

Submission to the Select Committee on Wind Turbines

I am writing in a personal capacity but have some knowledge of the lack of regulation when constructing wind turbines as I am webmaster of the site with the only (as far as we know) global record of wind turbine related incidents <http://www.caithnesswindfarms.co.uk/AccidentStatistics.htm> . This data is updated quarterly so an update is due at the end of March which unfortunately is just after your deadline for submissions. We state this is the tip of the iceberg (probably about 9% of actual incidents) because we only report what we hear about and can verify.

I can only speak on the United Kingdom situation when it comes to regulations but think my points may be of interest to your Committee if only to enable them to enquire further into the situation in Australia, as I suspect the lack of effective regulation applies globally.

The industry regularly claims that wind turbines are safe. Last November Professional Engineering Magazine carried an article entitled *When Turbines Topple* which described incidents of turbines collapsing at the base and ended with quotations from RenewableUK (the industry body). There are many other ways turbines can fail dangerously, e.g. at a point higher up the tower or, the most common, blade throw. They can also of course catch fire. I was irritated, as always, by their comments which are designed to re-assure the public on safety and an incident near me recently involving a small turbine proves my point.

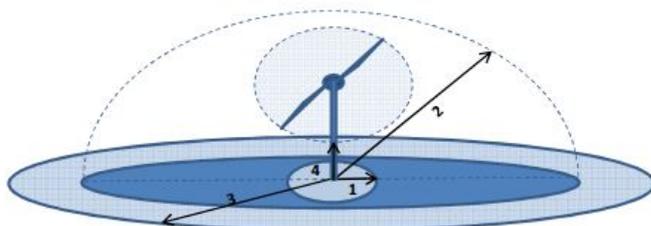
They said *“For small wind turbines such as these, there’s a rigorous process in place which is verified by independent bodies to ensure the installation standards are adhered to strictly. This includes a detailed risk assessment to guarantee that every turbine is sited in a safe place.”* If only this were true. The turbine near me, one of two, was sited in the middle of an industrial estate closely surrounded by buildings and with people and traffic passing nearby; a common situation. It collapsed onto a nearby factory. Fortunately it was a Sunday so no-one was working there; on Monday the outcome could have been very different. Although the factory owner is reported as expressing serious concern, saying it should be reported to the Health & Safety Executive, this did not happen. When I visited the site a few days later all that remained of the toppled turbine was the stump. This is normal practice so there is little if anything for an HSE inspector to see. The remaining turbine has not been braked.



Was this *“sited in a safe place”*? There is no *“detailed risk assessment”* in the planning documents, in fact I have never seen one attached to a turbine application. Safety of the public is never mentioned in planning discussions. My council is Highland, the largest in Scotland, with a policy of installing turbines in school playgrounds as happens elsewhere. No site specific risk assessments were done before installing these. Danger to birds is mentioned, as it was for the industrial estate, but that’s all. Exclusion zones have been recommended – one example is below – but never imposed.

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Turbine siting safety zones



Derived from MIS3003 Iss. 3.1a

Zone	Extent	Typical hazard
1	Circle around base	Fall zone: Hazard if anything were to fall from turbine
2	Hemisphere around base	Topple zone: Hazard if the mast were to topple (incl. margin)
3	Circle around base	Ejection zone: Hazard if something were to be ejected from the spinning rotor.
4	Reachable area	Vandalism: Lowest point of rotating parts above the ground or easily accessible point.
5	Varies	Impact: Hazard from vehicle impacts

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I have a list of school turbine failures describing parts being thrown all over a playground, which in nearly every case “fortunately” was empty at the time. A school turbine blade recently flew through the window of a nearby house; “fortunately” the room was empty. I have never heard exclusion zones on safety grounds mentioned in any wind turbine context elsewhere. Any fast spinning machine can fail yet the possibility of blade throw, tower collapse or fire is not mentioned when considering planning applications. Turbine foundations offshore are known to shift; what happens when they start collapsing?

Nearly every time a turbine failure is reported we get the comment “Fortunately no-one was injured”. Fortunately ?? It is described by the maker or the industry as “rare” or “highly unusual” – rare is becoming regular. The reason there is widespread ignorance of the failure rate is that, in this country at least, RenewableUK’s website for members to report incidents guarantees confidentiality. The HSE state they “do not currently have a database of wind turbine failures on which they can base judgements on the reliability and risk assessments for wind turbines.”

There have been numerous reports of fatal accidents to workers including falling from towers, being burnt alive at the top of towers etc. These hit the press briefly but then appear to be forgotten because no-one in authority keeps a public record. I recently received this comment following a succession of emails on worker safety (windfarms):

The whole work environment situation in wt’s is a mess. Nobody cares. I have seen a commentary saying that these jobs now are among the most dangerous in all industry.

It is time the safety of turbines was taken more seriously. Those authorised to approve planning applications, whether for single turbines or windfarms, should ensure:

- there has been a detailed site specific risk assessment by an approved body (not the developer)
- exclusion zones (ejection) should be mandatory in every situation where there are occupied buildings
- there should be a legal requirement to report every turbine failure/turbine-related accident and the record should be public
- every potentially dangerous failure/accident should be reported immediately to the HSE or equivalent and the subsequent report made available on request.

Until the truth is public, the myth that wind turbines are safe will continue.

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