

29 May 2017

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Crookwell Development Pty Ltd
Suite 4, Level 3, 24 Marcus Clarke Street
Canberra ACT 2600

Attention: Shaq Mohajerani

Dear Shaq

Crookwell 2 Wind Farm Modification 2 response to EPA Comments from November 2016

I have reviewed the EPA comments on Attachment A and Attachment B of their November 2016 correspondence. I can provide the following feedback.

1 Attachment A – sensitive receptors

During the EPA review of the Noise Impact Assessment (NIA) a number of inconsistencies in relation to sensitive receptors were raised. Specifically the position of seven locations (ref: R32, R38, R56, R77, R97, R125 and R133) were identified as being inconsistent with other georeferenced sources e.g. SIX Maps. I have reviewed these locations and can summarise the outcome in the following **Table 1**.

Table 1 Review of sensitive receptors raised by EPA

ID	Coordinate used in NIA		Coordinate from SIX maps		Distance metres	Angle degrees	Comment	Implication on noise prediction
R32	739063	6168245	739307	6168225	245	85	Coord was supplied to SLR, was likely from handheld GPS at bottom of drive.	Updated location would result in a lower albeit negligible (<0.5dB) change to noise level.
R38	738011	6170209					Coord was supplied to SLR, was likely from handheld GPS at bottom of a suspected driveway, there is no house / receptor here (based on SIX Map imagery of 2013).	No assessment required at this location.
R56	740550	6169310	740550	6169810	500	0	Coord was supplied to SLR, was likely from handheld GPS at bottom of driveway of 'Mathlie' located at 449 Woodhouselee Road. An inadvertent typo had transcribed the receptor to be 500m further south from its true position.	Updated location would result in a marginal (~1 dBA) increase in noise level, however, would still remain below the minimum 35 dBA noise limit.
R77	738837	6180318	738482	6180288	356	95	Coord was supplied to SLR, was likely from handheld GPS taken on road near property.	Updated location would result in a no change to noise level.
R97	748494	6176524					Coord was supplied to SLR, it was a double up of R98, there is only one receptor at this location.	No assessment required at this location.
R125	730942	6174100	730823	6174263	202	36	Coord was supplied to SLR, was likely from handheld GPS taken on road near property.	Updated location would result in a no change to noise level.
R133	733794	6180765	734270	6179380	1465	19	Coord was estimated by SLR from imagery, unfortunately the wrong property was selected. Lake Edward homestead is approximately 675m NW of Lake Edward Cottage (R132).	Updated location is approximately 500m further from nearest WTG compared to Lake Edward Cottage and would result in noise levels that are approximately 2-3 dBA lower than Lake Edward Cottage.

It is worth noting that none of the above sensitive receptors are critical to compliance, nor are they reference positions for license limits. The margin of compliance has been estimated for the Mitigated layout scenario presented in the NIA, they are;

- Location R32, would comply by between 12 dBA to 23 dBA.
- Location R56, would comply by between 10 dBA to 21 dBA.
- Location R77, would comply by between 19 dBA to 26 dBA.
- Location R125, would comply by between 12 dBA to 21 dBA.
- Location R133, would comply by between 12 dBA to 20 dBA.

1.1 Updates to sensitive receptors

During a site visit in March the proponent identified that the receptor previously identified as R124 was an agricultural shed, as such is no longer considered a relevant receptor and will be removed from the assessment.

Furthermore, a number of additional new dwellings have been identified as follows:

- shed to dwelling converted building on Pejar Road (nearest CW2 WTG @1.4km, nearest CW3 WTG @3.3km). This receptor will now be referred to as R1A (coordinates: E-732235, N-6173471) and Evermore as R1.
- dwelling on Woodhouselee Road, (nearest CW2 WTG @3.6km, nearest CW3 WTG @3.3km) This receptor will now be referred to as R134 (coordinates: E-741054, N-6169232).
- DA approved or 'as of right dwelling entitlement' on Woodhouselee Road, (nearest CW2 WTG @2.9km, nearest CW3 WTG @2.8km) This receptor will now be referred to as R134A (approximate coordinates: E-740891, N-6169941).

2 Attachment A – viability of sector management

Crookwell Development Pty Ltd have notified SLR Consulting that *'the selected turbine supplier has performed a noise optimisation analysis to achieve noise compliance at all non-participating dwellings around the project area. This noise optimisation analysis includes noise modes, sector and condition management, which is set and controlled by the manufacturer through various control algorithm. The manufacturer will provide a noise guarantee to Crookwell Development Pty Ltd for the noise compliance in accordance with the noise optimisation process. The contractual noise guarantee demonstrates the technical and financial viability of the advanced noise mitigation measures that will be provided by manufacturer's turbines'*.

3 Attachment B - Recommended Conditions

The recommended conditions have been reviewed and in general they are acceptable. Additional comment / feedback is provided for specific conditions below:

- Condition 43 part (b) lists the noise limit as being the existing background noise level plus 5 dBA for each integer wind speed at 10 metres above ground level. We note that condition 43A lists explicit numerical limits at receptors, however, the reference integer wind speed is taken at hub height. Condition 43 (b) should be re-worded to be consistent with 43A. e.g. hub height wind speeds.
- Condition 43A lists the explicit noise limits at critical receptors. The EPA has derived these limits from a simple linear interpolation of the limit values presented in the Noise Impact Assessment (which were non-integer wind speed values at hub height). As a check the process has been replicated and confirms that the numbers produced by the EPA are consistent, with the exception of the final value in the table, which should read 44 instead of 43 dBA. It should read.

R120, R123, R130, R131	35	35	35	36	37	38	39	41	42	44
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It should be noted that R124 has been identified as an Agricultural Shed and therefore is removed from the noise limit table.

- Condition 44A lists the locations for which the limits in Condition 43A apply. A number of them are marked with references to check and confirm details. Below are the updated details.

Table 2 updated details for 44a

Location	Name	Easting (m)	Northing (m)
R1	Evermore	731644	6172961
R1a		732235	6173471
R64	Valdarnam Hill	740395	6174100
R65	Windalee	740244	6174226
R120	Elmgrove	733947	6176284
R130	Wharekorari	734290	6177739

- Condition 45B requires the proponent to nominate a method for measuring and determining the wind speed for which the noise limits are based. It is currently premature to provide the precise location and methodology. The precise methodology will be provided in the draft noise compliance monitoring plan to be submitted prior to commissioning, although considerations to include:
 - The existing wind met mast may not be retained owing to its proximity to future WTGs. For example the position of the mast would interfere with the placement of a WTG, or alternatively, the WTG would adversely impact on the wind speed readings of the met mast (wake affected).
 - The existing wind met mast may not be retained owing to its proximity and conflicts with other infrastructure associated with the project such as access roads and underground cabling.
 - An alternative substitute mast may be used. It is common to complete a period of simultaneous wind monitoring at the original and the future reference wind mast. Statistical analysis of both data sets is used to provide a calibration between new and old.
 - WTGs have their own on board wind speed monitoring capability. The suitability and accuracy of using the data obtained from select nearest WTGs to be evaluated.

In general terms the monitoring location(s) and method would be tailored such to give the best approximation of the hub height wind speed in the region nearest to the receptors in question.

4 Alternative layout

SLR have been requested and have now completed further noise modelling of the Crookwell 2 Wind Farm, in which a reduced 32 WTG layout (removal of WTG F9) comprised of GE 130-3.4 MW turbines is considered. The noise modelling includes all 23 WTGs of the Crookwell 3 Wind Farm and currently assumes they will be Vestas V126 turbines, although other alternative WTG models may be considered.

The noise model results are presented in **Appendix A**.

The modelling indicates that a mitigated layout using a combination of noise management modes of both WTG models is able to show that compliance can be achieved at all non-project receptors. It is acknowledged that GE has provided a detailed noise optimisation mechanism to Crookwell Development Pty Ltd, whereby all the turbines can be configured to implement the noise optimisation using a combination of sector management, wind speed condition, and reduced noise mode operations to achieve compliance, as such a noise guarantee has been provided to the project to that effect.

Table 3 shows a list of all WTGs and their mode for the mitigated scenario.

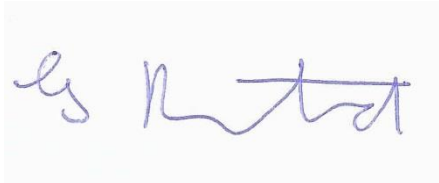
Table 3 Mitigated Turbine Layout

CW2 Turbine Name	Type	CW3 Turbine Name	Type
F1	GE 130 3.4 MW NRO100	A5	Vestas V126 Mode 4
F2	GE 130 3.4 MW NRO100	A9	Vestas V126 Mode 4
F3	GE 130 3.4 MW NRO100	A10	Vestas V126 Mode 4
F4	GE 130 3.4 MW NRO104	A12	Vestas V126 Mode 4
F5	GE 130 3.4 MW NRO100	A13	Vestas V126 Mode 4
F11	GE 130 3.4 MW NRO100	A15	Vestas V126 Mode 4
F12	GE 130 3.4 MW NRO100	A16	Vestas V126 Mode 4
F17	GE 130 3.4 MW NRO100		
F19	GE 130 3.4 MW NRO100		
F26	GE 130 3.4 MW NRO100		
F27	GE 130 3.4 MW NRO100		
F28	GE 130 3.4 MW NRO100		
F29	GE 130 3.4 MW NRO100		
F30	GE 130 3.4 MW NRO100		
F31	GE 130 3.4 MW NRO100		
F32	GE 130 3.4 MW NRO100		
F35	GE 130 3.4 MW NRO100		
F36	GE 130 3.4 MW NRO100		
F40	GE 130 3.4 MW NRO100		
F41	GE 130 3.4 MW NRO100		
F43	GE 130 3.4 MW NRO100		
F45	GE 130 3.4 MW NRO102		
F47	GE 130 3.4 MW NRO100		
F50	GE 130 3.4 MW NRO100		

It should be noted that the Crookwell 3 Wind Farm WTGs (denoted as A above) that were placed in noise management mode were to mitigate noise levels at the R66 & R67 receptors (Little Vale) to the SA EPA Guideline noise limits. It is understood that negotiations for noise agreements with these receptors is well advanced and consequently their status may change to being project involved.

If you have any questions regarding the above, please feel free to contact me.

Yours sincerely,

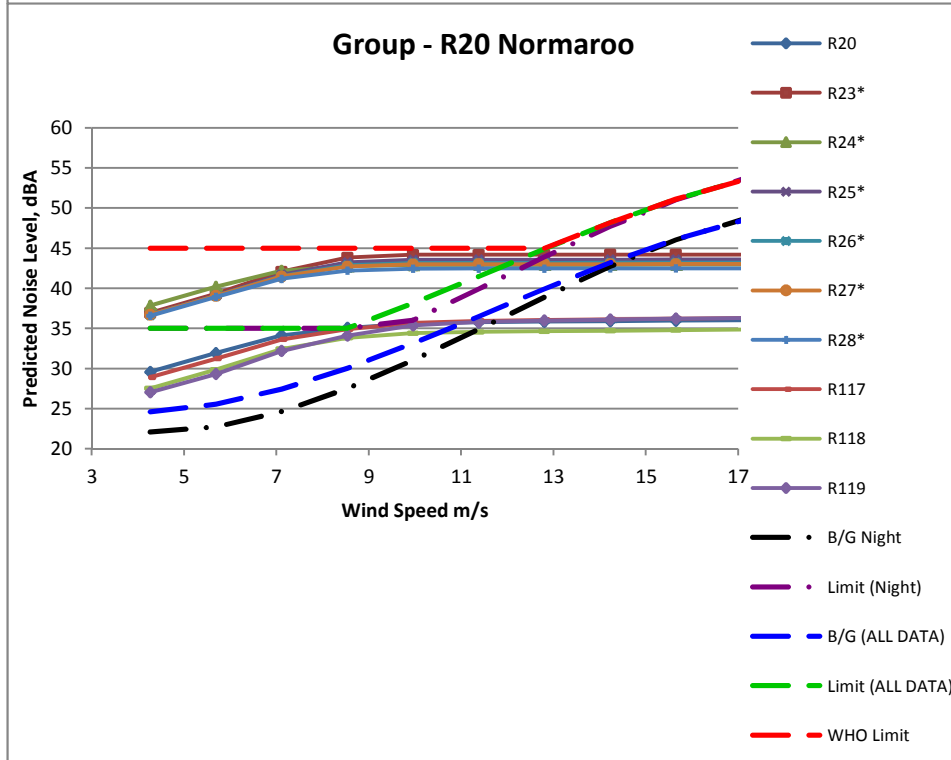
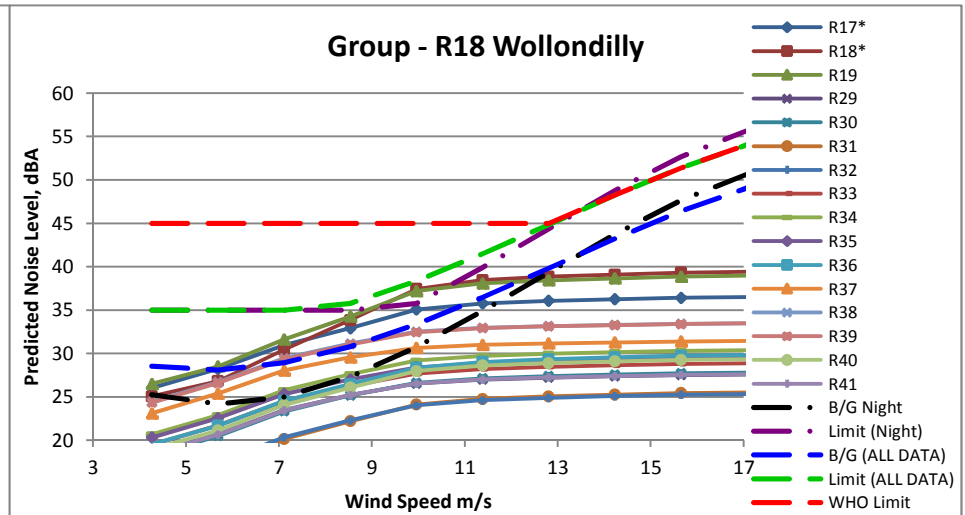
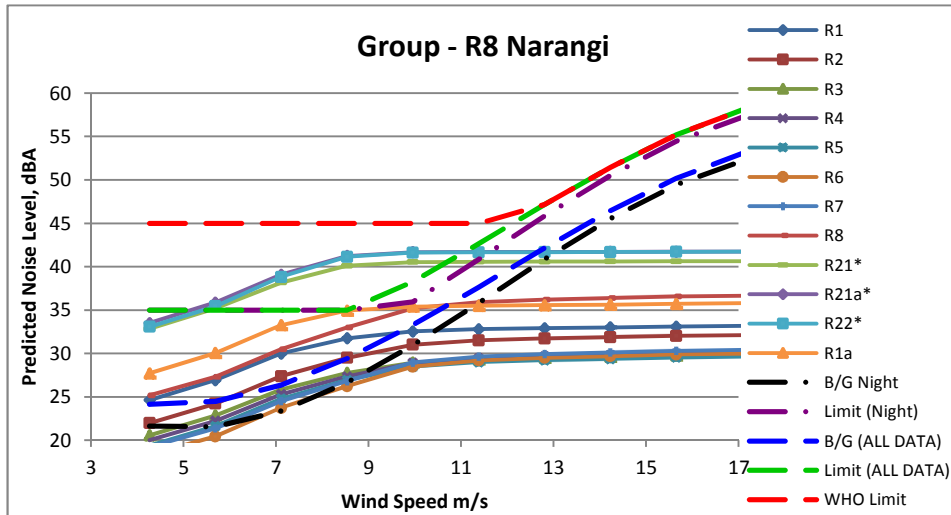
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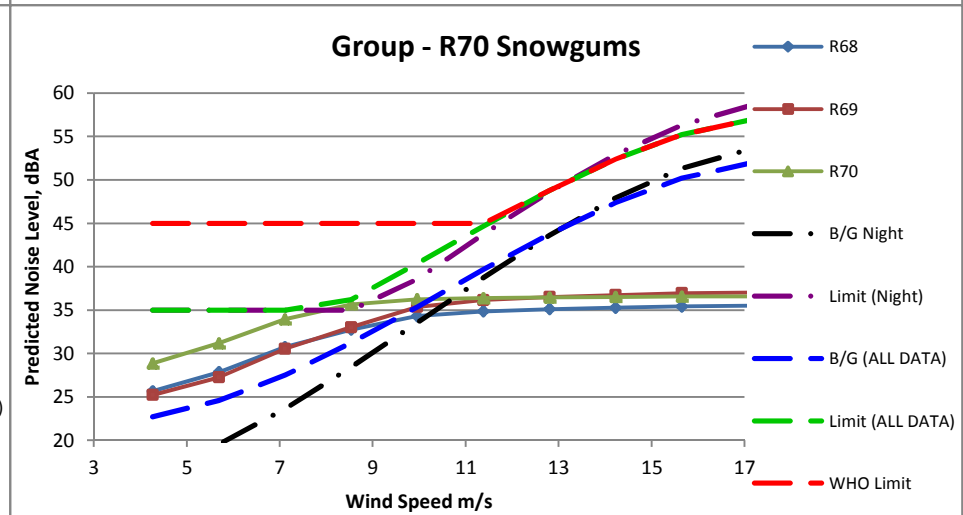
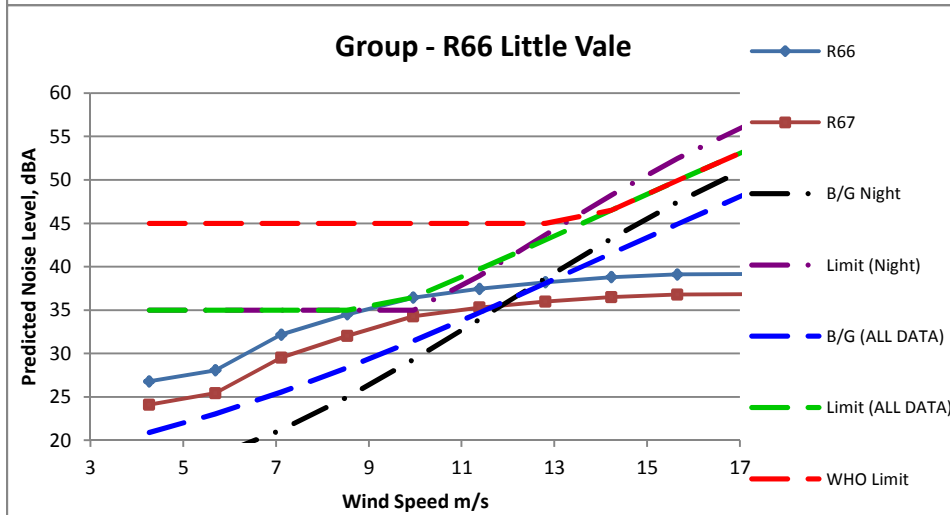
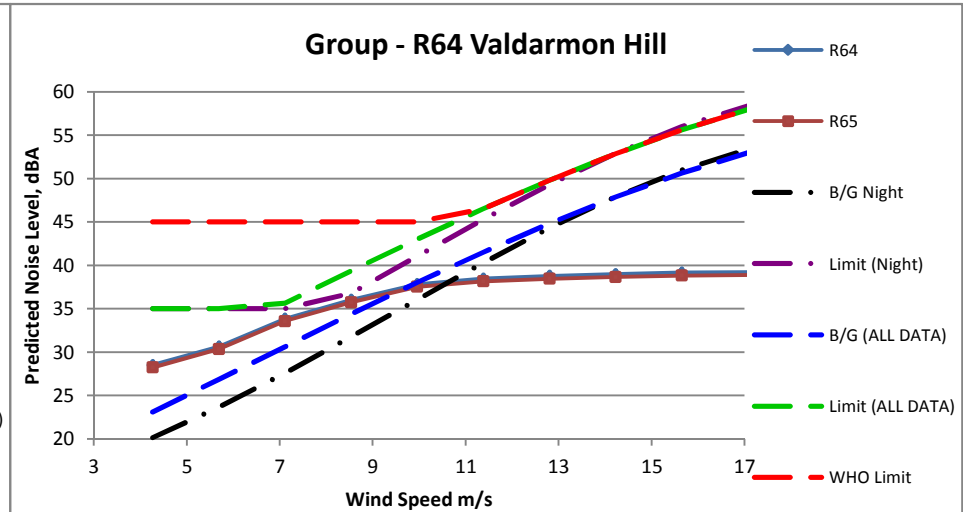
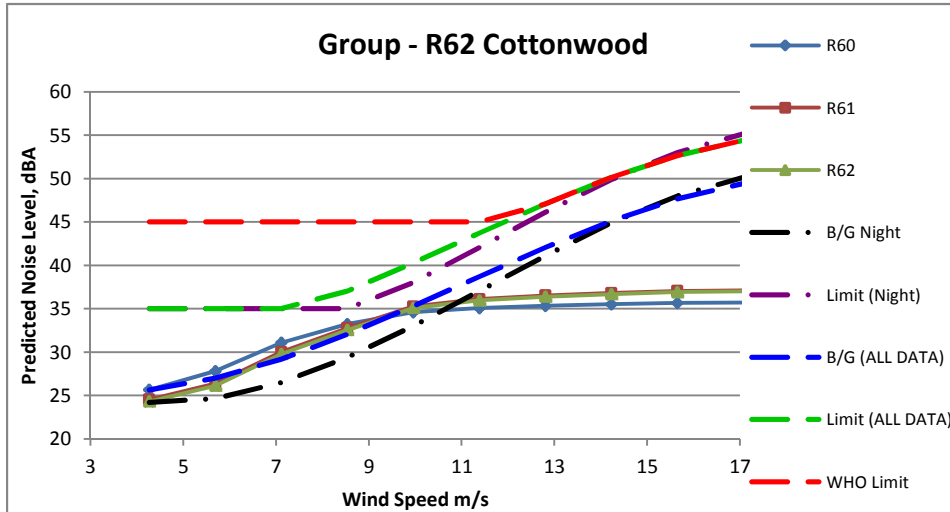
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SLR Consulting Melbourne Office Manager

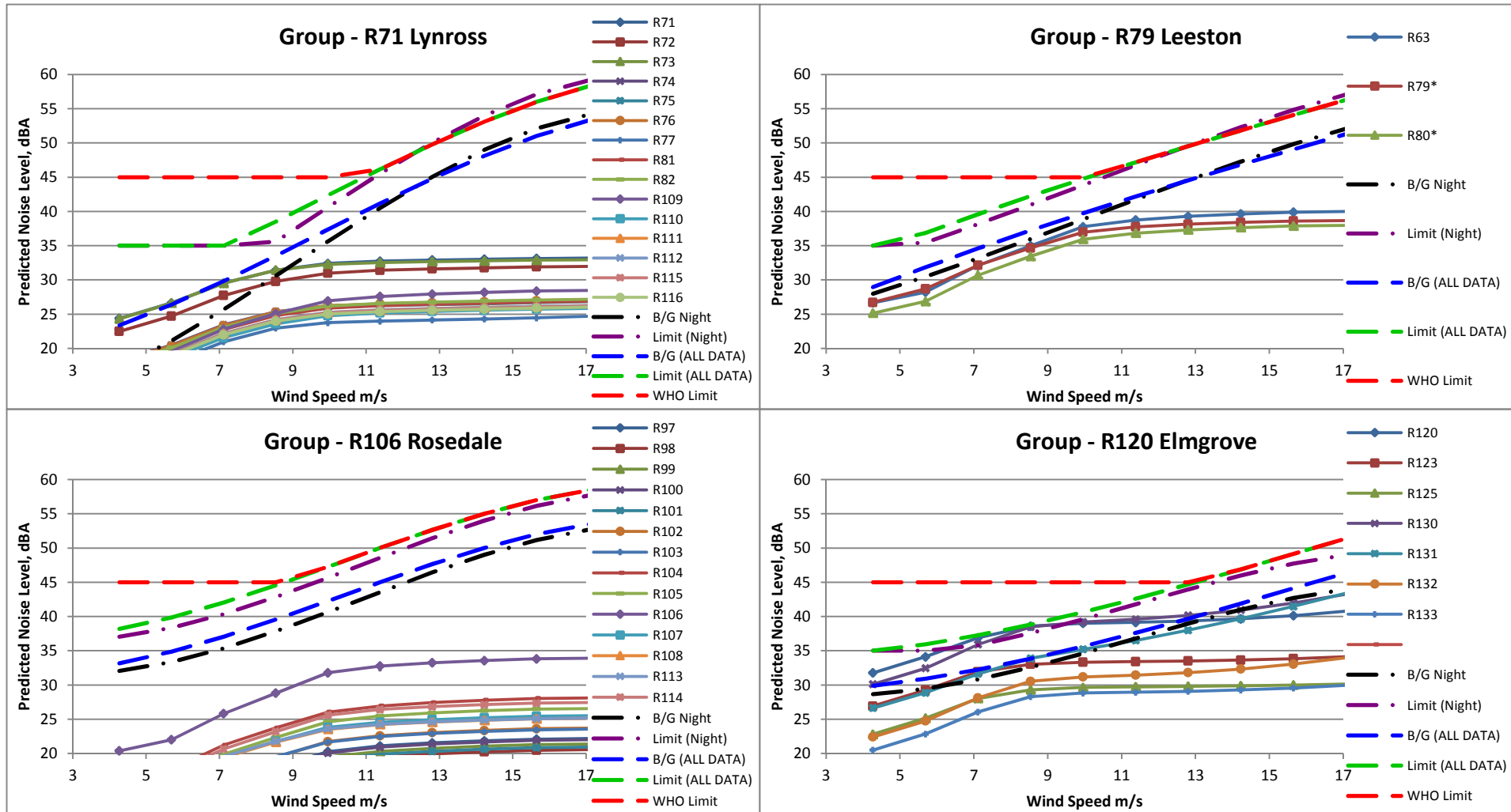
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Appendix A – Noise Model Results

Mitigated Layout : Crookwell 2 WF = GE 130 3.4 Crookwell 3 WF = Vestas V126







	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	
Windspeed at 10m AGL	4.3	5.7	7.1	8.5	10.0	11.4	12.8	14.2	15.7	17.1	
Background Location: R8 Narangi											
B/G Regression Line	-0.0201x ³ + 0.7209x ² - 5.4402x + 35.805	24.2	24.5	26.4	29.4	33.3	37.6	42.1	46.4	50.2	53.0
SA EPA Criteria		35.0	35.0	35.0	35.0	38.3	42.6	47.1	51.4	55.2	58.0
NIGHT BG Regression Line	-0.0257x ³ + 0.9097x ² - 7.1972x + 37.793	21.6	21.6	23.4	26.7	31.0	35.8	40.8	45.5	49.5	52.2
EPA Night Criteria		35.0	35.0	35.0	35.0	36.0	40.8	45.8	50.5	54.5	57.2
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	47.1	51.4	55.2	58.0
R1		24.6	26.9	30.0	31.7	32.5	32.8	32.9	33.0	33.1	33.2
R2		22.0	24.2	27.4	29.5	31.0	31.5	31.7	31.9	32.0	32.1
R3		20.6	22.9	25.9	27.8	28.9	29.3	29.5	29.6	29.7	29.8
R4		20.0	22.2	25.3	27.3	28.9	29.4	29.6	29.8	30.0	30.0
R5		19.4	21.6	24.8	26.9	28.5	29.0	29.2	29.4	29.5	29.6
R6		18.3	20.4	23.7	26.2	28.5	29.2	29.5	29.7	29.9	30.0
R7		19.2	21.4	24.5	26.8	29.0	29.7	29.9	30.1	30.3	30.4
R8		25.2	27.3	30.5	33.0	35.2	35.9	36.2	36.4	36.6	36.6
R21*		32.8	35.2	38.2	40.1	40.5	40.6	40.6	40.6	40.6	40.6
R21a*		33.5	35.9	39.1	41.2	41.7	41.7	41.7	41.7	41.7	41.8
R22*		33.1	35.4	38.8	41.1	41.6	41.7	41.7	41.7	41.7	41.7
R1a		27.7	30.1	33.3	34.9	35.4	35.5	35.6	35.6	35.7	35.8
Background Location: R18 Wollondilly											
B/G Regression Line	-0.0143x ³ + 0.5536x ² - 4.7402x + 39.782	28.5	28.1	28.9	30.8	33.4	36.5	39.8	43.2	46.4	49.1
SA EPA Criteria		35.0	35.0	35.0	35.8	38.4	41.5	44.8	48.2	51.4	54.1
NIGHT BG Regression Line	-0.0229x ³ + 0.8605x ² - 7.6186x + 43.885	25.3	24.2	25.0	27.3	30.7	34.9	39.3	43.7	47.6	50.7
EPA Night Criteria		35.0	35.0	35.0	35.0	35.7	39.9	44.3	48.7	52.6	55.7
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	45.0	48.2	51.4	54.1
R17*		26.0	28.2	31.0	32.9	35.1	35.8	36.1	36.2	36.4	36.5
R18*		25.1	26.8	30.4	33.8	37.4	38.4	38.8	39.1	39.3	39.4
R19		26.5	28.5	31.6	34.3	37.2	38.1	38.4	38.6	38.9	39.0
R29		18.4	20.7	23.5	25.2	26.5	27.0	27.2	27.4	27.5	27.6
R30		18.3	20.5	23.3	25.2	26.6	27.1	27.4	27.6	27.7	27.8
R31		15.0	17.2	20.1	22.2	24.1	24.8	25.1	25.3	25.4	25.5
R32		15.3	17.4	20.4	22.3	24.0	24.6	24.9	25.1	25.3	25.3
R33		19.5	21.7	24.5	26.2	27.7	28.2	28.5	28.6	28.8	28.9
R34		20.7	22.9	25.8	27.6	29.2	29.7	30.0	30.2	30.3	30.4
R35		20.3	22.5	25.3	27.0	28.4	28.9	29.1	29.3	29.5	29.5
R36		19.5	21.7	24.5	26.5	28.4	29.0	29.3	29.5	29.7	29.8
R37		23.1	25.4	28.0	29.6	30.6	31.0	31.2	31.3	31.4	31.4
R38		24.4	26.7	29.5	31.1	32.5	33.0	33.2	33.3	33.4	33.5
R39		24.3	26.6	29.4	31.1	32.5	32.9	33.1	33.3	33.4	33.5
R40		19.0	21.1	24.1	26.1	28.0	28.6	28.9	29.1	29.3	29.3
R41		18.4	20.6	23.5	25.2	26.5	27.0	27.2	27.4	27.5	27.6
Background Location: R20 Normaroo											
B/G Regression Line	-0.0124x ³ + 0.4392x ² - 2.7661x + 29.349	24.6	25.5	27.4	30.0	33.1	36.5	39.9	43.2	46.1	48.4
SA EPA Criteria		35.0	35.0	35.0	35.0	38.1	41.5	44.9	48.2	51.1	53.4
NIGHT BG Regression Line	-0.0166x ³ + 0.5896x ² - 4.1646x + 30.403	22.1	22.7	24.6	27.5	31.0	34.9	38.9	42.7	46.0	48.6
EPA Night Criteria		35.0	35.0	35.0	35.0	36.0	39.9	43.9	47.7	51.0	53.6
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	45.0	48.2	51.1	53.4
R20		29.6	31.9	34.1	35.1	35.6	35.8	35.8	35.9	36.0	36.0
R23*		36.9	39.3	42.1	43.8	44.2	44.2	44.2	44.2	44.2	44.2
R24*		37.8	40.2	42.2	42.7	42.9	42.9	42.9	42.9	42.9	42.9
R25*		36.7	39.1	41.7	43.2	43.5	43.6	43.6	43.6	43.6	43.6
R26*		36.7	39.0	41.5	42.9	43.2	43.2	43.2	43.2	43.2	43.2
R27*		36.7	39.1	41.5	42.7	43.0	43.0	43.0	43.0	43.0	43.0
R28*		36.6	38.9	41.2	42.2	42.4	42.5	42.5	42.5	42.5	42.5
R117		28.9	31.2	33.6	34.9	35.7	35.9	36.1	36.1	36.2	36.3
R118		27.5	29.9	32.4	33.8	34.4	34.6	34.6	34.7	34.8	34.8
R119		27.0	29.3	32.2	34.1	35.4	35.8	36.0	36.1	36.2	36.3
Background Location: R58 600 Woodhouselee Rd											
B/G Regression Line	-0.0045x ³ + 0.2194x ² - 1.5322x + 31.956	29.1	29.5	30.5	32.1	34.0	36.3	38.9	41.6	44.5	47.4
SA EPA Criteria		35.0	35.0	35.5	37.1	39.0	41.3	43.9	46.6	49.5	52.4
NIGHT BG Regression Line	-0.0053x ³ + 0.2472x ² - 1.6363x + 29.838	26.9	27.6	28.8	30.6	32.8	35.4	38.3	41.3	44.5	47.6
EPA Night Criteria		35.0	35.0	35.0	35.6	37.8	40.4	43.3	46.3	49.5	52.6
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.6	49.5	52.4
R12		16.9	19.1	22.0	24.1	25.8	26.4	26.7	26.9	27.1	27.2
R13		16.9	19.1	22.1	24.1	25.8	26.4	26.7	26.9	27.1	27.1
R14		17.4	19.6	22.5	24.5	26.2	26.8	27.1	27.2	27.4	27.5
R15		17.6	19.8	22.7	24.7	26.4	26.9	27.2	27.4	27.6	27.6
R16		15.2	17.3	20.3	22.4	24.4	25.1	25.4	25.6	25.8	25.9
R43		10.8	12.9	16.0	18.0	19.9	20.6	20.9	21.1	21.3	21.4
R45		16.0	18.2	21.2	23.2	25.0	25.7	26.0	26.2	26.4	26.4
R46		16.4	18.6	21.5	23.6	25.4	26.0	26.3	26.5	26.7	26.8
R47		16.5	18.7	21.7	23.7	25.6	26.2	26.5	26.7	26.9	27.0
R48		17.0	19.1	22.1	24.2	26.0	26.6	26.9	27.1	27.3	27.4
R49		17.2	19.4	22.4	24.4	26.3	26.9	27.2	27.4	27.6	27.7
R50		17.4	19.5	22.6	24.7	26.6	27.2	27.6	27.8	28.0	28.0
R51		17.0	19.1	22.3	24.6	26.6	27.3	27.6	27.9	28.1	28.1
R52		16.8	18.9	22.1	24.4	26.4	27.2	27.5	27.7	27.9	28.0
R53		18.9	21.0	24.2	26.4	28.3	29.0	29.3	29.5	29.7	29.8
R54		19.4	21.5	24.7	27.1	29.1	29.8	30.1	30.4	30.5	30.6
R55		19.5	21.5	24.8	27.2	29.4	30.1	30.5	30.7	30.9	31.0
R56		20.2	22.3	25.6	28.0	30.1	30.8	31.1	31.4	31.6	31.6
R57		20.6	22.7	25.9	28.3	30.2	30.9	31.2	31.4	31.6	31.7
R58		22.6	24.4	28.1	31.1	33.9	34.8	35.2	35.5	35.7	35.8
R59		23.9	25.8	29.4	32.2	34.7	35.6	36.0	36.3	36.5	36.6

	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
Windspeed at 10m AGL	4.3	5.7	7.1	8.5	10.0	11.4	12.8	14.2	15.7	17.1
Windspeed at Hub Height										
R83	16.6	18.7	21.8	24.0	26.0	26.7	27.1	27.3	27.5	27.6
R84	19.0	21.0	24.2	26.5	28.7	29.4	29.8	30.0	30.2	30.3
R87	10.1	11.7	15.6	18.7	21.8	22.8	23.2	23.6	23.8	23.9
R88	7.4	9.2	12.7	15.3	17.8	18.7	19.1	19.5	19.7	19.8
R89	8.5	10.2	13.8	16.5	19.1	20.1	20.5	20.8	21.1	21.2
R90	7.8	9.6	13.1	15.8	18.5	19.4	19.8	20.1	20.4	20.5
R91	8.8	10.6	14.2	16.8	19.5	20.4	20.8	21.1	21.4	21.5
R93	7.3	9.1	12.7	15.5	18.2	19.2	19.6	19.9	20.2	20.3
R96	6.4	8.3	11.7	14.2	16.7	17.5	17.9	18.2	18.5	18.6
R134	19.5	21.6	24.9	27.2	29.4	30.2	30.5	30.8	31.0	31.0
134a	19.5	21.7	24.9	26.9	28.3	28.7	29.0	29.2	29.3	29.4
Background Location: R62 Cottonwood										
B/G Regression Line	-0.0135x ³ + 0.4454x ² - 2.4834x + 29.187	25.7	27.0	29.2	32.0	35.3	38.7	42.1	47.7	49.4
SA EPA Criteria		35.0	35.0	35.0	37.0	40.3	43.7	47.1	50.1	52.7
NIGHT BG Regression Line	-0.0198x ³ + 0.6869x ² - 5.0582x + 34.828	24.2	24.6	26.5	29.4	33.0	37.1	41.1	44.9	50.2
EPA Night Criteria		35.0	35.0	35.0	35.0	38.0	42.1	46.1	49.9	53.0
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	47.1	50.1	52.7
R60	25.6	27.8	31.1	33.2	34.6	35.1	35.3	35.5	35.7	35.7
R61	24.6	26.4	30.0	32.8	35.3	36.1	36.5	36.8	37.1	37.1
R62	24.3	26.1	29.8	32.6	35.1	36.0	36.4	36.7	36.9	37.0
Background Location: R64 Valdarmon Hill										
B/G Regression Line	-0.0032x ³ + 0.0596x ² + 2.2844x + 12.521	23.1	26.9	30.6	34.4	38.0	41.5	44.8	47.9	50.6
SA EPA Criteria		35.0	35.0	35.6	39.4	43.0	46.5	49.8	52.9	55.6
NIGHT BG Regression Line	-0.0093x ³ + 0.2628x ² + 0.5447x + 13.759	20.1	23.7	27.6	31.8	36.1	40.3	44.3	47.9	51.0
EPA Night Criteria		35.0	35.0	35.0	36.8	41.1	45.3	49.3	52.9	56.0
WHO Criteria		45.0	45.0	45.0	45.0	45.0	46.5	49.8	52.9	58.4
R64	28.5	30.6	33.8	36.0	37.8	38.5	38.8	39.0	39.2	39.2
R65	28.2	30.4	33.6	35.8	37.5	38.2	38.5	38.7	38.8	38.9
Background Location: R66 Little Vale										
B/G Regression Line	-0.0038x ³ + 0.1588x ² + 0.201x + 17.442	20.9	23.0	25.5	28.4	31.4	34.7	38.1	41.5	44.9
SA EPA Criteria		35.0	35.0	35.0	35.0	36.4	39.7	43.1	46.5	49.9
NIGHT BG Regression Line	-0.0126x ³ + 0.4524x ² - 2.0963x + 17.752	16.1	18.2	21.2	25.0	29.3	33.9	38.6	43.2	47.5
EPA Night Criteria		35.0	35.0	35.0	35.0	35.0	38.9	43.6	48.2	52.5
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.5	49.9
R66	26.8	28.1	32.2	34.5	36.4	37.4	38.2	38.8	39.1	39.1
R67	24.1	25.4	29.5	32.0	34.3	35.3	36.0	36.5	36.8	36.8
Background Location: R70 Snowgums										
B/G Regression Line	-0.0182x ³ + 0.5772x ² - 3.0782x + 26.75	22.7	24.6	27.5	31.2	35.4	39.7	43.8	47.4	51.9
SA EPA Criteria		35.0	35.0	35.0	36.2	40.4	44.7	48.8	52.4	55.2
NIGHT BG Regression Line	-0.0183x ³ + 0.5563x ² - 1.9759x + 16.123	16.4	19.5	23.6	28.4	33.5	38.7	43.6	47.9	51.3
EPA Night Criteria		35.0	35.0	35.0	35.0	38.5	43.7	48.6	52.9	56.3
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	48.8	52.4	55.2
R68	25.6	27.8	30.7	32.7	34.3	34.8	35.1	35.3	35.4	35.5
R69	25.2	27.2	30.5	33.0	35.4	36.1	36.5	36.7	36.9	37.0
R70	28.8	31.2	33.9	35.7	36.3	36.4	36.5	36.5	36.6	36.6
Background Location: R71 Lynross										
B/G Regression Line	-0.0083x ³ + 0.243x ² + 0.3267x + 18.194	23.4	26.4	29.8	33.5	37.4	41.2	44.8	48.1	51.0
SA EPA Criteria		35.0	35.0	35.0	38.5	42.4	46.2	49.8	53.1	56.0
NIGHT BG Regression Line	-0.0136x ³ + 0.3747x ² + 0.0985x + 10.908	17.1	21.1	25.7	30.6	35.6	40.5	45.1	49.0	54.1
EPA Night Criteria		35.0	35.0	35.0	35.6	40.6	45.5	50.1	54.0	57.1
WHO Criteria		45.0	45.0	45.0	45.0	45.0	46.2	49.8	53.1	56.0
R71	24.4	26.6	29.5	31.4	32.4	32.7	32.9	33.0	33.1	33.2
R72	22.5	24.7	27.7	29.8	31.0	31.4	31.6	31.8	31.9	32.0
R73	24.3	26.6	29.5	31.4	32.3	32.5	32.7	32.8	32.9	32.9
R74	18.2	20.5	23.4	25.4	26.2	26.5	26.6	26.8	26.9	27.1
R75	18.0	20.3	23.2	25.2	26.0	26.2	26.4	26.5	26.7	26.8
R76	18.1	20.4	23.3	25.3	26.2	26.5	26.7	26.8	27.0	27.1
R77	15.7	18.0	21.0	23.0	23.8	24.0	24.1	24.3	24.5	24.7
R81	17.5	19.8	22.8	24.8	25.9	26.2	26.4	26.6	26.7	26.9
R82	17.8	20.1	23.1	25.1	26.2	26.6	26.8	26.9	27.1	27.2
R109	17.5	19.6	22.8	25.1	26.9	27.6	27.9	28.2	28.4	28.5
R110	16.3	18.6	21.6	23.6	24.8	25.2	25.4	25.6	25.7	25.8
R111	16.9	19.2	22.2	24.2	25.3	25.6	25.8	26.0	26.1	26.2
R112	16.9	19.2	22.2	24.2	25.2	25.6	25.8	26.0	26.1	26.2
R115	16.8	19.1	22.1	24.1	25.2	25.5	25.7	25.9	26.0	26.2
R116	16.7	19.0	22.0	24.0	25.0	25.4	25.6	25.7	25.9	26.0
Background Location: R79 Leeston										
B/G Regression Line	0.001x ³ - 0.053x ² + 2.4941x + 19.177	28.9	31.8	34.6	37.2	39.7	42.2	44.5	46.8	49.1
SA EPA Criteria		35.0	36.8	39.6	42.2	44.7	47.2	49.5	51.8	54.1
NIGHT BG Regression Line	-0.0038x ³ + 0.1151x ² + 0.878x + 22.436	28.0	30.5	33.1	36.0	38.8	41.7	44.6	47.3	49.8
EPA Night Criteria		35.0	35.5	38.1	41.0	43.8	46.7	49.6	52.3	54.8
WHO Criteria		45.0	45.0	45.0	45.0	45.0	47.2	49.5	51.8	54.1
R63	26.7	28.2	32.1	35.0	37.8	38.8	39.3	39.6	39.9	40.0
R79*	26.7	28.7	32.1	34.7	37.0	37.8	38.1	38.4	38.6	38.7
R80*	25.1	26.9	30.7	33.4	35.9	36.8	37.3	37.6	37.9	38.0

	Windspeed at 10m AGL	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0
	Windspeed at Hub Height	4.3	5.7	7.1	8.5	10.0	11.4	12.8	14.2	15.7	17.1
Background Location:	R106 Rosedale										
B/G Regression Line	$-0.0085x^3 + 0.2644x^2 - 0.8076x + 32.476$	33.2	34.9	37.1	39.6	42.3	45.0	47.6	50.0	52.0	53.5
SA EPA Criteria		38.2	39.9	42.1	44.6	47.3	50.0	52.6	55.0	57.0	58.5
NIGHT BG Regression Line	$-0.0109x^3 + 0.3551x^2 - 1.7974x + 34.095$	32.0	33.4	35.4	37.8	40.7	43.6	46.4	49.0	51.2	52.7
EPA Night Criteria		37.0	38.4	40.4	42.8	45.7	48.6	51.4	54.0	56.2	57.7
WHO Criteria		45.0	45.0	45.0	45.0	47.3	50.0	52.6	55.0	57.0	58.5
R97		10.2	12.1	15.5	18.0	20.3	21.1	21.5	21.9	22.1	22.2
R98		8.6	10.5	13.9	16.4	18.7	19.5	19.9	20.2	20.5	20.6
R99		9.4	11.3	14.7	17.2	19.5	20.3	20.8	21.1	21.3	21.4
R100		10.0	11.8	15.3	17.7	20.1	20.9	21.4	21.7	21.9	22.0
R101		9.2	11.2	14.5	16.9	19.1	19.9	20.3	20.6	20.9	20.9
R102		11.7	13.5	17.0	19.5	21.7	22.6	23.0	23.4	23.6	23.7
R103		11.9	13.8	17.1	19.5	21.7	22.5	22.9	23.2	23.5	23.5
R104		15.9	17.7	21.2	23.7	26.1	26.9	27.4	27.8	28.0	28.1
R105		14.6	16.4	19.9	22.3	24.6	25.5	25.9	26.2	26.5	26.6
R106		20.4	22.0	25.8	28.8	31.8	32.8	33.2	33.6	33.8	33.9
R107		14.2	16.2	19.4	21.8	23.8	24.6	24.9	25.2	25.4	25.5
R108		14.2	16.2	19.4	21.7	23.5	24.2	24.6	24.8	25.1	25.1
R113		14.3	16.4	19.6	21.8	23.6	24.3	24.6	24.9	25.1	25.2
R114		15.3	17.3	20.6	23.2	25.6	26.4	26.8	27.1	27.4	27.5
Background Location:	R120 Elmgrove										
B/G Regression Line	$-0.0023x^3 + 0.1114x^2 - 0.2106x + 28.947$	29.9	30.9	32.3	33.8	35.6	37.6	39.7	41.9	44.1	46.4
SA EPA Criteria		35.0	35.9	37.3	38.8	40.6	42.6	44.7	46.9	49.1	51.4
NIGHT BG Regression Line	$-0.0083x^3 + 0.2813x^2 - 1.6306x + 31.151$	28.7	29.5	30.8	32.6	34.6	36.8	39.0	41.0	42.7	44.0
EPA Night Criteria		35.0	35.0	35.8	37.6	39.6	41.8	44.0	46.0	47.7	49.0
WHO Criteria		45.0	45.0	45.0	45.0	45.0	45.0	45.0	46.9	49.1	51.4
R120		31.8	34.1	36.9	38.6	39.0	39.2	39.4	39.7	40.1	40.8
R123		26.9	29.3	31.9	33.0	33.3	33.4	33.5	33.6	33.8	34.1
R125		22.8	25.2	28.0	29.3	29.6	29.7	29.8	29.9	30.0	30.1
R130		30.1	32.4	35.9	38.5	39.2	39.6	40.2	40.9	42.0	43.3
R131		26.6	28.9	31.6	33.9	35.2	36.5	38.0	39.7	41.5	43.4
R132		22.4	24.8	28.1	30.5	31.2	31.4	31.8	32.3	33.0	34.0
R133		20.5	22.9	26.1	28.3	28.8	28.9	29.1	29.3	29.6	30.0