Chapter 4
Noise Regulation of wind farms

Existing regulations

4.1 Governments apply noise standards to wind farms to ensure that noise levels do not exceed certain thresholds. These standards apply firstly during the planning process and secondly with regard to compliance measures on completion of the turbines and operation of the wind farm.

4.2 The World Health Organization's guidelines for community noise say that in order to avoid sleep disturbance, noise inside bedrooms should be limited to 30dB(A). The guidelines assume that with the window partly open, there will be a noise reduction of 15dB(A) between the outside of the building and inside the bedroom. The World Health Organization therefore recommends a maximum external sound level of 45dB(A) at night, but says that 40dB(A) should be the maximum for all new developments whenever feasible.[1]

4.3 Although noise standards for wind farms vary across the world, current standards in Australia are particularly strict. In November 2010, Sonus concluded that:

> The standards and guidelines used for the assessment of environmental noise from wind farms in Australia and New Zealand are amongst the most stringent and contemporary in the World.[2]

New and more stringent provisions

4.4 The introduction of new planning provisions has meant that the standards in New Zealand and some Australian jurisdictions have become markedly tighter in the last two years. The New Zealand standards are considered first because they inform some Australian standards.

4.5 The New Zealand government operated a standard 6808:1998 *Acoustics – The assessment and measurement of sound from wind turbine generators*. It revised its wind farm standards in 2010. This updated New Zealand Standard 6808:2010, *Acoustics – Wind Farm Noise*, like its predecessor, recommends that at noise sensitive locations:

> the level of sound from a wind farm should not exceed the background sound level by more than 5 dB, or a level of 40 dB $L_{A90(10min)}$, whichever is the greater.[3]

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1 Birgitta Berglund, Thomas Lindvall and Dietrich Schwela (eds.), *Guidelines for Community Noise*, World Health Organization, 1999, sec 4.3.1.

2 Sonus Pty Ltd, Wind Farms Technical Paper, Environmental Noise, November 2010, p. 4.

4.6 However, the New Zealand Standard 6808:2010 contains stricter new provisions including the ability for an authority to apply lower noise limits in designated areas, known as 'the high amenity limit'.[4]

4.7 In Australia, noise standards (including noise emanating from wind farms) are set by the states or local government authorities as part of their planning guidelines. Standards between jurisdictions are similar but not uniform, and the current standards for Victoria, New South Wales (NSW), South Australia, and Western Australia are given below.

4.8 The Victorian government applies New Zealand Standard 6808:2010 in its policy and planning guidelines for wind farms, modified by certain additional provisions.[5] The compliance and complaint mechanisms of the Victorian government are covered in later sections.

4.9 The Victorian government has also introduced new restrictions on the location of wind farms. On 29 August 2011, the Victorian government amended the Victoria Planning Provisions and all planning schemes in Victoria with regard to wind energy facilities. Amendment VC82 prohibits a wind energy facility in the following circumstances and locations:

> Turbines within two kilometres of an existing dwelling except where the planning permit application includes evidence of written consent from the owner of the dwelling to the location of the turbine.
>
> Areas of high conservation and landscape values including National and State Parks described in a schedule to the National Parks Act 1975 and Ramsar wetlands as defined under section 17 of the Environment Protection and Biodiversity Act 1999.
>
> Locations that feature a high degree of amenity, environmental value, or significant tourist destinations including the Yarra Valley and Dandenong Ranges, Mornington Peninsula, Bellarine Peninsula, Macedon and McHarg Ranges, Bass Coast and the Great Ocean Road region.
>
> Locations identified for future urban growth including land in the Urban Growth Zone and designated regional population corridors specified in the

3 Standards New Zealand Paerewa Aotearoa, Standards New Zealand FactSheet, Revised Wind Farm Noise Standards NZS 6806:2010 — Frequently Asked Questions, 26 July 2010, p. 3. Note: L90 is a measurement of the sound level exceeded for 90 per cent of the time.

4 Standards New Zealand Paerewa Aotearoa, Standards New Zealand FactSheet, Revised Wind Farm Noise Standards NZS 6806:2010 — Frequently Asked Questions, 26 July 2010, p. 3.

5 Government of Victoria, Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, July 2012, sec. 14, p. 45.

Regional Victoria Settlement Framework Plan in the State Planning Policy Framework.[6]

4.10 Under amendment VC78, the Victorian government amended the planning provisions to make Councils the responsible authority for all wind farm planning permit applications.[7] However, the Pyrenees Shire Council in Victoria stated that based on legal opinions sought by various councils, the State government was the responsible planning authority for both determining the permit for a wind farm, and monitoring and enforcing compliance.[8]

4.11 In NSW, responsibility for the assessment of a proposed wind farm depends on the scale (capital investment value) and location (local, regional, state significant) of a proposed wind farm. Small local wind farms are typically assessed and determined by Councils. Larger more significant proposals may still be Council assessed, but determined by a Joint Regional Planning Panel. Significant development proposals are state assessed and determined by the statutory Planning Assessment Commission.[9]

4.12 Typical set back distances between wind farms and residential properties in NSW currently vary between 0.8 – 2.0 km, with the average being 1.2 km.[10] The Draft NSW Guidelines propose increasing the minimum setback to 2km, unless the wind farm proponent receives specific written consent from all landowners within a 2km zone.[11]

4.13 The proposed new noise standards for NSW 'are stringent by both Australian and world standards being approximately 10dB(A) lower than most European countries'.[12] The Sonus *Wind Farms Technical* Paper notes that 10dB(A) is a significantly lower amount given that reducing a noise source by even 5dB(A)

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6 Government of Victoria, Department of Planning and Community Development, Amendment VC82, http://www.dpcd.vic.gov.au/planning/planningapplications/moreinformation/windenergy#policy (accessed 27 November 2012)

7 Government of Victoria, Department of Planning and Community Development, Amendment VC78, http://www.dpcd.vic.gov.au/planning/planningapplications/moreinformation/windenergy#policy (accessed 27 November 2012)

8 Pyrenees Shire Council, *Submission 211*, p. 1; Mr Chris Hall, Senior Town Planner, Pyrenees Shire Council, *Proof Committee Hansard* , 14 November 2012, p. 22.

9 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 1.

10 NSW Government, Submission 819 to the Senate Community Affairs Committee Inquiry into the Social and Economic Impact of Rural Wind Farms, 2011, p. 3.

11 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 2.

12 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 6.

requires either the distance between the source and the receiver to be approximately doubled, or a reduction of up to two thirds in the total number of turbines.[13]

4.14 The NSW Draft guidelines state that for a new wind farm development, noise levels at nearby residences 'should not exceed 35dB(A) or the background noise (L_{90}) by more than 5dB(A), whichever is the greater'. Furthermore, the 'noise criteria must be established on the basis of separate daytime (7am to 10pm) and night-time (10pm to 7am) periods'.[14]

4.15 The NSW government proposes to amend existing state mechanisms in order to give effect to the new provisions:

> It is proposed to strengthen the regulation of noise from wind farms under the Protection of the Environment Operations Act 1997 with the Environment Protection Authority (EPA) having a regulatory role in relation to wind farms that are State Significant Development as well as existing transitional projects.[15]

4.16 The NSW guidelines note that low frequency noise 'is typically not a significant feature of modern wind turbine noise'. However, the guidelines include provisions for a 5dB(A) penalty 'if excessive levels of low frequency noise above the human threshold of hearing are occurring'.[16]

4.17 The new regulations in both Victoria and NSW may have had an impact on the development of wind farms in both those states. According to Clare Corke and Tina Latif, no new wind farm applications have occurred in Victoria or NSW since the introduction of the Victorian amendments and the NSW Guidelines.[17]

4.18 The South Australian government updated its wind farm noise guidelines in 2009. The guidelines provide that noise from new wind farm developments should not exceed 35dB(A) at 'relevant receivers' in rural-residential localities and 40dB(A) in other zones, or the background noise by more than 5dB(A), whichever is greater.[18] This meant that the base level noise limit was increased by 5dB(A) in non-rural-residential localities over the 2003 guidelines. The change was implemented:

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13 Sonus Pty Ltd, Wind Farms Technical Paper, Environmental Noise, November 2010, p. 45.

14 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 6.

15 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 6.

16 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 34.

17 Clare Corke and Tina Latif, Gone with the wind: planning laws blow away investment, *Climate Spectator*, 6 July 2012, http://www.climatespectator.com.au/commentary/gone-wind-planning-laws-blow-away-investment (accessed 21 November 2012)

18 South Australian Government, Environment Protection Authority, Wind Farms Environmental Noise Guidelines, July 2009, p. 3.

> to ensure consistency with the assessment limits applied by the South Australian Environment Protection (Noise) Policy 2007 to other noise sources in a general farming or rural locality.[19]

4.19 On 12 October 2012, the Statewide Wind Farms Development Plan Amendment (DPA) came into effect. It included changes to discourage wind farms in particular areas of scenic and amenity value, and the introduction of a 1km setback between turbines and dwellings and a 2km setback between turbines and townships.[20]

4.20 The Western Australian government has not developed its own specific wind farm guidelines, but in 2004 the government endorsed the South Australian *Environment Protection Authority — Wind Farms Environmental Noise Guidelines*.[21] The committee is not aware of any further update to the Western Australian planning documents, which would indicate that the maximum noise level in Western Australia remains at 35dB(A) for all localities.

The adequacy of current noise regulations for wind farms

4.21 The committee received evidence from individuals and organisations arguing that existing mechanisms either do not effectively regulate for noise, and/or that the compliance and complaint mechanisms are ineffective. The Waubra Foundation submitted that 'noise pollution from industrial wind turbines' is 'unregulated'. The committee's understanding of existing regulatory systems, and evidence received regarding ongoing scrutiny of some facilities, refutes this suggestion absolutely.

4.22 A second claim by the Foundation is that wind farm operators are able 'to break the law with impunity'.[22] Similar concerns were expressed in some individual submissions from people living in the proximity of wind farms. The following section looks at the issue of compliance with standards and complaint mechanisms.

4.23 One of the concerns arising in many submissions was the issue of low frequency noise and infrasound. In order to determine whether current regulations are adequate to regulate noise, mid-to-high frequency as well as low frequency sound and infrasound must be considered. A key element is the need to determine the extent to which low frequency sound and infrasound from wind farms is a problem, and whether the current regulations that focus on the A-weighting are adequate to deal with the low frequency sound. As discussed in previous chapters, the available evidence does not support the proposition that inaudible levels of low frequency noise and infrasound from wind turbines are problematic for health.[23]

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19 Sonus Pty Ltd, Wind Farms Technical Paper, Environmental Noise, November 2010, p. 15.

20 The Hon. John Rau MP, Minister for Planning, Government of South Australia, Ministerial statement — Statewide Wind Farms DPA, 18 October 2012; The South Australian Government Gazette, Development Act 1993, Section 26(9): Statewide Wind Farms Development Plan Amendment, 18 October 2012, p. 4678.

21 Western Australian Government, Western Australian Planning Commission, Planning Bulletin No. 67 — Guidelines for Wind Farm Development, May 2004.

22 Waubra Foundation, *Submission 197*, p. 5.

23 Response to adverse comment from Dr Geoff Leventhall, 16 November 2012, p. 2.

Committee view

4.24 Given that it is audible levels of sound from wind farms that must be addressed in regulatory standards, it appears firstly that the A-weighting used to measure sound from wind turbines is fit for purpose, and secondly, that current regulations that specify sound levels as low as 35-40dB(A) at relevant receivers in Victoria, NSW, South Australia and Western Australia are sufficient to protect citizens and communities from undue noise exposure.

Noise compliance mechanisms

4.25 Prior to the operation of a wind farm, noise assessment is an integral aspect of the development planning for a wind farm. Energy Australia points out that a wind farm would not receive planning approval unless the responsible authorities were satisfied that the relevant noise standards would be met.[24]

4.26 After completion of a wind farm, the states have similar requirements for assessing noise compliance. The Victorian standards require acoustic compliance reports to be prepared by an independent acoustic engineer, with the initial report after completion of the first turbine and at six-monthly intervals thereafter until full operation. A final compliance report is due 12 months following full operation of the facility, and those reports should be publicly available.[25]

4.27 The NSW standards require the operator to prepare and submit a noise compliance report within 12 months of the operation of the facility, and that report should be publicly available. In addition, 'noise monitoring must be undertaken during "worst case" periods'.[26]

4.28 State governments also commission noise audits of wind farms. In 2012, the NSW government hired, by tender, an independent noise specialist to conduct a noise audit of all operating wind farms in the state. The selection process ensured the independence of the auditors from the wind farm operators:

> Importantly, the successful tenderer has not previously carried out monitoring or assessment work on the three wind farms that are the subject of these audits as it is essential that auditors do not review their own work.
>
> Nor has the company ever done any work for either of the wind farm operators involved in the audit – Infigen Energy and Origin Energy – on any other facilities.[27]

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24 Energy Australia, *Submission 159*, p. [3].

25 Government of Victoria, Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, July 2012, pp. 45–46.

26 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, p. 7.

27 NSW Government, Department of Planning and Infrastructure, Wind Farms Compliance Audit — Frequently Asked Questions, May 2012, p. 1; see also NSW Government, Department of Planning and Infrastructure, Conduct of Wind Farm Audits, March 2012.

4.29 There is community concern that the noise compliance audits are not representative of the actual noise experienced by wind farm neighbours. The Waubra Foundation alleged that wind farm noise audits misrepresent the typical noise emitted by wind farms:

> The operation of the turbines during such an "audit" period, does not represent the reality and extent of noise and vibration pollution which the residents live with when such an audit is not occurring.[28]

4.30 Community concern about the audit process has been recognised by the NSW government. The government notes that these concerns will be discussed 'at length' with the successful tenderer and that the audit will be representative and will include worst case conditions:

> Appropriate strategies will be adopted to ensure noise measurements are taken under normal wind farm and turbine operating conditions.
>
> In order to ensure the most stringent analysis of compliance with consent conditions, the measurements will also be scheduled to take place at the times and under the conditions that typically produce worst case noise impacts from wind farms.[29]

4.31 The South Australian guidelines also recognise that there are community concerns around the representativeness of a compliance audit. The guidelines therefore recommend 'that compliance checking be repeated at different periods of the year where valid concerns exist'. The guidelines also point out that failure to collect representative data may result in one or more turbines being stopped.[30] Furthermore, the South Australian guidelines note that the 'EPA will restrict operation of the wind farm' during periods of excessive noise from the wind farm.[31]

4.32 The committee was made aware of a number of investigations that indicated that wind farms were in compliance with their planning permits. These included Hepburn Wind's facility at Leonards Hill, which in October 2012 reported that it had:

> received formal notification that, after thorough investigation and assessment, the Hepburn Shire Council is satisfied that the wind farm is compliant with the relevant noise standards.
>
> At the request of the shire, the Victorian Environment Protection Authority (EPA) provided an independent assessment and have advised that they too are satisfied with the acoustic reporting.[32]

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28 Waubra Foundation, *Submission 197*, p. 4.

29 NSW Government, Department of Planning and Infrastructure, Wind Farms Compliance Audit — Frequently Asked Questions, May 2012, p. 2.

30 South Australian Government, Environment Protection Authority, Wind Farms Environmental Noise Guidelines, July 2009, p. 8.

31 South Australian Government, Environment Protection Authority, Wind Farms Environmental Noise Guidelines, July 2009, p. 16.

32 Taryn Lane (Hepburn Wind), 'Compliance confirmed', October 2012, http://hepburnwind.com.au/2012/10/ (accessed 26 November 2012).

4.33 In responding to a complaint about Capital Wind Farm (CWF), the NSW government Department of Planning and Infrastructure undertook noise monitoring at CWF and 'also reviewed the [CWF] operator's noise monitoring report'. However, the department did not find any instance of non-compliance as a result of this work.[33]

4.34 Infigen Energy, which operates facilities in New South Wales, South Australia, and Western Australia, made the following observations:

> For our NSW wind farms, the register of complaints has been reviewed by the NSW Department of Planning and their Independent Environment Auditor on at least an annual basis. The NSW Department of Planning most recently examined the complaints registers during July and August 2012.
>
> …In NSW, our wind farms also had to demonstrate compliance with the applicable noise regulations and consent conditions. Even after this, the NSW Government decided to undertake an additional noise audit this year, utilising an acoustic consultant of their own choosing, to repeat the compliance testing. It is worth nothing the consultant chosen by the NSW Government has appeared twice in the NSW Land & Environment Court on behalf of wind farm opponents, so it would be difficult to argue that the consultant was "pro-wind energy".[34]

4.35 One of the issues raised in connection with compliance assessment was the ability of members of the public to access wind farm noise data. These matters are covered in a later section on transparency and access to data.

Committee view

4.36 The committee has seen evidence of adequate compliance mechanisms and audit processes in place, and acknowledges the work of state governments in strengthening aspects of these processes over the last three years.

Complaint mechanisms

4.37 One component of current planning regimes is the requirement that wind farm operators include a complaint mechanism to enable citizens to lodge a complaint about a wind farm, and mechanisms by which an authority can ensure that complaints are dealt with and compliance is met. This mechanism is intended to provide affected parties with a formal avenue to resolve disputes.

4.38 For example, guidelines in Victoria require a wind farm operator to prepare a complaint register prior to the commencement of operation. The plan shall include:

- how contact details will be communicated to the public;
- a toll free telephone number and email contact for complaints and queries;

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33 NSW Government, Department of Planning and Infrastructure, Wind Farms Compliance Audit — Frequently Asked Questions, May 2012, p. 3.

34 Answers to questions on notice from Infigen Energy, 23 November 2012.

- details of the appropriate council contact telephone number and email address (where available); and
- a table outlining complaint information for each complaint received, including:
  - the complainant's name;
  - any applicable property reference number if connected to a background testing location;
  - the complainant's address;
  - a receipt number for each complaint which is to be communicated to the complainant;
  - the time, prevailing conditions and description of the complainant's concerns including the potential incidence of special audible characteristics; and
  - the processes of investigation to resolve the complaint.[35]

4.39 In addition, the operator must provide a complaints report to the responsible authority each year. This report must include 'a reference map of complaint locations', and must also outline the 'complaints, investigation and remediation actions'.[36]

4.40 Various requirements apply for the evaluation of noise complaints including the measurement of sound levels at the same locations where the background sound levels were initially determined. In Victoria, if a breach in noise compliance is detected, an independent assessment report must be prepared including a remediation plan. If the complaint remains unresolved, the responsible authority may request an independent peer review at the cost of the permit holder and on/off shut down testing. The responsible authority may also require independent assessment following noise complaints if the authority believes the complaints warrant investigation.[37]

4.41 In South Australia, the EPA can require the developer to repeat the compliance checking procedure if it receives any complaint that may be valid about an unreasonable interference on those premises from noise impacts.[38]

4.42 The NSW guidelines require the operator to establish a community consultative committee and to provide that committee with a record of all community concerns and complaints. The committee is empowered to conduct 'regular inspections

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35 Government of Victoria, Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, July 2012, pp. 46–47.

36 Government of Victoria, Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, July 2012, p. 47.

37 Government of Victoria, Department of Planning and Community Development, Policy and Planning Guidelines for Development of Wind Energy Facilities in Victoria, July 2012, p. 46.

38 South Australian Government, Environment Protection Authority, Wind Farms Environmental Noise Guidelines, July 2009, p. 15.

of the wind farm in conjunction with its meetings, or at other times convenient to it'. The guidelines also include provisions for a dispute resolution process.[39]

4.43 The NSW government notes that it has responded to a complaint about CWF. The Department undertook noise monitoring at capital wind farm and 'also reviewed the Capital wind farm operator's noise monitoring report'. However, the department did not find any instance of non-compliance as a result of this work.[40]

4.44 Pacific Hydro states that it 'takes all complaints from community members seriously' and that it has 'a thorough complaints process which investigates concerns thoroughly'. However, the company notes that 'some complaints are challenging to resolve'. Pacific Hydro has received complaints that it regards as unreasonable to resolve including:

> increased mosquitos in the area and another where it is alleged an earth tremor was caused by the wind farm. We have also had a complaint about significant noise and health impacts from one of our wind farms while it was shut down for maintenance for an extended period.[41]

4.45 Hepburn Wind is a community-owned wind farm in Central Victoria. Hepburn Wind state that 'within our local community we enjoy overwhelmingly strong support', but they do acknowledge that there are a few objections, some of which pre-date the project construction. Hepburn Wind state that while negotiating the resolution of complaints can be difficult, they are committed to dealing with concerns:

> There are approximately 65 homes within 2.5 km of our wind farm. We currently have outstanding noise complaints at three of these homes. There is no relationship between distance to the wind farm and these complaints. In each case we are patiently awaiting the co-operation of the complainants.[42]

4.46 The committee has also been made aware that certain complainants have either refused to engage in discussions with wind farm operators to try and resolve complaints. Dr Andja Mitric-Andjic stated in a submission that both her family and clients in her practice are suffering from a cluster of symptoms that she has attributed to the Hepburn wind farm, and in particular infrasound from the turbines.[43] In response, Hepburn Wind point out that over the last two years, they:

> have requested a face-to-face meeting with Dr Mitric-Andjic via email, telephone or letter on 10 occasions …

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39 NSW Government, Department of Planning and Infrastructure, Draft NSW Planning Guidelines Wind Farms, December 2011, pp. 38–42.

40 NSW Government, Department of Planning and Infrastructure, Wind Farms Compliance Audit — Frequently Asked Questions, May 2012, p. 3.

41 Response to adverse comment from Pacific Hydro, 22 November 2012.

42 Hepburn Wind, *Submission 215*, p. [1].

43 Dr Andja Mitric-Andjic, *Submission 141*, p. 1.

> All of these requests have been either rejected or ignored. Despite writing multiple letters to our local newspapers and making a submission to the current Inquiry, we have yet to meet Dr Mitric-Andjic …
>
> We carefully monitor the scientific literature on wind turbine noise, including infrasound, and we are happy to discuss this matter with Dr. Mitric-Andjic, but have been denied the opportunity to do so.
>
> We find it difficult to understand, given the seriousness of Dr. Mitric-Andjic's claims, why she has been unable to find time to sit down with us at any time over the past 15 months to discuss her claims. We cannot reconcile her apparent concern with her continued refusal to work towards resolution.[44]

4.47 The committee has also been informed that there is more to the complaints about wind farms than the matter of noise levels alone. According to Hepburn Wind, securing the resolution of complaints is hampered by anti-wind lobbying in the community with the result that some objectors have decided to opt out of the protections offered under the noise compliance protocols:

> The anti-wind lobby has enjoyed a degree of success in undermining community confidence in the noise compliance processes. As a result, a number of objectors to our project chose not to participate in the noise compliance protocols imposed by our planning permit. In effect, these objectors opted out of the protections granted to them by the planning process.[45]

Transparency and access to noise data

4.48 The issue of access to data was raised by several witnesses. Emeritus Professor Colin Hansen stated that 'it is extremely difficult to get data' from a wind farm operator.[46] Both Mr Les Huson and Mr Steven Cooper stated that it was crucial to know the wind speed at the hub height in order to determine compliance with noise standards, but that data was not available from either the wind farm operators or the relevant authority. Mr Cooper said that he was told the information was commercial-in-confidence.[47] Mr Huson received similar advice and noted that he could not agree with certain clauses in the confidentiality agreement proposed by the wind farm operator.[48] The Waubra Foundation noted that in their experience, the summary acoustic reports provided to residents by wind farm operators either lacks raw data, or

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44 Response to adverse comment from Hepburn Wind, 23 November 2012, p. [1].

45 Response to adverse comment from Hepburn Wind, 23 November 2012, p. [3]; see also Hepburn Wind, *Submission 215*, p. [4].

46 Emeritus Professor Colin Hansen, *Proof Committee Hansard*, 14 November 2012, p. 14.

47 Mr Steven Cooper, *Proof Committee Hansard*, 14 November 2012, pp. 28–29.

48 Mr W Les Huson, *Submission 216*.

has crucial pieces of data missing.[49] Similar views were also expressed by Mr Huson.[50]

4.49 The committee heard of a difference in opinion between the Pyrenees Shire Council and the Victorian Department of Planning and Community Development over the publication of noise data and reports. Mr Hall stated that the Council had:

> been advised that the Department of Planning and Community Development have refused to provide information to landowners who have requested copies of noise data and reports on their properties. I would have thought individual assessments of some properties may need to be kept confidential, but I think the general report that is provided on the wind farm development as a whole should be disclosed once it has been signed off. I would personally like to see that information made available before it has been signed off, so that the public can review it.[51]

4.50 Wind farm operators and industry organisations were questioned at length about what data they were required to supply to state regulators as part of the compliance process and why this data could not be made publicly available.

4.51 In their submissions and responses at the committee's public hearing, many wind industry companies and organisations stated that the provisions in the bill that would require operators to collect, collate and publish wind speed and direction at the wind farm, weather conditions at the wind farm, and power output of individual turbines at the wind farm would be onerous and unnecessary. For example, Vestas noted that the power output of individual turbines is commercially sensitive, but that the generation output of wind farms is already publicly available from the Australian Energy Market Operator's website. Similarly weather and wind speed data is already available from the Bureau of Meteorology.[52]

4.52 Mr Jamie McGilp stated that under the current standards, Acciona was required to have independent compliance testing undertaken. Mr McGilp also noted that Acciona supplied data on wind speed, noise levels and weather conditions to the regulator, in their case, the Victorian Department of Planning and Community Development:

> All of that information, including wind speed, noise levels, weather conditions et cetera, is provided to the regulator such as DPCD in Victoria.[53]

4.53 Pacific Hydro explained why the public availability of wind speed data is commercially sensitive information for a wind farm proponent, and proposed a

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49 Waubra Foundation, *Submission 197*, p. 4.

50 Mr W Les Huson, *Submission 216*.

51 Mr Chris Hall, Senior Town Planner, Pyrenees Shire Council, *Proof Committee Hansard*, 14 November 2012, p. 23.

52 Vestas, *Submission 191*, p. [5].

53 Mr Jamie McGilp, Manager, Acciona, *Proof Committee Hansard*, 14 November 2012, p. 61.

mechanism whereby the data could be made available to an independent statutory body:

> By way of background, as far as we are aware all transmission connected and semidispatchable wind farms in Australia provide real time wind speed and energy generation data to the Australian Energy Market Operator (AEMO) … It should also be noted that AEMO provides highly detailed energy generation data for Australian wind farms and this is available from their website.
>
> Importantly, all wind speed data is provided to AEMO under the strictest confidentiality. This is due to the commercially sensitive nature of this data.
>
> In addition to this data being the intellectual property of the wind farm owner that has been acquired at some expense, wind speed data is the critical element in establishing the commercial viability of wind energy projects. It is important to note that relatively minor variations in wind speed translate into meaningful differences in sent out energy costs, contract pricing and investor returns.
>
> Wind speed data is the one element of the projects financial model that cannot be accessed by other parties. Other aspects such as turbine pricing, finance, transmission access and connection costs for example can be found through publicly available sources.
>
> To make this data available would allow competitors and contract counterparties to gain invaluable intelligence on a project's commercial status and allow them to create an accurate "shadow" financial model for the project, placing the wind farm proponent at a distinct commercial disadvantage.
>
> For a wind farm proponent to make this data publically available would be akin to Apple placing the detailed design and cost structure of its next generation I-Phone on the internet 6 months before public launch.
>
> While we would not be prepared to make wind speed data publicly available, for the reasons outlined above, we would be prepared to consider a process whereby wind speed data is provided to an independent statutory body. As with our arrangements with AEMO, this data would only be provided under strict confidentiality and its use would need to be restricted by well-defined protocols.[54]

4.54 The Public Health Association of Australia and Professor Simon Chapman both believed that the general principle of transparency in the regulatory data and process was a good idea.[55]

Committee view

4.55 The committee notes that current state regulations pertaining to the development of wind farms are stringent by world standards in terms of the

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54 Correspondence to the committee from Pacific Hydro, 22 November 2012, pp. [1–2].

55 Melanie Walker, *Proof Committee Hansard*, 14 November 2012, p. 45; Simon Chapman, *Proof Committee Hansard*, 14 November 2012, p. 48.

permissible noise levels and setback requirements. The committee notes that potential adverse health effects appear confined to the audible sound range, and considers that current state regulations adequately address noise levels in the audible range.

4.56 The committee notes that current standards in Victoria, NSW, and South Australia limit the noise attributable to wind farms to between 35-40dB(A) or 5 dB(A) above the background noise, whichever is greater. These standards are also endorsed by the Western Australian government. The standard of 5dB(A) above background noise already in place in these states is significantly lower than the 10dB(A) above background noise proposed in the bill.

4.57 Planning decisions, as always, must weigh up the overall benefits of developments against local effects that those developments may have. This is true for rural developments such as land clearing or irrigation projects, urban developments such as shopping centres and residential development, and infrastructure in all areas, such as roads, hospitals or power stations. The stringent tests being applied to wind farm developments overall indicate local effects are now being taken very seriously.

4.58 There should be community confidence in the regulatory process and in particular in the capacity for successful examination of complaints and the implementation by regulators of enforcement action in the event of non-compliance. This requires balancing the need for transparency in compliance data, with the protection of privacy and of commercial in confidence information of business operators. The committee does not believe any purpose is served through the release of raw data to residents, as residents are not the agents responsible for regulation and enforcement. Regulators should have access to the data, and should act on complaints about non-compliance, particularly where those complaints are backed by professionally-obtained acoustic data. The committee believes that there is merit in the compromise, put by Pacific Hydro late in the inquiry, to make industry data available to an independent body to test compliance claims.

Recommendation 3

4.59 The committee recommends that, where there is ongoing debate over noise compliance issues for particular wind farms, that governments consider making data for those operations available to an independent authority for review of compliance.