	Proposed Amendment	
		Oya WEF	Kudusberg WEF
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.	Final layout to be submitted prior to the start of 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.

3. Project Scope

According to the Terms of Reference, the scope to be utilised for the proposed amendment involves undertaking a Part 2 Amendment process of the EA to split the authorised Kudusberg WEF into two (2) separate WEF projects. Specialists are required to assess the impacts of the proposed change (including advantages and disadvantages) and to identify additional management and mitigation measures to address the impacts associated with the proposed change, should this be deemed necessary.

This specialist letter includes the following:

- An assessment of the impacts related to the proposed project split (including any other changes from the authorised specifications, if any);
- An assessment of the advantages or disadvantageous of the proposed project split (comparative assessment between the authorised specifications, versus the proposed specifications); and
- The identification of changes or additions to mitigation measures required to avoid, manage, or mitigate the impacts associated with the proposed project split (if any).

4. Methodology

The methodology utilised to gain an understanding of the proposed amendment is not different from the methodology followed in the initial assessment of the 325 MW Kudusberg WEF (Urban-Econ, 2018). Therefore, details of the utilised methodology are not required to be provided within this letter.

5. Specialist Comment

In the initial assessment of the proposed development of the 325 MW Kudusberg Wind Energy Facility (Urban-Econ, 2018), several impacts were identified as indicated in **Table 2**.

Table 2: Identified Impacts as Per Initial Assessment

Construction Phase Impacts	
Increase in production and GDP-R	Positive
Temporary employment creation	Positive
Skills development	Positive
Impact on agricultural activities of directly affected farms	Negative
Attainment of household income by benefiting households	Positive
Increased demand for housing, services, and social facilities due to an influx of migrant labour and job seekers	Negative

Potential increase in criminal activity	Negative
Increase in government revenue	Positive
Increase in social ills such as substance abuse and the spread of communicable diseases	Negative
Operational Phase Impacts	
Stimulation of economy – increase in production and GDP-R due to operation expenditure	Positive
Long-term employment creation due to operation and maintenance activities	Positive
Skills development and enhancement due to operation activities	Positive
Local upliftment initiative will increase the local communities’ access to basic services	Positive
Increased household income attainment and standard of living	Positive
Increase in local government revenue	Positive
Decommissioning Phase Impacts	
Stimulation of the economy - Increase in production and GDP-R due to operation expenditure	Positive
Temporary employment creation	Positive
Cumulative Impacts	
The influx of migrant workers and job seekers into the region pressure on public services such as police, clinics, and hospitals	Negative
Employment creation	Positive
Stimulation of economy	Positive
Improved access to rural areas	Positive
Local upliftment initiatives	Positive

Based on an understanding of the proposed amendments (**Table 1**), it is from Urban-Econs understanding and experience that the identified impacts as highlighted within **Table 2** will not change from the original assessment of the authorised 325 MW Kudusberg WEF. With the proposed 325 MW Kudusberg WEF being split into two separate WEFs (Kudusberg and Oya), resultant advantages and disadvantages may occur as indicated within **Table 3**.

Table 3: Advantages and Disadvantages due to Kudusberg Split (Kudusberg and Oya)

Advantage	Disadvantage
The proposed Kudusberg WEF and Oya WEF would not be constructed concurrently, instead, the two separate WEFs (Kudusberg and Oya) would be a phased development. This would result in the	Due to the phased approach of the two WEFs, identified negative construction phase impacts which would have initially occurred during one period of time would now occur in two. However, if

<p>positive impacts associated with both the construction and operation period occurring at two different points in time as opposed to one. Thus, having an improved sustainable impact on affected communities and economies.</p>	<p>mitigation measures identified within the environmental management programme within the initial assessment (Urban-Econ, 2018) is followed, associated negative impacts could be reduced within the first WEF which in turn may assist in further mitigating risk in the second WEF (due to understanding of associated issues).</p>
<p>The capital and operational expenditure within the initial assessment was modelled for one project. However, with the splitting of Kudusberg into two WEFs, the initial modelled impacts (Production and GDP, Income, Employment) would be split per project (in a reduced manner) but the cumulative result of both WEFs would result in the same overall net effective result indicated within the initial assessment. Thus, instead of one overall injection into the economy in one period of time, the proposed split into two WEFs would result in a smaller sustainable injection into the economy over two periods at two different points in time.</p>	
<p>Additionally, a phased construction period for each WEF would potentially result in an increased CAPEX for the second WEF development due to annual inflation on products and services. This, in turn, would result in an improved stimulation of both local and regional economies.</p>	
<p>A phased approach for the two WEFs in terms of general business practices would assist in reducing risk.</p>	
<p>Two separate WEFs (Kudusberg and Oya) would result in two separate trusts/ processes in terms of contributing to local social upliftment.</p>	

Overall, the advantages identified due to the resultant split of the 325 MW Kudusberg WEF outweigh the identified disadvantages. While positive impacts could be enhanced. It is important to note that the mitigation measure previously identified would not change between the initial and the amended layout.

6. Conclusion

To conclude, Urban-Econ assessed the proposed amendments and confirms that the proposed changes to the authorised 325 MW Kudusberg WEF would not change the scope, nature or level of the impacts and therefore no change to the initial assessment conducted (Urban-Econ, 2018) should occur. Furthermore, the split of the authorised 325 MW Kudusberg WEF would result in a phased period of the identified positive impacts which in turn would be advantageous to both local/ regional economies. The disadvantage of the split of the authorised 325 MW Kudusberg WEF, lies in the prolonged period of identified negative impacts (i.e. criminal activity, social ills, impacts on farms, etc), however, the identified disadvantage could be reduced through the implementation of the environmental management programme. Thus, from a socio-economic perspective, there is no reason why the proposed amendment should not be authorised and the final proposed layout approved as part of the Amended EA (should this be granted by the DEFF).