



## COMMUNITY MEETING, NOISE ASSESSMENT

### Minutes

**Meeting Date:** 24/01/18

**Start Time:** 6.45pm

**Place:** Bungaree Recreation Centre

**Attendees:** Mike Stephens (CRG Co-Chair), Tracey Ward (Lal Lal Windfarms), Penny Wang (Macquarie Capital), Lachlan Creswell (Macquarie Capital), Chris Turnbull (Sonus), Lal Lal Wind Farm CRG members, attendees from open day Nov 2017, Lal Lal EPA representatives, Moorabool Shire Council representative

**Apologies:** Several CRG members were unavailable

**Chair/Facilitator:** Mike Stephens (MS)

**Minutes:** Tracey Ward (TW)

### Meeting Minutes

Item	Description	Action	Who By
1	Welcome and sign in, introductions Discussion about mixup on start time, apologies from Macquarie Meeting scheduled to start at 7pm, some attendees were notified that the meeting was to commence at 6.30pm Agreement to start the session at 6.45pm and introduce other people as they arrive		MS with input from TW and PW
2	MS confirmed that everyone was happy to start at 6.45pm		MS
3	<ul style="list-style-type: none"> <li>• <b>Introductions and welcome</b> (MS)</li> <li>• <b>Plan</b> for the information session (may need white board) (MS)</li> <li>• <b>Guidelines for the session</b> (eg one person talking at a time, specifics of what will be discussed) on white board, check for agreement from group</li> </ul>	Overview	Facilitated by MS with input from others

Item	Description	Action	Who By
	<ul style="list-style-type: none"> <li>• <b>Meal break discussion, agreement on 7.45pm, some people needed to leave for dinner arrangements elsewhere</b></li> <li>• <b>Questions</b></li> </ul>		
4	Overview from Chris Turnbull from Sonus regarding his scope of works for noise assessment		CT
5	<p>Overview from Macquarie regarding noise assessment regime and history of selection of Sonus to conduct noise assessment from first principles. Overview of Lal Lal proposed noise compliance regime was distributed.</p> <p>Request for Macquarie to provide brief from Sonus.</p>	Macquarie to provide brief from Sonus	PW
6	<p>Questions: MS open the floor for questions from the attendees.</p> <p>Attendees were invited to ask question of both Macquarie Capital and Sonus regarding the noise assessment regime for Lal Lal Wind Farms.</p> <p>Main topics of discussion included:</p> <ul style="list-style-type: none"> <li>• Test results of the proposed turbine Vestas V136 on measured sound power level vs specification</li> <li>• Assumption of ground hardness factor and appropriateness of G=0.5 and G=0</li> <li>• Impact of wake effects on turbine noise</li> <li>• Turbine spacing and similarities to other projects</li> <li>• Special audible characteristics and how this will impact assessment</li> <li>• Prediction uncertainty and factors to be used to allow for this</li> </ul> <p>List of follow up documents to be provided to the attendees:-</p> <ul style="list-style-type: none"> <li>• Vestas V136 – test report for the Vestas V136</li> </ul> <p><b><i>Yes, Vestas have measured data (according to IEC 61400-11) for the V136 operating in the 3.6MW mode of</i></b></p>	Provide information to attendees	Macquarie (with input from Vestas and Sonus)

Item	Description	Action	Who By
	<p><b><i>operation (attached). As demonstrated in the measurements, the V136 has achieved great levels of acoustic performance.</i></b></p> <ul style="list-style-type: none"> <li>• Sonus referenced paper in discussions of sound emissions of 5 turbines in a row (provided)</li> <li>• Information from Vestas on turbine diameter spacing of other projects</li> </ul> <p><b><i>There is a distribution of turbine spacing in the Vestas global portfolio, and a significant amount of them have 2.5x or less rotor diameters spacing. The configuration of the Lal Lal project is not unique from a turbine spacing perspective.</i></b></p> <ul style="list-style-type: none"> <li>• Which projects is this model operating in now?</li> </ul> <p><b><i>Vestas have V136's currently operating/producing power in Germany, Finland &amp; Denmark (4GW's of V136 have been sold across the globe to date, that will not progress into supply and installation)</i></b></p> <ul style="list-style-type: none"> <li>• Is there any test data for sound power output with increased turbulence inflow?</li> </ul> <p><b><i>Measurements have been undertaken according to IEC 61400-11 ed3</i></b></p> <ul style="list-style-type: none"> <li>• Will the Vestas' warranty to Macquarie guarantee turbine noise contours based on the project layout, or is it limited to sound power levels from individual turbines?</li> </ul> <p><b><i>Vestas' obligations relate to the sound pressure levels at relevant houses (rather than the sound power level of individual turbines).</i></b></p> <ul style="list-style-type: none"> <li>• The earlier Lal Lal modelling was done with Senvion candidate turbines. The recent Golden Plains noise modelling shows the Vestas V136 turbines to be 1-2dB louder at 8m/s (28.8kph) and above than the same</li> </ul>		

Item	Description	Action	Who By
	<p>Senvion turbines. Will this be taken into account in revising the noise contour positioning?</p> <p><b><i>Acoustic modelling undertaken to date has used the sound power level emissions of the V136</i></b></p>		
7	<p>MS checked in with Lal Lal EPA to see if there were any more questions, the response was that there were no more questions</p> <p>Meeting concluded at 8.15pm. Macquarie thanked people for attending and promised to forward the relevant requested documents within the next week or so.</p>		