

Hunter Central Rivers Alliance
[REDACTED]
[REDACTED]
[REDACTED]

The Hon. Mark Speakman, MP
Minister for Environment
GPO Box 5341
SYDNEY NSW 2001

Wednesday 26th October 2016

Dear Sir,

Draft Industrial Noise Guidelines

Hunter Central Rivers Alliance (HCRA) is an alliance of 43 community groups acting on behalf of rural communities to protect amenity in the NSW rural environment.

We have participated in the process of considering changes to the measurement and management of industrial noise in NSW by submitting a detailed analysis of the Draft Industrial Noise Guidelines (ING) to the Environment Protection Agency (EPA) in November 2015.

The proposed changes to the Industrial Noise Policy (INP) will cause further impact on community health and amenity by increasing environmental noise pollution from large mining operations in remote rural areas.

We met with EPA staff and Health NSW staff in February 2016. A member of HCRA also met with your policy advisor and an EPA staff member in June 2016.

There is deep concern within the community about the lack of transparency in the process. The EPA has not made submissions publicly available or released a Response to Submissions document.

We understand through questions asked in Parliament that a consultancy, Global Acoustics, has been commissioned to compare current policy with the proposed changes through modelling. This information has also not been released to the public.

HCRA has a number of key issues with information provided in the ING Technical Background Paper (background paper). This information has been used to justify the proposed changes.

Issues with Technical Background Paper

1. Low Frequency Noise (LFN)

1.1 C minus A differential

The background paper identifies that *'the 'C minus A' differential will naturally increase as you move away from a noise source due to higher attenuation rates of higher frequencies versus lower frequencies'*. This is the experience of people living in quiet rural areas with large mining operations.

The background paper then continues with *'This can lead to a perverse outcome where a low frequency modification may not apply near to a noise source, but will apply at more removed distances, even though the amplitude of the LFN spectrum has been reduced.'*¹

HCRA does not agree that this is a 'perverse' outcome. This is exactly what occurs in quiet rural areas because of the attenuation of higher frequencies and the distances that LFN can travel. This is what causes people to be affected by LFN at removed distances from the noise source.

LFN becomes the dominant source of noise once the higher frequencies have attenuated.

We would appreciate the EPA providing examples where the use of C-A has or could result in such "perverse" use of the correction factor in the presence of reduced LFN amplitude.

HCRA considers the C minus A method for applying the modifying factor corrections for LFN disturbance to be the simplest and most accurate method.

1.2 1/3 Octave band measurements

The EPA has decided to use adjusted criteria developed by the UK Department for Environment, Food and Regional Affairs (DEFRA) even though it has been stated that this method *'is not intended as a means of predicting when disturbances may occur, for example in a planning situation'*.²

The current INP is used in the predictive planning process for large mining operations in rural NSW. The ING is proposed to replace the current policy and therefore will be used for purposes that the DEFRA criteria are not intended for.

The DEFRA criteria have been developed to measure LFN inside buildings. The EPA policy is to measure the noise levels outside the building rather than inside.

The background paper considers the noise reduction effect of building facades in a process of converting the DEFRA criteria from an internal measurement to an external measurement. It is acknowledged that scientific literature looking at overall façade noise reduction for LFN is sparse.³

The background paper then analyses work undertaken near a windfarm in Australia, a study of transmission loss in Denmark, the Netherlands, Great Britain and United States, another study undertaken in Denmark using a loud speaker outside homes and a study in America on noise from a gas-fired turbine.

At no time does the EPA consider the noise reduction effect of Australian buildings exposed to LFN from large mining operations in quiet rural areas.

The background paper then uses the data from the quoted studies to develop an assumed façade transmission loss.⁴

These assumptions are then translated into 1/3 octave LFN noise adjustment thresholds that appear in the ING as the method for applying the modifying factor corrections.⁵

¹ Draft Industrial Noise Guideline Background Paper p15

² Ibid p15

³ Ibid p17

⁴ Ibid Table 9 p 21

⁵ Draft Industrial Noise Guideline Fact Sheet C: Adjustments for annoying noise characteristics p 56

HCRA considers this approach to be unscientific, entirely inappropriate and not suited to conditions in rural NSW.

2. Assumed minimum background noise level of 30 dB(A) and 'acceptable noise levels'

The background paper relies on a study conducted in the Netherlands near railway shunting yards⁶ to identify 'acceptable noise levels'.

The World Health Organisation Night Noise Guidelines for Europe (2009) is used to consider a lower night-time noise level.

There have been no studies conducted in rural NSW to understand noise intrusion from large 24 hour mining operations.

The current assumed minimum background noise level of 30 dB(A) penalises rural communities in NSW which have much lower background levels. The ING proposes not only to maintain this unfair penalty but to raise the daytime background noise level by a further 5 dB(A).

This level of noise is not 'acceptable' to rural people and causes a much greater level of disturbance and health impacts than described in the background paper.

3. Sleep Disturbance

The background paper uses the World Health Organisation Night Noise Guidelines for Europe (2009) to develop a sleep disturbance trigger of 40 dB(A) with a maximum outdoor measure of 52 dB(A).

These noise levels are exceptionally high for rural areas with a background noise level of less than 19 dB(A). Sleep disturbance caused by high levels of LFN is not taken into consideration.

In order to realistically quantify the total noise emissions, linear noise measurements should be required to assess sleep disturbance, not weighted noise measurements.

Use of ING approach to LFN measurement:

A recent independent review of the noise assessment for the Moolarben Mine Modification 12 applied a comparison of the INP measurement method for LFN with the proposed method in the ING.

The ING application demonstrated an even loss of 5 decibels across all measurements. This means that the same noise emission measured by the two different processes has a vastly different outcome in relation to the application of the Voluntary Land Acquisition and Mitigation Policy. This policy identifies an increase of 5 decibels as being significant.

The ING method removes this 5 decibel significant increase in noise emissions thus exposing rural communities to potentially health threatening noise without providing formal property acquisition opportunities.

Wilkinson Murray conducted an independent Noise Study in Bulga in early 2015. The report was based on 76 valid noise measurements. The application of the INP method (which is a mandatory

⁶ Miedema & Voss (2004)

requirement in the mine consent conditions) demonstrates that 49% of these measurements exceed the noise criteria. The application of the ING method demonstrates only 13% as exceedances.

HCRA is very concerned that the proposed ING is a cost shifting exercise onto community health in quiet rural settings.

HCRA submission to draft ING

The key recommendations made in our submission to the EPA are:

1. A separate subset of rules for rural environments including realistic assessment of background noise levels as opposed to a blanket "30"
2. LFN criterion of dbC-dBA be retained and implemented, OR dbC background to be measured and as with dbA, Project Specific Noise Level (PSNL) dbC to be set at 5 above background.
3. PSNL not to be exceeded
4. Health effects of LFN to be clearly recognised and taken seriously
5. Impact of temperature inversions in the Hunter Valley be better represented and not used as an excuse to exceed PSNLs

We are concerned that there has been no response to the issues raised in our submission.

HCRA requests that the EPA release a Response to Submissions report and a report describing the modelling conducted to compare the INP with the draft ING prior to any finalisation of changes to the management and measurement of industrial noise in NSW.

Sincerely,



Steve Phillips
Convenor, Hunter Central Rivers Alliance.