

7 August 2020

Ms Nicole Brewer
NSW Department of Planning, Industry and Environment
320 Pitt St
Sydney
NSW 2000

Dear Ms Brewer,

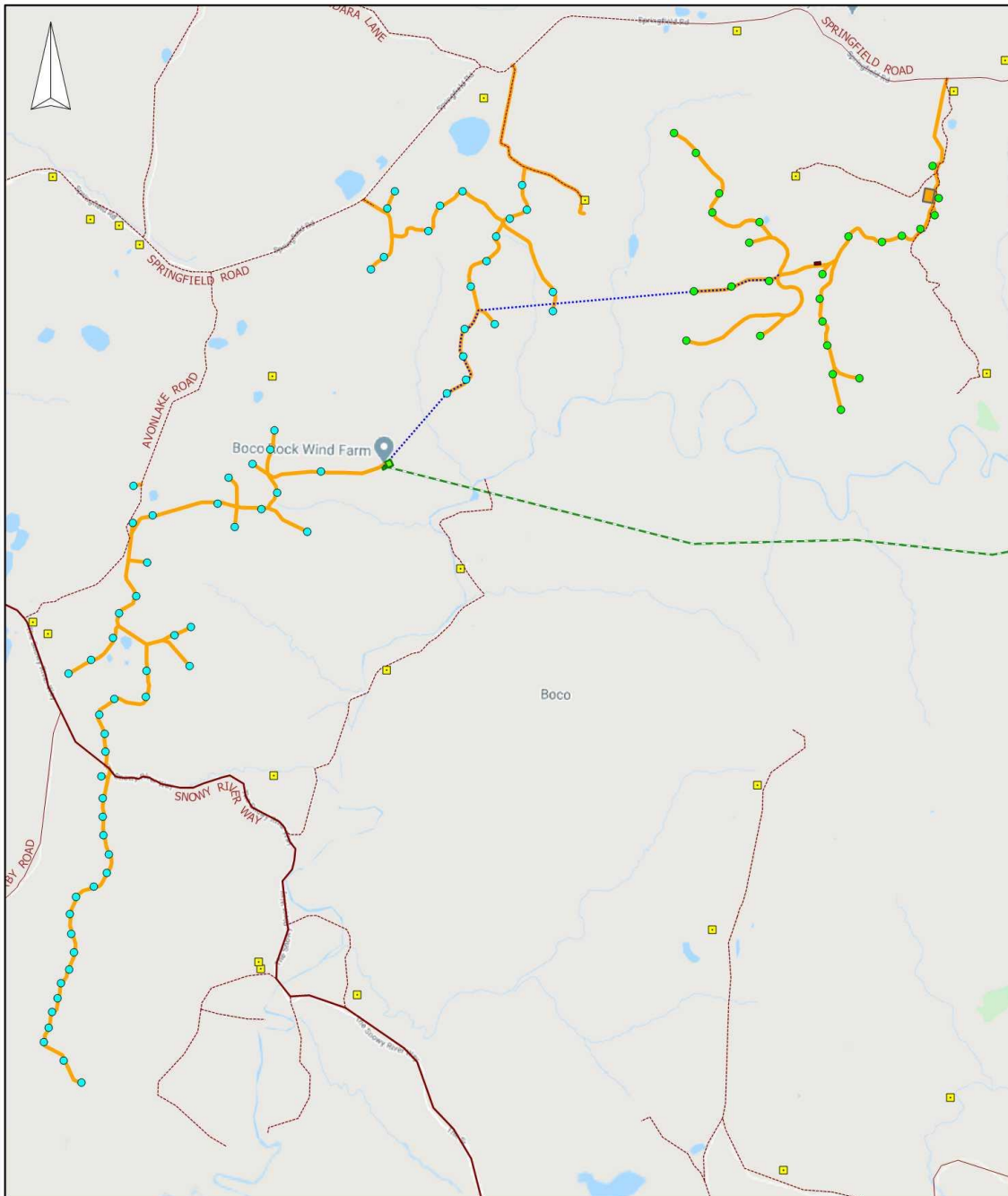
**RE: Boco Rock Wind Farm Modification 1 (MP09_0103-Mod-1)
Amendment to the Modification – further reduction to Approved WTG locations**

I refer to your correspondence dated 06/03/20 and our telephone conference on 18/06/20 requesting additional information for the Boco Rock Wind Farm Modification.

The Modification Amendment Report provided to DPIE in February 2020 (CWP 2020b), described changes made to the Project since public exhibition of the Modification in 2018 (CWP 2018) including the reduction in the number of approved WTG locations within the Yandra Cluster from 32 to 25. As discussed in the Amendment Report, the Project seeks to construct up to 20 WTGs with a maximum tip height of 200 m from a selection of the remaining 25 approved locations shown green in Figure 1. The Amendment Report provides an updated project description and environmental assessment to address these changes.

This letter seeks to amend the project to remove a further 23 approved WTG locations, (i.e. all approved WTGs from the Boco Cluster). As a result, the impacts from the 23 WTGs as well as over 25 km of access tracks and electrical cabling will be removed from Stage 2. Details of the project description as updated since the Amendment Report and an impact assessment considering the removal of the Boco Cluster are provided below.

Figure 1: Amended Project layout including Stage 1 and proposed Stage 2



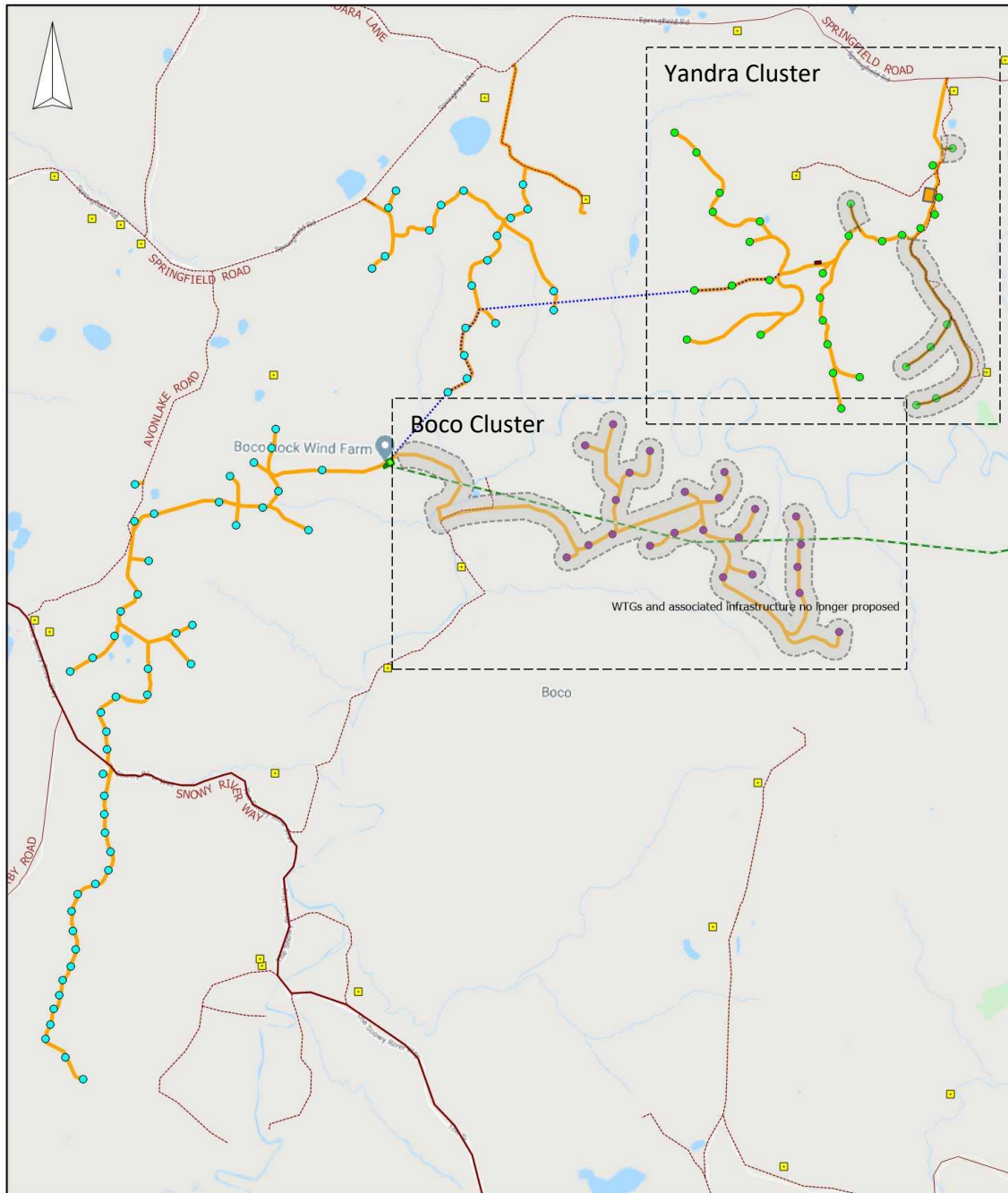
LEGEND		COMPANY	
Dwellings	Approved WTG locations:	BOCO ROCK STAGE TWO PTY LTD	
Existing Sealed Road	Stage 1: 67 WTGs (constructed)	TITLE Proposed Stage 2 Layout	
Existing Unsealed Road	Stage 2: 25 WTGs (up to 20 proposed)		
Existing 132kV Transmission line	Overhead Cables	DATE 25/06/20	SCALE 1:81000
Internal Roads	Existing Substation and Site Office	DWG NO BRST044	REV A
	Concrete batch plant	SHEET 1 OF 1	VER 1
	Temporary Construction Compound	DRAWN BY J PETERSEN	CHECKED BY E MOUNSEY
SCALE BAR 0 5 km		JOB NO 130607	SIZE A4

1. Amended Modification

The Proponent has taken significant impact minimisation steps to reduce impacts regarding the Modification. The Modification seeks to increase the size and capacity of the approved WTGs in line with modern technology which has advanced significantly in the last decade since the Project Approval (Approval 2010), allowing projects to require fewer WTGs to produce the same amount of power output.

Overall, the Modification is forfeiting 35 from 55 approved WTGs and associated infrastructure yet to be constructed within the Yandra and Boco Clusters (see and Figure 2). The Modification seeks flexibility to select up to 20 WTG locations to be constructed from the remaining 25 locations identified in Figure 1 following approval. The selected WTGs would be constructed within the micro-siting allowance of 100m from the approved WTG coordinates in Annexure A.

Figure 2: Infrastructure to be removed from approval



LEGEND		Approved WTG locations:		COMPANY	
Dwellings	Stage 1: 67 WTGs (constructed)	Stage 2: 25 WTGs (up to 20 proposed)	Boco Cluster: 23 WTGs (removed)	BOCO ROCK STAGE TWO PTY LTD	
Existing Sealed Road	Overhead Cables	Existing 132kV Transmission line	Existing Substation and Site Office	TITLE	
Existing Unsealed Road	Concrete batch plant	Internal Roads	Temporary Construction Compound	Amended Modification Plan	
Infrastructure removed				DATE	SCALE
SCALE BAR 0 5 km				25/06/20	1:81000
				DWG NO	REV
				BRST043	A
				VER	1
				DRAWN BY	CHECKED BY
				J PETERSEN	E MOUNSEY
				SHEET	JOB NO
				1 OF 1	130607
				SIZE	A4

1.1. On Ground Impacts

Table 1 below provides a comparison of the project parameters proposed in the Modification vs the approved yet to be constructed infrastructure (i.e. the Yandra and Boco clusters). While there are some increases in the size of individual components, overall, there is a reduction in both on-ground and above ground impacts for the Modification.

Table 1: Parameters for Project Components - Approved and Modification

Permanent Infrastructure	Project Approval	Modification	Comparison
WTGs (yet to be constructed)	55	Up to 20 ¹	Reduced by 35
Tower height	c. 101.5 m	c. 130 m	Increase of 28.5 m
Rotor diameter (individual WTG)	c. 104 m	c.160 m	Increase of 56
Tip height	Up to 152 m	Up to 200 m	Increase of 48 m
Hardstands (individual WTG)	50 m x 25 m	60 m x 35 m	Increase of 850 m
Hardstands (total)	6.9 ha	4.2 ha	Reduced by 2.7 ha
Road length	40 km	16.5 km	Reduced by 23.5 km
Road width	12 m	6 m	Reduced by 50%
Ground disturbance (total)	77.94 ha	62.51 ha ³	Reduced by 15.43 ha
Cables (underground or overhead)	40 km	12.2 km	Reduced by 27.8
Permanent monitoring masts	100 m high	WTG hub height	Increased by c. 30
Temporary Infrastructure	Project Approval	Modification	Comparison
Concrete batch plant	0.5 ha	0.5 ha	No change
Construction compound (additional) ²	N/A	150 x 200 m	Increase of 3 ha

¹ Up to 20 WTG locations will be selected from the 25 remaining approved WTG sites in Yandra cluster only

² The construction compound will consist of a fenced off area for temporary site offices and the storage/lay-down of tools, vehicles, equipment, construction materials, WTG components.

³ Based on the civil and electrical review conducted since the Modification which is discussed in section 3.2.3 of the Response to Submissions report (CWPR 2020b)

As discussed in Section 3.2.3 of the Response to Submissions (CWP 2020a), the Proponent conducted a review of the civil and electrical design and is confident that the proposed 20 WTGs will be able to be constructed within the clearing limits approved for the Yandra cluster (see Table 2 below).

Importantly, in 2014 the properties of Lochlea and Weeroona were secured in perpetuity using a Biobanking Agreement under the former Biobanking Scheme for the entire Boco Rock Wind Farm. The biobanking offsets already secured for the entire 122 WTG layout (of which only 67 WTGs have been built to date) far exceed those required for the modified Yandra cluster. The deletion of the Boco cluster has further removed potential vegetation clearing, confirming that the Project as described in the Amended Modification (CWP 2020b) will remain under the overall approved clearing limits. The Proponent will commit to providing the Department with updated impact footprint calculations following detailed design.

Table 2: Vegetation impact comparison

	Derived Grassland (Low)	Derived Grassland (Mod-Good)	Ribbon Gum-Snow Gum Open Forest (Low)	Ribbon Gum-Snow Gum Open Forest (Mod-Good)	Total (ha)
Approved Layout (yet to be constructed 55 WTGS)					
Approved Yandra cluster layout (32 WTGs)	8.6	31.67	6.1	19.62	65.99
Approved Boco Cluster layout (23 WTGs)	2.41	3.35	0.3	5.89	24.03
Total (ha)	11.01	35.02	6.4	25.52	77.94
Modification worst-case layout (20 WTGs)					
Total (ha)	5.65	32.08	6.38	18.40	62.51
Balance of change	Reduced by 5.36 ha	Reduced by 2.94 ha	Reduced by 0.02 ha	Reduced by 7.12 ha	Reduced by 15.43 ha

1.2. Above ground impacts

The Modification proposes a reduction of 12 WTGs from those already approved in the Yandra cluster and this letter proposes a further reduction of 23 WTGs from the Boco cluster. The Project total RSA including the constructed Stage 1 and proposed modified Stage 2 will see a reduction of over 10% from the Approved RSA (see Table 3 below).

Table 3: Rotor Swept Area as Approved and Proposed

	Project Approval	Stage One (as built)	Boco cluster (approved)	Yandra cluster (approved)	Yandra cluster (proposed)	Revised Project Maximums
WTGs	122	67	23	32	20	87
Rotor diameter (m)	104 m	100 m	104 m	104 m	160 m	160 m
RSA (m ² / WTG)	8,495	7,854	8,495	8,495	20,106	20,106
RSA (m ² total)	1,036,374	526,217	195,385	271,836	402,124	928,341 (reduced by 113,033 m²)

For this site, it is instructive to consider the five years' worth of monitoring bat activity and bird utilisation at control and impact sites for Boco Wind Farm Stage 1. No significant effect, attributable to the wind farm's operation, has been detected. This result is underpinned by statistical modelling and analysis, scavenger trials and search efficacy trials. The same adaptive management monitoring strategy is approved for Boco Wind Farm Stage 2 once commissioned and would be updated based on the updated operational risk assessment carried out by BLA and implemented in consultation with BCD.

2. Impact Assessment for Amendment

Notwithstanding the impact assessment in the Modification report (CWP 2018), an assessment of the removal of the Boco cluster is provided in Table 4 below.

Table 4: Assessment of environmental impacts comparing the Modification with the Approval

Environmental Aspect	Assessment of impact	Consideration of change
Reduction of approved WTG locations		
Biodiversity - onground impacts	Removal of 23 WTGs and over 25 km of access roads and cabling.	Positive change. There will be no on-ground impacts from the Boco cluster.
Biodiversity – above ground impacts	Removal of 195,385 m ² of Rotor Swept Area.	Positive change. The Project total RSA will see a reduction of over 10% from the Approved impacts (see Table 3)
Visual	Removal of 23 WTGs, access roads and cabling. No visual impact from the Boco cluster.	Positive change. Reduced visual impact. Removing a the Boco Cluster and consolidating the Yandra cluster will significantly reduce the visual impact of the Project.
Noise	Removal of 23 WTGs in the Boco cluster provides a reduction in potential WTG noise as well as construction noise.	Positive change. Reduced noise impact.
Construction impacts	Removal of 23 WTGs and over 25 km of access roads and cabling. No construction impacts from the Boco cluster.	Positive change. Reduced construction impacts.

3. Water requirements

This letter would also like to clarify the water demand and availability of adequate supply as a result of the proposed modification.

It is expected that water consumption for construction of up to 20 WTGs would be approximately equivalent to that which was originally assessed for the 32 WTGs in Yandra cluster. With the removal of the Boco cluster, the water requirements will be much less than approved for the Boco and Yandra clusters.

Water requirements will be met in accordance with the provisions of the Water Management Act 2000 by sourcing water from within the locality where practicable. If it is not practicable to source water locally, then it will be brought to the Project Site by external water suppliers under contract to the Project. It is estimated that in the order of 2.8 mega litres (ML) of water would be required to produce the quantity of concrete required for gravity foundations, which can be considered the maximum amount of water required for use in concrete batching.

In addition, it is estimated that a further 3 ML of water would be required for road construction and dust suppression activities during construction. This estimated volume would service all new and upgraded on-site internal road construction and dust suppression activities, including those associated with the unsealed public roads. Prevailing weather conditions during the period of construction, temperature in particular, will affect the volume of water required.

Post approval, the proponent will update the Boco Rock Wind Farm Construction Environmental Management Plan reflect the Modification.

Yours sincerely,



Jessica Petersen

Development Officer

CWP Renewables Pty Ltd

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References

Boco Rock Wind Farm Project Approval, 2010, Major Projects Application 09_0103.

CWP Renewables (CWP) 2018, Boco Rock Wind Farm Stage Two. Application for Modification; Environmental Assessment.

CWP Renewables (CWP) (2020a), Boco Rock Stage Two. Application for Modification; Response to Submissions.

CWP Renewables (CWP) (2020b), Boco Rock Stage Two. Application for Modification; Amendment Report

Annexure A

Table 5: Wind Turbine Generator Coordinates for Boco Rock Stage 2

WTG ID	MGA94 – Zone 55		Cluster
	Easting	Northing	
94	696989	5951367	Yandra
95	695888	5951937	Yandra
96	697108	5950831	Yandra
97	697385	5951300	Yandra
98	696829	5952159	Yandra
99	696793	5952502	Yandra
100	696828	5952868	Yandra
101	697727	5953359	Yandra
103	697222	5953441	Yandra
104	698520	5953754	Yandra
105	698582	5954018	Yandra
106	698490	5954502	Yandra
107	696897	5951793	Yandra
111	698025	5953446	Yandra
112	694594	5954992	Yandra
113	695268	5954084	Yandra
114	694917	5954701	Yandra
115	695166	5953796	Yandra
116	695722	5953341	Yandra
117	696029	5952768	Yandra
120	694775	5951867	Yandra
121	698310	5953551	Yandra
123	695883	5953654	Yandra
124	695453	5952686	Yandra
125	694890	5952608	Yandra