

SUBMISSION

SUBMISSION TO	Ms. Anna Timbrell Department of Planning & Infrastructure
NAME OF APPLICATION	Crookwell 3 Wind Farm
APPLICATION NUMBER	MP 10_0034
DATE	23 January 2013

BACKGROUND

Our property is a lifestyle property located at Woodhouselee Road 9.75 kms from the Crookwell Road. We have the Crookwell 2 Wind Farm behind us and the proposed Crookwell 3 Wind Farm in front of us.

The hills behind us on Crookwell 2 are gently undulating and rise above our residence by 30m. Tower F44, F40, F39, within view (T45, T46, T47 were removed from Pigman's Hill) the nearest being 860m. Crookwell 2 consists of 46 turbines all within 2.0 kms of our house. F49 has been proposed to be moved (by another land owner) nearer to our place!

The hills at the front of our property rise 90m above us where the proposed part of Crookwell 3 on this side will be consisting of approx 17 turbines. The closest, A1, being 830m, with A2, A3, A6, A8 towers within 1.2 km, the rest within 2.0 kms.

We are therefore situated in a valley between two wind farms with slightly undulating hills to the rear and large hills in the foreground. Adding another 17 towers (Crookwell 3) in front of our property making a total of 63 turbines within 2.0 kms of our residence.

Our objection is based on:

- Noise of turbines
- Loss of visual amenity
- Blade throw
- EMF around towers
- Consent for relocation of F49 Crookwell 2

NOISE

The allowable noise of 35 db A + 5% background noise will not be achievable on any tower within 1.25 kms of our residence. If we can use the NSW guidelines as a moderate guide a tower at 860 m the noise limit would be 42 dbA. It clearly already exceeds the specified target and at the very least is border line for noise divergence.

There is no adequate assessment of cold air inversion upon these figures. We live in a moderately cold area where cloudy days are frequent in winter. Noise on these days is amplified within the valley and the echo is quite dramatic. The number of these days was not

properly factored in. Dramatically increasing the number of divergence days that will occur. On these days the traffic on Crookwell Road can be heard from our property at 2.3 kms away. Chains saw can be easily heard on any day of the year at 1.5 km. A lawn mower at 75 – 80 db placed 500 m is far less than 35 db and around our house is easily heard. Sixty three turbines will make noise, a lot of noise. This community is an extremely quiet environment.

The notion that wind farms can be hardly heard in the background noise in a very quiet rural area is absurd. Every country in the world (with turbines) has complained about these devices. It has nothing to do with money they are simply too loud. In the US, in heavy wind conditions at night these turbines can be heard exceeding 52 Db.

The assumption that turbine noise blends into the background noise at increased wind speed is only partially correct and flawed. The mechanical aspect of the noise can still be easily distinguished from the natural. The swoosh, swoosh, swoosh, modulation at similar noise levels is distinct and mechanical with its own rhythm. It is not a natural sound and cannot be mistaken as the wind outside. It is just extra noise. Many of the overseas videos demonstrate this clearly and we were certainly not shown any of these at the community presentation days. Noise levels as high as 52 Db.

Vand der Berg clearly has indicated “ The wind speed at hub height (turbine top) at night is up to 2.6 times **LOUDER** than expected” causing up to “ 15 Db higher wind sound levels.” Van der burg 2003 – NSW Legislative Council 2009.

Ralph Holland has indicated “ The disruption to wind velocity occurs even at 16 times the blade diameter. This is largely due to the extraction of power from the air stream to recover back to the free airflow (this represents 1.488 km for a small turbine and 1.92 km for the larger turbine) “.

Also “When wind turbines are arranged into wind farms clusters, I believe there is more chance of wake turbulence with other turbines and potential interaction with the surrounding environment, such as the mechanical turbulence caused by hills.” Ralph Holland – Wind turbine wake turbulence and separation 2008.

This is not only a problem for air traffic but the turbulence acts as a carrier for the noise. It justifies the 2.0 km setback around residences especially near hills.

LOSS OF VISUAL AMENITY

These devices are 152m high with 52m blades. The nacelle is the same height as the existing Union Fenosa test tower seen from our door at about 1.0 km. With a built-in 3 degree lean. They could not even get the test tower straight on the 2nd attempt!

In our situation, these towers will be placed on a 90m hill at 830m from our house. The height of these towers at the nacelle overlooking our house will be 242 m. They are huge, imposing structures that dominate their surroundings. Nobody should be expected to open their front door and experience a number of menacing towers spinning 242m above them (not counting the blades). It is a blatant disregard of our welfare.

We feel the photomontage supplied gives a fairly accurate panoramic view in the horizontal perspective. However, the vertical height in the montage is 30% compressed and is no way life-like when compared with the real view. When you step outside and compare the test tower on the hill with the same tower in the montage it immediately becomes apparent that these towers are huge and completely dominate and destroy the rural landscape. They are large industrial devices completely out of place in a rural community.

When a person purchases a block of land the visual amenity is an intrinsic natural right to the title of the land. It is a shared community experience to which you have a right. If this proposal proceeds you are effectively removing the visual amenity from us without our consent. When something is taken away from you without your consent theft is another term used. There are processes where loss can be determined and the extent of that loss.

SHADOW FLICKER

The shadow flicker maps show that the flicker should only marginally encroach our block. From a flat surface point of view this would be correct. The hill in front of us is 90m high and the sun rises of course in the East. As the sun rises the shadow will be projected on the hill; a large rotating silhouette, flickering on the hill 830m away, at least 90m high in our front view. A further violation of our visual amenity.

BLADE THROW

With the extreme wind conditions we experience here blade throw is a serious concern. The first Union Fenosa test tower was destroyed by high winds shortly after completion.

With the proximity of the closest tower at 830m, any explosion due to brake failure (or any other reason) will expose us to significant danger. We have seen video recordings showing how frightening these explosions are. Why then should we be exposed to this danger?

ELECTRO MAGNETIC FIELDS

The EMF survey did not define the size and strength of the EMF foot print around each 3.3 Mw turbine. These turbines are very close to our house. The NSW Guidelines for Wind Farms is vague on the EMF. We were not shown any maps on the size and intensity of these fields around our house. Overseas studies indicate that severe headaches can be caused by prolonged exposure to these fields. Expert opinion and health concerns are still divided on this issue.

The Union Fenosa's proposal indicates that this EMF will be contained by the cabling and the outer shell of the nacelle – A Faraday box approach. EMF was a consideration for communications towers so obviously the shielding doesn't work very well. This guess work does not give much assurance of exposure over the next thirty years.

The NSW senate enquiry has recommended caution on erecting turbines closer than 1.0 km to residences. There should not be any towers located near residences under that distance.

CONSENT FOR F49 CROOKWELL WINDFARM 2

Tower F49 was relocated to the north 250m from its original position away from Pejar Park to behind our residence. As shown in the photo at location 5 the new position of the proposed tower is indicated. What is doesn't show is behind the trees, in the middle, on the left hand side, is our residence.

In Crookwell 2 Windfarm – conditions of consent (ref S03/03276/Z Pt 1) Scope of Development. Part 6.

“Under section 80(5) of the Act, turbine F49 (**stage 3**) must be subject to another development consent. In whether or not to grant development consent for **stage 3**, the minister must consider the following information which must be provided by the applicant to the satisfaction of the Director General”

(b) information on noise, shadow flicker, cultural heritage, flora and fauna electromagnetic interference, road safety (in relation to motorists using Woodhouselee Road) and visual impacts of turbine F49 as the alternate location identified by the study described a) This additional information must include photomontages from key viewpoints and **the nearest residences**.

Tower F49 in its new proposed site moved 250m nearer to us. The new residence “Valdamir Hill” would also be affected. No photomontages was done, no flicker maps. There was no consultation process, nobody approached us and said that is where it was going.

We request that tower F49 as subject to application concerning stage 3 be removed as we do not give our consent for it being there.

FUTURE TURBINE UPGRADE

Union Fenosa representatives have informed us that they intend to upgrade the towers at approximately year 15. They intend to increase the height of the towers to another 10m and increase the capacity of the turbines and extend the blade lengths, bringing another round of construction noise and traffic problems. These new bigger turbines will be noisier than the units on consideration in this proposal.

Another development application and approval would be required. What are the probabilities that the state significance would override the concerns of the local, significantly affected community? Bigger turbines make more noise.

We understand Union Fenosa has a range of mitigation noise measures planned, turning towers on and off into low noise mode. Cheap noise solutions is to sound proof homes. For those of us who have no intention of moving the best noise mitigation technique is not to have the offending towers there in the first place.

Consider for a moment placing sixty three noisy devices around your house. Would you be happy? There is very little scope to micro position these towers. An upper limit of 50 Db A is not an acceptable noise limit in anyone's house.

We do not object to our host neighbour's or Union Fenosa's right to enhance their income as long as it does not infringe on other people's rights. This is not the case here. We are definitely disadvantaged with this proposal.

We object to the proponent taking our visual amenity and subjecting us to a lifetime of noise. A thirty-year contract with provision for another 30 years equates to a lifetime to us.

We request that this proposal for Crookwell 3 Wind Farm and tower F49 be denied as not being in the community interest, due to noise and loss of visual amenity to affected residents.

Alternatives

There are other more efficient avenues to reach our 20% renewable energy targets by 2020.

Magnetic impulse generators have been available now for over fifteen years. Using rare earth neodymium magnets to provide cheap almost cost free power. Green power at near 100% efficiency. Existing power stations could be converted by fitting magnet arrays. Providing large amounts of controllable power to run desalination plants and smelt aluminum. These are not concepts but operating alternatives. Solar alone can give us a 20% by 2020. These methods do not cause community division, create noise or violates the landscape.

A Modified Proposal

Of the seventeen towers visible, removing the five closest towers in front of our house, i.e., A1, A2, A3, A6, A8 and F49 at the rear of our house all of which are within 830m to 1.3 kms from our house. This might present a tolerable approach. This would reduce noise and retain part of our visual amenity. The smaller turbine the GE 2.5 X1 which has less noise divergence is recommended to be used.

If state significance would override the rights of the local community, a shared benefit scheme that seriously considers the position of **significantly** affected residents rather than a base council infrastructure fee without noise considerations is appropriate.

We sincerely hope for your serious consideration.

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