

## SCHOOL TURBINE SAFETY CORRESPONDENCE

***(Brief summary by Stuart Young inserted in red italics)***

1. Scottish Government / Parliament page 2  
 Letter to Minister for Children, passed to Govt. Planning to respond;  
 email from Mary Scanlon's office with my comments  

***SY The Minister for Children suggested that the issue was a matter for Highland Council or HSE. Aileen Weurman on behalf of Mary Scanlon MSP avoids addressing the issue.***
2. Health & Safety page 7  
 Correspondence with Health & Safety Scotland and HSE Chief Executive's office  

***SY In this protracted correspondence, HSE insist the matter of safety regarding siting turbines in school playgrounds is a Planning matter and therefore the responsibility of Highland Council***
3. Raasay School turbine failure page 14  
 Correspondence with HSE and Highland Council  

***SY This details Brenda Herrick's efforts to obtain official reports on the Raasay turbine failure.***
4. Highland Council page 16  
 Correspondence with Council officers including Chief Executive  

***SY This is a very lengthy correspondence throughout which Highland Council resists Brenda Herrick's logic and evidence. Documents 4g and 4i typify the attitude of Highland Council and should be read in detail.***
5. Highland Councillors page 29  
 Correspondence informing of risks (previously unaware)  

***SY This is self-explanatory. It is not surprising that Members were unaware of the issues as no formal policy had been proposed or adopted.***
6. FOI requests to Highland Council page 34  
 Information requested by CWIF member
7. Comments from professionals page 39  
 Various - sent in correspondence  

***SY Although many of these comments are unattributed, this section demonstrates the typical concerns of engineers and safety professionals. Such concerns should logically lead to a precautionary approach to siting of wind turbines in school premises, not a hardening of resolve to do so.***
8. Wind Industry page 42  
 Correspondence and quotes from manuals etc.
9. Press page 46  
 Relevant articles  

***SY Press reports of turbine incidents are frequent. There is no excuse for not being aware that there are dangers associated with wind turbines.***

*Related articles linked from the web page are highlighted yellow.*

1 1a	<p data-bbox="220 185 699 219"><b>Scottish Government / Parliament</b></p> <p data-bbox="220 246 933 353"><b>From:</b> Brenda <b>Sent:</b> 17 June 2011 16:15 <b>To:</b> Dewar A (Alison) <i>N.B. forwarded by Alison Dewar to Alison M. Dewar</i> <b>Subject:</b> H&amp;S in Schools</p> <p data-bbox="220 387 357 416">Dear Alison</p> <p data-bbox="220 454 1474 589">I was given your name by Angela Constance's office after I emailed her to enquire who was responsible in the Scottish Government for Health &amp; Safety in Schools. I am very concerned that wind turbines are being installed in school playgrounds with no apparent concern for the danger to children, despite the many incidents/accidents reported involving school turbines collapsing, throwing blades, a recent death in the US etc.</p> <p data-bbox="220 622 1442 757">A number of schools in Highland are acquiring these things and I can find no-one concerned for children's safety. H&amp;S seem to know nothing about it and are only concerned for employees not the public. The manufacturers themselves have no guidelines. Vestas did once have these instructions in their safety manual but they were removed, presumably so as not to lose business:</p> <p data-bbox="296 775 1369 864">Do not stay within a radius of 400m (1300 ft) from the turbine unless it is necessary. If you have to inspect an operating turbine from the ground, do not stay under the rotor plane but observe the rotor from the front.</p> <p data-bbox="296 882 1347 943">Make sure that children do not stay by or play nearby the turbine. If necessary, fence the foundation.</p> <p data-bbox="296 960 1401 1021">The access door to the turbine must be locked in order to prevent unauthorized persons from stopping or damaging the turbine due to mal-operation of the controller.</p> <p data-bbox="220 1055 1469 1227">One school in Caithness has a turbine in a small playground right next to an equally small football pitch and a few feet from one goal. Can you imagine the temptation to hit the turbine rather than the goal when no-one is looking and the possible consequences? It seems never to have occurred to anyone that a smallish turbine in a playground might be fun to try and climb - they're not trees. Telegraph poles have various Danger of Death notices attached - why not turbines?</p> <p data-bbox="220 1261 1477 1328">Children in another local school were photographed sitting round the bottom of a turbine when it was switched on. Obviously the teachers had absolutely no idea that this might be dangerous.</p> <p data-bbox="220 1361 1474 1534">What happens if a turbine collapses or throws a blade, which can go a long way? What happens in winter with ice throw? Do the schools have any safety instructions? Are they able to switch the turbines off? Has anyone even looked into these matters? Like many people I frequently think H&amp;S with children has gone too far and they are so sheltered and protected from possible dangers that they do not learn to be sensibly adventurous, but I fail to understand why they are exposed to this completely unnecessary danger.</p> <p data-bbox="220 1568 1417 1668">The issues of noise and flicker also seem to be disregarded. Again - can the turbines be switched off by the school if this is a problem? Are all schools checked to ensure there are no pupils with epilepsy or other conditions that can be seriously affected?</p> <p data-bbox="220 1702 1425 1769">I attach a list of <b>School turbine accidents</b> of which I am aware, no doubt there are countless others I am not aware of but it gives you an idea of what can happen.</p> <p data-bbox="220 1803 397 1865">Regards Brenda Herrick</p>
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1b	<p><b>From:</b> <a href="mailto:Harry.McWilliams@scotland.gsi.gov.uk">Harry.McWilliams@scotland.gsi.gov.uk</a>  <b>To:</b> Brenda  <b>Cc:</b> <a href="mailto:William.Scott-Watson@scotland.gsi.gov.uk">William.Scott-Watson@scotland.gsi.gov.uk</a>  <b>Sent:</b> Thursday, June 23, 2011 1:00 PM  <b>Subject:</b> FW: H&amp;S in Schools</p> <p>Dear Ms Herrick,</p> <p>You ask who in the Scottish Government is responsible for the siting and subsequent safety of wind turbines in schools. May I first of all explain that the statutory responsibility for the provision of education in Scotland rests with the appropriate local authority. They therefore own, run and maintain school buildings in their school estate. Neither the Scottish Government nor Scottish Ministers have a remit to intervene in the day to day running of schools.</p> <p>The siting of a wind turbine on or near school premises is therefore entirely a matter for local authorities to consider. That said, there are other considerations that local authorities must adhere to when making such a decision, such as the planning process and health and safety legislation.</p> <p>With regard to the planning process, you may be interested in the information provided by the Scottish government with regard to policy and advice concerning wind turbines and other renewable energy sources. The following links will take you to Scottish Government publications</p> <p><b>Policy</b>  <a href="http://www.scotland.gov.uk/Publications/2010/02/03132605/0">http://www.scotland.gov.uk/Publications/2010/02/03132605/0</a> (see paras 187-191)(mainly focused on the large scale stuff)</p> <p><b>Advice</b>  <a href="http://www.scotland.gov.uk/Publications/2006/10/03093936/14">http://www.scotland.gov.uk/Publications/2006/10/03093936/14</a>  <a href="http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables/Onshore">http://www.scotland.gov.uk/Topics/Built-Environment/planning/National-Planning-Policy/themes/renewables/Onshore</a></p> <p>With regard to health and safety, the legislative responsibility lies with the Health &amp; Safety Executive (HSE). You may be interested to see a recent paper (link in the attachments box) from the HSE on regulation of emerging energy technologies.</p> <p>I hope you find this information useful.</p> <p>Harry McWilliams  School Infrastructure Unit.</p>
1c	<p><b>From:</b> Brenda  <b>Sent:</b> 23 June 2011 15:26  <b>To:</b> McWilliams H (Harry)  <b>Cc:</b> Scott-Watson W (William)  <b>Subject:</b> Re: H&amp;S in Schools</p> <p>Dear Mr McWilliams</p> <p>Thank you for your response. I am fairly familiar with planning procedures/regulations in connection with wind energy and am currently responding to Highland Council's Wind Energy consultation. I can see nothing in the links you have sent me that refers to safety for children or even the public who can wander around windfarms nor can I see any reference to turbines in school playgrounds, which is where they are being sited. Perhaps you can point me to the precise locations in those documents of any such references?</p> <p>My first enquiry was to the HSE who knew nothing about it and seemed only concerned with safety of employees. I also wrote to the H&amp;S in Schools department of The Highland Council and it is obvious from their response that they also know nothing, have never considered it and have no policy. My request has been passed to an engineer in THC and I await his response but this is hardly satisfactory.</p> <p>I consulted an engineer I know who is concerned with H&amp;S in his workplace and his response was as follows:</p>

	<p>I think the main point to make is that even without any prior record of accidents, it goes against any risk assessment methodology to place a high speed rotating machine above an area where people regularly congregate. Public access to normal windfarms is mitigated by time-at-risk considerations and the fact that it is their choice to be there. Over the course of a child's school attendance the time at risk is considerable and, apart from missing outside activities, there is no choice in the matter.</p> <p>My one disagreement with that is the public may choose to walk round a windfarm but it is highly unlikely they are properly informed of the risks. There are, of course, numerous records of fatal accidents involving wind turbines.</p> <p>It seems no risk assessments are carried out in schools, no warnings given, nothing. Who is responsible in the event of an accident? It appears no-one is willing to take responsibility or even concern themselves.</p> <p>Brenda Herrick</p>
1d	<p><b>From:</b> <a href="mailto:Harry.McWilliams@scotland.gsi.gov.uk">Harry.McWilliams@scotland.gsi.gov.uk</a>  <b>To:</b> Brenda  <b>Cc:</b> <a href="mailto:William.Scott-Watson@scotland.gsi.gov.uk">William.Scott-Watson@scotland.gsi.gov.uk</a>  <b>Sent:</b> Friday, June 24, 2011 12:13 PM  <b>Subject:</b> RE: H&amp;S in Schools</p> <p>Dear Ms Herrick,</p> <p>You ask in your response to my email who would be responsible for carrying out a risk assessment when considering placing a wind turbine at a school, and who would be responsible in the event of a wind turbine accident at a school. You also queried the usefulness of the information I provided.</p> <p>The documents to which I supplied links set out the background to Government planning policy with regard to renewable energy and an HSE paper discussing the way forward with regard to health and safety including risk assessment and the consequences of an incident. The purpose of supplying those links was to provide you with a more informed view of the process from both a planning and safety viewpoint. Should you have a specific concern, may I suggest that you continue your correspondence with Highland Council if you wish to ascertain their siting and risk assessment policy with regard to the siting of wind turbines in schools as it is they who are responsible for making such decisions.</p> <p>Harry.</p>
1e	<p><b>From:</b> <a href="mailto:Aileen.Weurman@scottish.parliament.uk">Aileen.Weurman@scottish.parliament.uk</a>  <b>Sent:</b> Tuesday, May 22, 2012 9:02 AM  <b>To:</b> <a href="mailto:kim.terry@communitiesagainstiturbinescotland.com">kim.terry@communitiesagainstiturbinescotland.com</a>  <b>Cc:</b> <a href="mailto:Edmund.Dalziel@scottish.parliament.uk">Edmund.Dalziel@scottish.parliament.uk</a>  <b>Subject:</b> RE: Time for the government to step in - Negligence and cover-up - turbines in school playgrounds.</p> <p>Dear Ms Terry (my comments in red)</p> <p>Thank you for your enquiry. You asked about safety concerns over wind turbines in school playgrounds and whether any research had been done into the issue.</p> <p><b>Summary</b></p> <p>There is no Scottish Government assessment of safety issues surrounding micro-turbine location. Individual councils may develop their own risk assessment approaches to the location of turbines. "May" is not good enough - should be must. In addition, wind turbine manufacturers will provide information on the most appropriate siting of their products. They don't in all cases and where they do it's ignored. Highland Council recently suspended operation of all school wind turbines following concerns about their safety[1] &lt;#_ftn1&gt; . It has commissioned the Building Research Establishment (BRE) to carry out a review to evaluate all wind turbine installations on or adjacent to school sites. BRE should report back in the next few weeks. The Council will then use this to inform their own policy and risk assessment approach to wind turbine location. I am concerned they are looking at distance from buildings rather than children, but we'll see.</p>

### Wind turbine planning and safety – current situation

General information on wind turbine planning is available from the SPICe briefing <<http://www.scottish.parliament.uk/ResearchBriefingsAndFactsheets/S4/SB11-71.pdf>> . Every planning application will be considered by the relevant planning authority on its own merits and will include an assessment of risk. **Councils are obviously ignoring this as in Highland at least there were no risk assessments in schools and other councils must be the same or they would not be installing them. They look at noise and flicker for all turbines but not public safety. Developer's employees are better protected than the public, e.g. Inifinis vacate windfarm sites in high windspeeds but I have never heard of the public being vacated from homes/workplaces etc. near turbines.**

<http://www.inifinis.com/media-centre/press-releases/list/?year=2011> Once a turbine has planning permission, the only function of the local planning department is to ensure it is constructed and operated in line with the planning permission granted. **If there are no conditions this is useless.** Micro-turbines do not always require full planning permission though the design and location of the turbine must be approved by the planning authority prior to development. **I kept being told it was the responsibility of the planning authority but they are not qualified; they know nothing about turbine safety.**

The Micro generation Certification Scheme <<http://www.microgenerationcertification.org/>> is the certification body for small scale wind turbines and is responsible for ensuring the quality of renewable technology installations and products. MCS installers and products are mandatory for anyone wishing to receive the Feed in Tariffs (FITs)

<[http://www.decc.gov.uk/en/content/cms/meeting\\_energy/Renewable\\_ener/feedin\\_tariff/feedin\\_tariff.aspx](http://www.decc.gov.uk/en/content/cms/meeting_energy/Renewable_ener/feedin_tariff/feedin_tariff.aspx)> and installer companies must belong to a consumer code of practice. **I tried the MCS route a long time ago as I believed that if installations were not MCS compliant they should not be claiming FiTs but I could not get anyone to give me a definitive reply. The guidelines are there but not observed (see p.21 of attached) and it seems all too easy for installers/manufacturers to get MCS accreditation.**

At the moment there is only one, the REAL Assurance Code <<http://www.realassurance.org.uk/>> . **Hadn't seen this before and will read later but at a quick glance I don't see any mention of safety.**

### Wind turbine safety record

There has been some press coverage of safety concerns about turbines including small scale turbines in playgrounds[2] <#\_ftn2> but there is no authoritative publically available database of wind turbine failures available. Caithness Wind Farms (an anti-wind campaign group **Is this comment relevant?**) have compiled lists of accidents[3] <#\_ftn3> partly sourced from a US summary of accidents[4] <#\_ftn4> **see comment in my other email** and another group Wind farm Action has a summary of safety concerns on its website[5] <#\_ftn5> . Wind stats also compiles lists of accidents, mainly in the US and Germany[6] <#\_ftn6> . However the accidents listed are industrial accidents involving workers on wind farm construction sites. RenewableUK (a renewable energy association) state that there are no recorded cases of members of the public being killed or seriously injured during normal operation of a wind farm[7] <#\_ftn7> . **It's not "normal" operation that we're talking about since accidents occur when something goes wrong!**

The lack of an authoritative database of turbine failures has been recognised as a gap by the Health and Safety Executive (HSE). **As I said before - they should demand RenUK release details.** While a number of organisations carry out risk assessments for individual sites, there is no standard methodology for the HSE to judge these against. They have therefore commissioned some research to:

1. Investigate the sources of data for wind turbine failure and
2. Develop a standard methodology to assess the risks posed to persons in the vicinity of onshore wind turbines.

The project has not yet reported, however a case study carried out for a first presentation of results[8] <#\_ftn8> suggests very low probability of fatalities connected to wind turbine failures. However, this research is aimed primarily at industrial scale wind farms. Further research will be needed into micro-turbines. **When you consider the safety rules in almost every aspect of life it seems odd there are none for the wind industry except for their own employees (and I believe Ministers wear hard hats if visiting sites !).**

There have been safety concerns about a particular model of micro-turbines[9] <#\_ftn9> . In 2011, Proven Energy issued a press statement <<http://www.provenenergy.co.uk/>> saying that they had become aware of a potential manufacturing defect in its Proven 35-2 wind turbine and advising all Proven 35-2 owners to place their wind turbines on brake as soon as it is safe to do so. The Micro-generation Certification

scheme suspended certification of the models. Proven Energy has since gone into administration. Many Proven turbines have not been braked, as Aileen (the other one) has commented and another company has taken over.

I hope this is helpful. Thank you for contacting Mary Scanlon MSP.

Aileen Weurman

PA to Mary Scanlon MSP  
Shadow Spokesperson for Energy, Enterprise and Tourism  
The Scottish Parliament  
Edinburgh  
EH99 1SP  
Tel: 0131 348 5461  
[www.maryscanlonmsp.com](http://www.maryscanlonmsp.com)

2	<b>Health &amp; Safety</b>
2a	<p><b>From:</b> Brenda  <b>To:</b> <a href="mailto:Bernardine.Cooney@hse.gsi.gov.uk">Bernardine.Cooney@hse.gsi.gov.uk</a>  <b>Sent:</b> Tuesday, July 05, 2011 11:53 AM  <b>Subject:</b> Health &amp; Safety in Schools</p> <p>I have been given your name as someone who may be able to help me with current policy on siting wind turbines in school playgrounds. Highland Council are installing these on a number of sites with no fencing or other protection so surrounded by children playing; in one instance a turbine has been installed in a small playground just next to their, also small, football pitch and a few feet from a goal post.</p> <p>The Government are currently reducing the restrictions on school outings etc. which I entirely support as, like many people, I do not believe wrapping children in cotton wool is any preparation for life. However when it comes to installing turbines in schools I have to agree with an engineer I recently consulted about this who said:</p> <p>it goes against any risk assessment methodology to place a high speed rotating machine above an area where people regularly congregate</p> <p>and went on to point out that whereas adults can choose whether to walk around near turbines, schoolchildren cannot. I have tried to obtain copies of risk assessments carried out in these schools but so far without success. I did contact the HSE in Scotland originally and was told it was not their area of concern. I contacted the Scottish Govt. who apparently have no safety guidelines and informed me it was the local council's responsibility. My local council, Highland, also appear not to have any safety guidelines.</p> <p>There have been a number of incidents, both here and abroad, where school turbines have collapsed full length, blades flown off etc. Even a 10m to hub turbine suddenly collapsing could do huge damage with children around and it is sheer chance that no child has yet died as a result, although a teenager was killed recently in the US due to climbing a large school turbine where the door was left unlocked. Does nobody care about this? There are standard separation distances from houses but apparently none from school buildings or children playing - it makes no sense.</p> <p>Thank you</p> <p>Brenda Herrick</p>
2b	<p><b>From:</b> <a href="mailto:June.Cairns@hse.gsi.gov.uk">June.Cairns@hse.gsi.gov.uk</a>  <b>To:</b> Brenda  <b>Sent:</b> Thursday, July 14, 2011 2:59 PM  <b>Subject:</b> FW: Health &amp; Safety in Schools - Wind turbines</p> <p>Dear Brenda</p> <p>Thank you for your email letter of 5 July to my colleague Bernadine Cooney, in which you ask about the Health and Safety Executive's (HSE) policy on the positioning of wind turbines in school playgrounds, and your subsequent emails yesterday. As I mentioned in my holding reply of 13 July, I have been asked to deal with your enquiry.</p> <p>You mention in your email that you have already contacted HSE in Scotland, who advised you that this was not a matter for HSE. I can confirm that this information is correct. The reason that HSE is not responsible is because the location of wind turbines is a planning matter and the decision to grant planning permission does not fall to HSE. As such, each application to install a wind turbine within a school will have to be assessed individually through the local authority's planning process. HSE has no part in this process.</p> <p>I know that you will be disappointed in this response, as it does not address your key concern about the positioning of wind turbines in school playgrounds in your area. I would, however, like to make the following points – some of which you touched on in your email of 13 July – about where health and safety law would apply, who is responsible in the event of an incident and where HSE would have a legitimate interest.</p>



- As far as health and safety law is concerned, in Scotland, the local authority is the “duty holder” – in this case Highland Council - not the school(s). The “duty holder” under the Health and Safety at Work etc Act 1974 is the employer;
- As the “duty holder”, Highland Council must satisfy itself and its planners that the piece of equipment (in this case a micro-wind turbine) purchased is suitable and appropriate for the location and required operation;
- Under health and safety law, Highland Council must continue to maintain the turbine in accordance with the manufacturer/designer’s guidelines;
- By ensuring regular maintenance, examination of parts, etc Highland Council must be able to demonstrate that it is managing the turbine safely and in accordance with its risk assessment;
- If there is an incident, which results in a reported\* injury to an employee or a member of the public (this includes pupils) or a near miss, relating to say, the erection of the turbine or its subsequent operation, HSE is the relevant health and safety enforcing authority that would investigate the matter, in accordance with our [selection criteria](#). (\*i.e. under [RIDDOR](#))

I note that various contacts have signposted you to a number of documents, the majority of which you say are not relevant. Of the publications I have skimmed, Scottish Government’s Planning Advice Note (PAN) 45 ANNEX – Planning for Micro Renewables (link below), would seem to be the most appropriate. Paragraph 13 refers to planning controls and the need to “take into account the size, location, and surroundings of the proposed siting of the device”. I also note that a school case study is included in the document. <http://www.scotland.gov.uk/Publications/2006/10/03093936/14>

Regarding the Scottish Government guidance for wind energy planning, contained in paragraphs 182-186 of the Scottish Planning Policy (link below), there is reference to planning authorities having to take into account relevant factors including “amenity and communities”, which I would presume will include schools. <http://www.scotland.gov.uk/Publications/2010/02/03132605/12>

As mentioned earlier, I appreciate that this response has not resolved your query. I hope however that it has explained HSE’s position in what is, at this stage, essentially a planning issue.

Yours sincerely

June Cairns  
 Public Services Sector (Scotland)  
 Operational Strategy Division  
 Health and Safety Executive  
 Edinburgh  
 Tel 0131 247 2063 VPN 520 2063  
 email: [june.cairns@hse.gsi.gov.uk](mailto:june.cairns@hse.gsi.gov.uk)

2c

*We spoke at some length on the phone*

**From:** Brenda  
**To:** [June.Cairns@hse.gsi.gov.uk](mailto:June.Cairns@hse.gsi.gov.uk)  
**Sent:** Thursday, July 14, 2011 4:27 PM  
**Subject:** Re: Health & Safety in Schools - Wind turbines

Thanks June for all your help and for taking the trouble to investigate this for me. I will pursue the issue of the Raasay turbine as you suggest and will let you know the outcome. Meanwhile as promised I attach a scanned copy of the article in the Groat which repeats the mention of noise and flicker but nothing else.

Kind regards

*Brenda*

2d

*Then wrote to Fiona as June was away*

**From:** Brenda  
**To:** [Fiona.MacNeill@hse.gsi.gov.uk](mailto:Fiona.MacNeill@hse.gsi.gov.uk)  
**Sent:** Friday, July 29, 2011 4:24 PM  
**Subject:** Fw: H&S in Schools (Wind Turbines)



Dear Fiona

I have been trying to find out any involvement by HSE with school turbines and attach a copy of an email June Cairns sent me recently. Highland Council have confirmed that no risk assessment has been carried out on the turbines installed locally but they have just sent me the **report on the Raasay School incident** which is attached. I forwarded this to June but received her autoresponse saying she is away until 10 August which unfortunately is the day I go away for a week and schools will be back before my return so I don't really want to leave it until then. She gave your name but I have been getting your voicemail all day and the switchboard have confirmed you are also out on Monday so recommended emailing you.

As you can see, Eddie Boyd says the Raasay incident was not reported under RIDDOR but we believe it should have been as it was a serious incident that could have resulted in very serious injury or death to teachers and/or children. We are also very concerned that they are continuing to instal school turbines in contravention of their own recommendations and guidelines at the end of that report, i.e. in school playgrounds, very close to football pitches with no fencing or buffer zone which they themselves recommend. We do not know whether school staff are given any training in the event of an incident as the Council seem completely unaware of any possible risks. They are now installing a different make of turbine.

Can you confirm that the incident should have been reported? What action can be taken before the schools return after the summer? There are three primary schools near me which have had turbines installed during last term, all in the playgrounds. There may, of course, be many more. I discussed some of this with June on the phone so please phone me if you have any questions.

Regards

*Brenda*

Brenda Herrick

2e

**From:** [Fiona.MacNeill@hse.gsi.gov.uk](mailto:Fiona.MacNeill@hse.gsi.gov.uk)  
**To:** Brenda  
**Cc:** [June.Cairns@hse.gsi.gov.uk](mailto:June.Cairns@hse.gsi.gov.uk)  
**Sent:** Friday, July 29, 2011 5:17 PM  
**Subject:** RE: H&S in Schools (Wind Turbines)

Dear Brenda

I'm sorry that you have not been able to get hold of me today. I haven't been in the office which is why the phone has been diverting to voicemail. My phone should divert to my Blackberry though and I don't see any missed calls so apologies for that as it appears my office phone may have been diverting straight to voicemail.

I'm not in the office until Tuesday next week when I will give this matter my attention.

Could I please ask you to clarify your question below: "What action can be taken before the schools return after the summer?"

Yours sincerely

Fiona MacNeill  
 Policy Manager  
 Public Services Sector (Scotland)  
 HSE  
 Belford House  
 Belford Road  
 Edinburgh  
 EH4 3UE  
 Tel: 0131 247 2047  
 Mob: 07852 532 899

2f

**From:** Brenda  
**To:** [Fiona.MacNeill@hse.gsi.gov.uk](mailto:Fiona.MacNeill@hse.gsi.gov.uk)  
**Sent:** Friday, July 29, 2011 5:58 PM  
**Subject:** Re: H&S in Schools (Wind Turbines)

Thanks Fiona. I didn't leave a message as have myself been out for much of the day and wasn't sure if you could access June's emails so decided it might be better to send the report to you. I would like to know whether this incident should have been reported. As to action, frankly I think these turbines should be removed as I can see no way of making them safe and Highland Council seem to have taken no precautions. I was told initially that they had done a risk assessment and only discovered later they had not. I understand you are concerned with safety at work but teachers are at work and should not be responsible for dealing with incidents involving dangerous equipment as happened at Raasay where the Head Teacher had to stop the turbine. Surely that is not acceptable?

The three primary schools near to me had turbines installed last term in the playgrounds. Two are 10m to hub and one 15m. None of the playgrounds are very large and one is in fact so small that the turbine is right next to the football goal - see [attached Bower School Turbine](#) where I have superimposed the goals on the plan taken from the application on HC website (I can't check the measurements now as HC website is down but I know the school well) and cannot be fenced off as recommended in HC's guidelines. Teachers are responsible for pupil safety and this is asking too much, especially as I imagine they cannot possibly be trained to deal with any incident either with the turbine itself or the associated electrical equipment. A safety manual for a turbine of a different make but similar size associated with another planning application on HC website includes the following:

**STOP! DANGER!** If the generator appears or sounds loose in the tower or is making an unusual sound, the condition must be corrected immediately. A loose generator or component will soon damage itself further and may fall from the tower or lose parts that could be lethal. Never stand in line with an operating propeller.

**STOP! DANGER!** Provide climbing protection against all unauthorized persons or children. Never allow an untrained person or someone without the proper safety equipment to climb the tower. Always stop the propeller before climbing the tower. Both falling from the tower and contact with the operating propeller can be lethal.

There have been several incidents of turbines this size collapsing full length without warning. How are staff supposed to deal with that or with parts falling off as happened at Raasay?

*Brenda*

2g



## Caithness Windfarm Information Forum

[www.caithnesswindfarms.co.uk](http://www.caithnesswindfarms.co.uk)

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from: 

15 November 2012

Geoffrey Podger, Esq, CB  
 Chief Executive  
 Health and Safety Executive  
 Redgrave Court  
 Merton Road  
 Bootle  
 Merseyside  
 L20 7HS

Dear Mr Podger

### **Risks to Workers from Wind Turbines**

As owners of the only global database of wind turbine accidents and incidents, Caithness Windfarm Information Forum is frequently asked for advice on the dangers of siting large turbines in areas where they could potentially cause huge damage either from blade throw (the most common cause of failure), fire or tower collapse.

Earlier this year GSK Montrose applied to install two large turbines in their industrial estate and local people were very concerned by the risk to workers on the site. I was surprised to see that HSE raised no objection. On contacting one of your Scottish offices I was told that they get involved over safety during the construction period but not thereafter. There seems a widespread lack of awareness both in Government and by the wider public over the dangers posed by wind turbines but I am surprised that HSE is not more involved, particularly where workers are concerned. The industry body, Renewables UK, admitted to 1,500 accidents/incidents over the five years to December 2011 in the UK alone but refuse to release details and it seems no organisation, apart from CWIF, keeps a verifiable record of all turbine failures. We believe our figures are the tip of the iceberg because we can rely only on what is reported in the media.

A 35m. long blade could travel some distance at speed; a turbine tower can be over 100m. tall (i.e. to hub) and again could cause widespread destruction; failure could result in serious damage and injury in an area with chemicals, gas cylinders etc. but this appears never to be considered.

Apart from concerned individuals in this country we have also been contacted by fire departments in the US, many of which have specialist training for their firefighters in dealing with turbine fires which cannot be extinguished due to the height of the turbines so have to be left to burn out. This can take some time during which flaming parts can be thrown considerable

distances. Despite the proliferation of large turbines in the UK I have seen no references to firefighters here receiving specialist training for dealing with rapid spread of fire which cannot be extinguished at source.

Small turbines are frequently installed in school playgrounds where teachers and other school staff are expected to deal with any problems which may arise. A turbine which started flinging parts over the playground at a school on Skye had to be taken down by the Head Teacher; HSE subsequently carried out a report on the incident but I was told they will not get involved in preventing such incidents. Teachers are “workers” and not trained to deal with machines which are potentially dangerous both mechanically and electrically. Following concerns raised in Highland the Council will be supplying schools with handheld anemometers to check wind speeds. Is this a suitable job for schoolteachers?

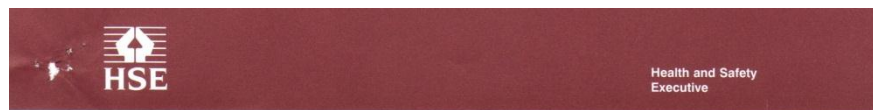
Why is the HSE, which I understand is “to prevent people being killed, injured or made ill by work” not more concerned with workplace safety where turbines are, or may be, installed?

Yours sincerely

Brenda A Herrick  
Secretary – Caithness Windfarm Information Forum

2h

*HSE response*



Brenda A Herrick,  
Secretary - Caithness Windfarm Information Forum,



Reference  
2012/0471399  
CETO 366-12

Cross-Cutting Interventions  
Directorate  
Work Environment Radiation and  
Gas  
Health & Safety Executive,  
SSG Redgrave Court,  
Merton Road, Bootle L20 7HS  
Tel: 0151 951 4167  
Email: gary.lang@hse.gsi.gov.uk

3 Dec 2012

Dear Brenda Herrick,

**RISKS TO WORKERS FROM WIND TURBINES**

Thank you for your letter to Mr Podger, received by the Health and Safety Executive (HSE) on 19 November. I have been asked to reply, as I head up the team dealing with renewable energy policy.

Your letter raises a number of matters for which I will try to set out our position:

**Siting of wind turbines/ wind-farms**

In Great Britain, the planning process which decides whether any proposed use of land is acceptable or not is controlled by the relevant Local Planning Authority. HSE has very little involvement with wind turbines at the planning stage and in Scotland it is not a statutory consultee on windfarm applications. We may be asked for advice if a windfarm is proposed within the consultation distances of major hazard sites, explosives sites or hazardous pipelines but such applications would not normally lead to any matters being raised by HSE. In England and Wales, HSE is a statutory consultee on all major infrastructure applications made under the Planning Act 2008 and this includes applications for windfarms above 50MW generating capacity. HSE is not responsible for contributing to the land use planning stage in a general sense or for setting separation distances between wind turbines and buildings, roads, etc.

**HSE's regulatory role for wind turbines/ farms**

We enforce general health and safety at work legislation during the construction and maintenance of turbines (when carried out as work activities) and where the turbines are used as part of a work undertaking (and not, for example, when used by private consumers). Also, we regulate product safety issues for wind turbines designed/ supplied for use at work (under legislation sponsored by the Department for Business, Innovation and Skills (BIS)). Product safety legislation for small/ micro turbines primarily designed for use by consumers (i.e. not in workplaces) is outwith HSE's remit for occupational health and safety and falls to Trading Standards.

**Firefighting at wind turbines**

It falls to the emergency services, not HSE, to address fire management and control. I suggest any questions you may have around training issues be addressed to your local Fire and Rescue Service or to The Chief Fire Officers' Association, 9-11 Pebble Close, Amington, Tamworth, Staffordshire, B77 4RD (Tel: +44 (0) 1827 302300).

**Small wind turbines**

HSE is responsible for enforcing health and safety legislation in schools. Where incidents occur at wind energy sites that are workplaces, the decision on whether HSE will investigate is made using published incident investigation criteria (available at [www.hse.gov.uk/foi/internalops/og/ogprocedures/investigation/index.htm](http://www.hse.gov.uk/foi/internalops/og/ogprocedures/investigation/index.htm)).

While HSE is aware of the incident in Skye, we have not investigated the circumstances of this incident or made a report. The responsibility for managing the risks associated with the wind turbine in this workplace lies with Highland Council. Your letter indicates they have arranged for local staff at schools to monitor the operation of the wind turbine. If you have particular questions on the operation of the wind turbines or checks that local staff are making, I suggest you contact the Council directly.


You may be interested to know HSE's general position on microgeneration is set out on our website at: <http://www.hse.gov.uk/aboutus/meetings/smt/2012/031012/poetsmt1267.pdf>.

Yours sincerely,




Gary Lang

Head of Renewable Energy Team

3	<b>Raasay School turbine failure</b>
3a	<p><b>From:</b> <a href="mailto:Fiona.MacNeill@hse.gsi.gov.uk">Fiona.MacNeill@hse.gsi.gov.uk</a>  <b>To:</b> Brenda  <b>Sent:</b> Tuesday, August 02, 2011 12:41 PM  <b>Subject:</b> RE: H&amp;S in Schools (Wind Turbines)</p> <p>Dear Brenda</p> <p>I write with reference to our telephone conversation this morning.</p> <p>I can confirm that the incident at Raasay Primary School was not reportable under RIDDOR '95.</p> <p>The incident was brought to HSE's attention when a complaint was made. This complaint was investigated by HSE.</p> <p>Please find below the contact e mails for the Freedom of Information (FOI) Team and the Complaints Handling Team.</p> <p>FOI: <a href="mailto:sarah.humphreys@hse.gsi.gov.uk">sarah.humphreys@hse.gsi.gov.uk</a>  Complaints: <a href="mailto:david.mudie@hse.gsi.gov.uk">david.mudie@hse.gsi.gov.uk</a></p> <p>Please also see the attached link to the Scottish Parliament Public Petitions website:</p> <p><a href="http://www.scottish.parliament.uk/s3/committees/petitions/index.htm">http://www.scottish.parliament.uk/s3/committees/petitions/index.htm</a></p> <p>Kind regards</p> <p>Fiona</p>
3b	<p><b>From:</b> Brenda  <b>To:</b> <a href="mailto:sarah.humphreys@hse.gsi.gov.uk">sarah.humphreys@hse.gsi.gov.uk</a>  <b>Sent:</b> Tuesday, August 02, 2011 3:26 PM  <b>Subject:</b> Incident at Raasay Primary School</p> <p>Dear Sarah</p> <p>I have been given your name by Fiona MacNeill as the person to contact under Freedom of Information to obtain a copy of the HSE Inspector's report on the wind turbine incident at Raasay Primary School in Highland. Highland Council have sent me a copy of their report on the incident and I am concerned that their recommendations have been ignored for recent local school turbines and are presumably continuing to be ignored for those still in the planning system, so would like to know what your report says.</p> <p>If this can be emailed as a .pdf file, like the HC report, it would be very helpful.</p> <p>Many thanks  </p> <p>Brenda Herrick</p> <p><i>Reply to above was sent by snailmail – see <b>HSE Raasay report</b></i></p>
3c	<p><b>From:</b> Brenda  <b>Sent:</b> 14 July 2011 16:33  <b>To:</b> Eddie Boyd  <b>Subject:</b> Re: H&amp;S in Schools (Wind Turbines)</p> <p>Dear Mr Boyd</p> <p>You mentioned to me that the incident involving the school turbine at Raasay was misreported in the Press but obviously there was a serious incident so I wonder whether you could let me have a copy of any subsequent</p>

	<p>report on this by THC to HSE under RIDDOR, if there was one, or any other report of the incident. Presumably there was some investigation by THC?</p> <p>Many thanks</p> <p>Brenda Herrick</p>
<p>3d</p>	<p><b>From:</b> <a href="#">Eddie Boyd</a>  <b>To:</b> Brenda  <b>Sent:</b> Thursday, July 28, 2011 10:26 AM  <b>Subject:</b> RE: H&amp;S in Schools (Wind Turbines)</p> <p>Ms Herrick,</p> <p>I have attached a <b>copy of the report</b> that was produced following the failure of the turbine at Raasay as requested.</p> <p>The incident was not a reportable event and there is no RIDDOR report</p> <p><b>Eddie</b></p>
<p>3e</p>	<p><b>From:</b> Brenda  <b>To:</b> <a href="#">Eddie Boyd</a>  <b>Sent:</b> Thursday, July 28, 2011 10:55 AM  <b>Subject:</b> Re: H&amp;S in Schools (Wind Turbines)</p> <p>Many thanks. Interesting. I have to confess it does not give me any confidence in the turbines at Bower and Castletown schools, even though they are a different make. I am also extremely surprised that the one at Raasay was installed so close to the building. The turbine at Bower is further from the building but on the football pitch; the one at Castletown appears close to buildings (I cannot go into the grounds to check) and is also where children play.</p> <p><i>Brenda</i></p>



4	<b>Highland Council</b>
4a	<p><i>email below sent after phone messages ignored</i></p> <p><b>From:</b> Brenda  <b>Sent:</b> 21 June 2011 15:28  <b>To:</b> Fiona Morgan  <b>Subject:</b> H&amp;S in Schools</p> <p>Fiona - I still have not heard back from anyone so thought it might save time if I copy you the email I sent to Alison Dewar for you to pass on to the person in THC responsible for H&amp;S in schools.</p> <p>Many thanks  </p>
4b	<p><b>From:</b> <a href="#">Fiona Morgan</a>  <b>To:</b> <a href="#">Brenda</a>  <b>Sent:</b> Tuesday, June 21, 2011 4:04 PM  <b>Subject:</b> RE: H&amp;S in Schools</p> <p>Good afternoon Brenda,</p> <p>Thanks for your email, which has now been brought to the attention of Eddie Boyd, Principal Engineer for Energy &amp; Engineering. Eddie is based in the Housing &amp; Property department. He is best placed to look into the queries and should hopefully respond in due course.</p> <p>Best wishes,  Fiona</p> <p>Fiona Morgan  Health and Safety Assistant  Health and Safety  Hut 4, Dochfour Drive  Inverness  IV3 5EB  Tel: (01463) 703086  Fax: (01463) 703090</p>
4c	<p><b>From:</b> <a href="#">Eddie Boyd</a>  <b>To:</b> Brenda  <b>Cc:</b> <a href="#">Ron MacKenzie</a> ; <a href="#">Robert Campbell</a> ; <a href="#">Alan MacRae</a> ; <a href="#">Jane Day</a> ; <a href="#">Fiona Morgan</a> ; <a href="#">Andrew MacTaggart</a> ; <a href="#">David Sutherland - CEO, Ward Manager</a> ; <a href="#">Neil Campbell - Housing &amp; Property</a>  <b>Sent:</b> Tuesday, July 05, 2011 3:58 PM  <b>Subject:</b> RE: H&amp;S in Schools (Wind Turbines)</p> <p>Ms. Herrick,</p> <p>I apologise for the delay in responding, but as I informed you last week, I have been out of the office.</p> <p>I would respond to your queries as follows;</p> <p>The Council have a number of wind turbine installations across the area and undertake a number of studies and we look for appropriate technology to assist in the energy reduction and carbon improvement to each site as part of an overall programme.</p> <p>The Council undertakes a number of assessments in arranging these installations and of course pupil safety and welfare is of the utmost importance. The investigation that is undertaken includes consultation with the schools ahead of any installation, and the impacts of noise and flicker are taken account of. I would further advise that all sites are taken through full planning processes and only when consent is gained will progress to installation. Site assessments are undertaken on sun path and noise impact so that we can be assured that there will be no issues relating to the flicker and noise nuisance from the system.</p> <p>The systems have facilities to be shut-off at each site and the school staff or another competent individual</p>

	<p>locally will be trained in carrying out this procedure. All turbines are maintained by the Council and will be fully checked at least twice a year.</p> <p>The Council have consulted with the various services to establish the processes for undertaking this type of installation and with our internal Health &amp; Safety Team as wells as HSE.</p> <p>The use of renewable technology our sites to follow the carbon and energy reduction themes (Central, Government, and Council) there is also an opportunity to reduce costs and improve the viability of schools and assets by making them better value in terms of impact and running costs</p> <p>I understand from my colleague that there are plans for fencing at some of the sites that have had turbines installed and that these works will be progressed over the summer break.</p> <p>I trust this is in order.</p> <p><b>Eddie Boyd</b> Principal Engineer Energy &amp; Sustainability Housing &amp; Property Services Kinmylies Building Leachkin Road Inverness IV3 8NN Tel. 01463 703519 Fax. 01463 703555</p>
4d	<p><b>From:</b> Jane Day <b>Sent:</b> 06 July 2011 09:37 <b>To:</b> Eddie Boyd; Brenda Herrick <b>Cc:</b> Ron MacKenzie; Robert Campbell; Alan MacRae <b>Subject:</b> RE: H&amp;S in Schools (Wind Turbines)</p> <p>Hi Eddie</p> <p>Are you supplying the risk assessment for confined spaces which will be required if you are expecting teachers to access the turbine to switch off it off?</p> <p>Thanks Jane Jane Day Health and Safety Co-ordinator Highland Council Dochfour Drive Inverness Tel 01463 703096 07799860984</p>
4e	<p><b>From:</b> <a href="#">Eddie Boyd</a> <b>To:</b> <a href="#">Jane Day</a> ; Brenda Herrick <b>Cc:</b> <a href="#">Ron MacKenzie</a> ; <a href="#">Robert Campbell</a> ; <a href="#">Alan MacRae</a> <b>Sent:</b> Wednesday, July 06, 2011 9:38 AM <b>Subject:</b> RE: H&amp;S in Schools (Wind Turbines)</p> <p>Jane, There are no confined space situations with turning the units off, the column will have a door that opens and there is a switch at hand. The columns are of lamppost sizes</p> <p><b>Eddie</b></p>
4f	<p><b>From:</b> Brenda <b>To:</b> <a href="#">Jane Day</a> ; <a href="#">Eddie Boyd</a> <b>Cc:</b> <a href="#">Richard Hartland</a> ; <a href="#">Alan MacRae</a> ; <a href="#">Robert Campbell</a> ; <a href="#">Ron MacKenzie</a> <b>Sent:</b> Wednesday, July 06, 2011 10:28 AM <b>Subject:</b> Re: H&amp;S in Schools (Wind Turbines)</p>

I am afraid that Mr Boyd's previous email does not address my concerns about the Safety of children playing around these turbines. If a risk assessment is required for confined spaces as mentioned below, why is there no risk assessment for the children? There have been many instances of turbines, including smallish school turbines, collapsing without warning and falling full length. I simply do not understand how turbines can be installed in school playgrounds without a fence around the turbine of a diameter at least the equivalent of the full height of the turbine to tip. This would not, of course, prevent any damage from blades flying off or ice throw.

Mr Boyd mentions that there are plans for fencing "at some sites". Why not all? Is the answer that in the case of the two schools nearest to me with currently operational newly installed turbines, there is no room to fence off an adequate area? It beggars belief that the turbine at Bower School is sited almost on the football pitch. I attach a copy of the Planning Report, which does not mention safety of the children, plus a plan copied from that Report on which I have superimposed the location of the football pitch and goals. I would add that I have no connection with this school but noticed the turbine when driving along the main road so drove up past the school to see it. I could not believe my eyes and fear this may be typical of all the schools involved.

"the column will have a door that opens". There have been two recorded instances of doors in large turbines being left unlocked in error. This could happen with a small one.

Also attached is a list of **school turbine incidents**, no doubt there have been many more and certainly there have been many more instances concerning non-school turbines. Mr Boyd has pointed out that the Raasay school collapse was mis-reported but certainly there was a serious failure. I suspect the reason teachers and parents are not objecting to these applications is that they are simply unaware of the dangers. At the time of the Raasay incident Mr Fernie (*Cllr. Bill Fernie*) "gave an assurance to parents and pupils that wind turbines would only be installed at five local schools if there are no problems with their safety" and no doubt this re-assured people, but I am afraid such an assurance cannot be guaranteed.

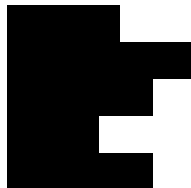
Brenda Herrick

4g

*The letter below is a scanned copy of one I received from Alistair Dodds and returned to him with my responses inserted in red.*

**The Highland Council**  
**Comhairle na Gàidhealtachd**

Mrs Brenda Herrick



Your Ref: 291289

Our Ref:

Date: 13 April, 2012

19 April 2012

Dear Mrs Herrick

**Wind Turbines**

I refer to your e-mails dated 16 and 23 March, 2012 and your subsequent e-mail to Steve Barron, dated 3 April all relating to the installation of wind turbines at Council schools. I thought it best to combine the Council's response to your enquiries.

I would first of all assure you that the Council takes the issue of safety within schools very seriously, and can advise that risk assessments have been undertaken as part of the process for determining the locations of turbines. **No risk assessments as to safety have been**

undertaken for specific sites. Cllr. Coghill requested a copy of a risk assessment from Eddie Boyd some months ago and was sent the attached **Council Proposed Range of School Turbines – Any School**. The name is self-explanatory “any school”. There is no risk assessment at all in the Documents attached to the latest to be consented – Staffin School. A copy of a typical assessment by a consultant is attached – **Bower supporting document** – with no mention of children, staff or parents; only noise, flicker and birds. Are birds more important than children? The Council’s Education, Culture and Sport Service have taken part in the development of the plans along with the Council’s Health and Safety team, **I contacted your H&S in schools dept. when first making enquiries:**

*email below sent after phone messages ignored*

**From:** Brenda  
**Sent:** 21 June 2011 15:28  
**To:** Fiona Morgan  
**Subject:** H&S in Schools

Fiona - I still have not heard back from anyone so thought it might save time if I copy you the email I sent to Alison Dewar for you to pass on to the person in THC responsible for H&S in schools.

Many thanks

*Brenda*

**and received this response:**

**From:** [Fiona Morgan](#)  
**To:** Brenda  
**Sent:** Tuesday, June 21, 2011 4:04 PM  
**Subject:** RE: H&S in Schools

Good afternoon Brenda,

Thanks for your email, which has now been brought to the attention of Eddie Boyd, Principal Engineer for Energy & Engineering. Eddie is based in the Housing & Property department. He is best placed to look into the queries and should hopefully respond in due course.

Best wishes,  
 Fiona

Fiona Morgan  
 Health and Safety Assistant

**Why is your Health and Safety department not involved?**

and arrangements have proceeded in conjunction with staff at each site **I understand at least one Head Teacher was not happy to have a turbine and wonder if all teachers are fully aware of the dangers.**

In relation to the Community Hall wind turbine at Stoer, this is not a Council property. **I referred to this turbine as a typical example of what can happen with a turbine of similar size to those in schools, its ownership is not relevant.**

The turbines proposed for Thurso High School and Halkirk Primary School have not received planning consent and were withdrawn. The issues of noise could not be fully satisfied and Planning were unable to recommend approval. **I understood from parents who objected to Thurso that it was pointed out quite forcibly to the Council that they would be responsible in the event of any incident. Halkirk received a large number of objections including one from Riding for the Disabled and it was obvious no site survey had been carried out as no-one would locate**

a turbine by an RDA establishment. Neither staff nor parents were aware of the application until I alerted one of the parents so there was no community engagement (nor was there at Castletown) despite this being one of the Council's recommendations in the Raasay report. The Turbine at Bower Primary School is located at the South border of the school grounds in a location agreed with the school, and is in a fenced off area 80m from the main play area. I really wonder whether anyone in Inverness is aware of these sites which is why I have taken photos of turbines in some local schools – see attached [Caithness School Turbines](#). The turbine at Bower has a very small wooden fence round it (as do other school turbines now but erected only recently following a request from a local councillor) which would be no protection at all in the event of tower collapse or blade throw. It may be 80m from playground equipment which is sited near the building but it is still within the main play area and far too close to the football pitch (as you can see). It is also very close to a busy road. One senior engineer drove by Bower and commented to me "how anyone in their right mind could have approved that location is beyond me." The turbine at Crossroads school is also close to the football pitch, although not as close as Bower.

With regards to the turbine at Castletown Primary School, the consultant provided a supporting statement relating to the positioning of the turbine that noted that the location was arranged 40m from the main play area following discussion with the school, that the turbine drops towards the westerly boundary wall for maintenance purposes and that the area immediately below the turbine has been fenced off. [cdmm's report for Castletown \(Castletown Supporting Document\)](#) is similar to that mentioned for Bower above and I can see no mention there of the turbine position? Indeed their reports appear to be standard and all very similar, the emphasis being all on turbines as a teaching aid and energy generation. Again I would comment that the very small fence round the base of the turbine would not protect children and there is no exclusion zone nor is there any "main play area" unless you refer to the playground equipment by one of the school buildings. The children play everywhere. The turbine at Castletown is sited very close to the school building. The Decision Notice refers to bats and birds – why not children?

I fail to understand why the Council's own recommendation in its report following the Raasay incident continues to be ignored:

*Ensure that there is an adequate buffer zone from the main pathways and occupied area, in schools this should include entrance and regularly used pathways and playground areas.*

There are two documents that govern the installation of small turbines – [MCS3003](#) and [ce72](#). MCS compliance is necessary to qualify for the Feed-in Tariff. One of the requirements in MCS3003 for carrying out a site survey is:

8. Health and Safety considerations necessary for a risk assessment to include:
- d. **details of public access and any congregation zones**

and [ce72](#) includes the following:

#### 4. Safe siting and working

##### Safe siting

The wind turbine should ideally be placed well clear of any buildings, obstructions and places where the public may gather (see Section 2, Practical issues). (note NA)

It is clearly not always possible to achieve the ideal location. So the additional risks and Health & Safety considerations must be carefully weighed. Some manufacturers do offer extra safety features to minimise the - already small - risk still further.

##### General issues

- Due regard should be given to any public rights of way close to the installation site
- The local situation should be taken into account, e.g. the likely presence of children

## 6. Documentation

(ii) Operation

- details of safe operating limits
- a description of start and shutdown procedures
- procedures for functional checks on the protection subsystems
- a description of the subsystems and their operation

### Appendix A

#### System siting and sizing: customer information checklist

Has the site been assessed and the actual turbine location been chosen appropriately (based on specific site considerations)?

I have seen no mention of any of this in any Council documents.

I can confirm that following representations from Elected Members and the public, the Council has commenced a review of the risk assessment process and installations to establish that good practice has been adhered to. This study will be carried out by the Building Research Establishment (BRE) and the Council will follow any recommendations from the findings.

The BRE report is expected shortly and will highlight key risks, review current Council guidance and assessments potentially produce a revised risk assessment tool and inspect a number of existing sites to identify any further risks. I fail to understand why all school turbines have not been braked as requested by Cllr. Coghill until this risk assessment is completed. This alone shows that the Council does not take the safety of children sufficiently seriously.

I note that there is no formal policy guidance available from the Health and Safety Executive on micro wind turbines and anticipate that the outcome of the review will help to inform any future guidance as well as Council Planners. The HSE only gets involved after an incident. However, many small turbine manuals carry warnings.

During the process of planning and introducing wind turbines to schools, the staff at the school are briefed on their operation and maintenance. They can assist by reporting any changes and if necessary applying the brakes, however this action is routinely carried out by the installing contractor until other arrangements can be put in place. School staff are not qualified turbine engineers and should not be responsible for the safe operation of the turbines. No unqualified employees would be put in this position in any similar location involving potentially dangerous high speed machinery.

It might also help to know that the Council services its wind turbines at a more regular frequency than recommended by the manufacturer. This helps ensure that they are inspected by an engineer and maintained in good condition. Recent failures have occurred with new turbines so this is no guarantee of safety.

The issues of carbon reduction and energy saving do require to be balanced with other factors and will not be put ahead of child safety. I do not understand how you can make this statement; literature given to schools (*Halkirk Primary*) is all about carbon reduction and energy saving. There are no warnings that the turbine may be dangerous and could cause serious injury.

I asked Eddie Boyd some time ago who received the income from school turbines – the school or the Council - and was told this had not been decided. Are parents and staff aware that there may not even be any financial advantage to the schools concerned?

I do hope that my reply has reassured you. I'm sorry but it has not. It has only shown me that you do not know how and where these turbines have been sited, nor are you aware of the possible dangers. If there is an incident the Council is liable. The emphasis everywhere is on energy saving and teaching (brainwashing) the children; their safety is ignored.

~~Yours sincerely~~ \_\_\_\_\_

~~Alistair B Dodds~~  
**Chief Executive**

Alistair Dodds: Chief Executive, Glenurquhart Road, Inverness, 1V3 5NX  
 Tel: (01463) 702837 Fax: (01463) 702830  
[www.highland.gov.uk](http://www.highland.gov.uk)

Yours sincerely

Mrs Brenda A Herrick

enc. [Caithness school turbines.pdf](#)  
[Council Proposed Range of school turbines – Any School.pdf](#)  
[Bower supporting document.pdf](#)

c.c. [John Thurso MP](#)  
[Lord Maclennan of Rogart](#)  
[Mary Scanlon MSP](#)

4h

**From:** Steve Barron

**Sent:** 09 May 2012 09:27

**To:** Gail Ross - Member; Bill Fernie - Member; Donnie Mackay - Member; John Rosie - Member; Roger Saxon - Member; Roddy Balfour; John Ford - Member; Glynis Sinclair - Member; Kate Stephen - Member; Biz Campbell; Ian Cockburn - Member; Richard Greene - Member; Audrey Sinclair; Deirdre Mackay - Member; Jim McGillivray - Member; Alasdair Rhind - Member; Fiona Robertson - Member; Jamie Stone - Member; David Fallows; Bill Lobban - Member; Gregor Rimell; Alasdair Christie - Member; Norrie Donald - Member; Fraser Parr - Member; Jean Nimmo Slater - Member

**Cc:** Donnie Kerr - Member; Rob Coghill - Member; Margaret Davidson - Member; Ward Managers; Hugh Fraser; Gordon Fyfe; Alistair Dodds; Gary Westwater; William Gilfillan; Margaret MacDonald - Housing & Property Service; Gordon Morrison

**Subject:** Wind Turbines on School Sites

Dear Local Member

**Wind Turbines on School Sites**

You will be aware that there has been a great deal of interest and some concern about the planning and installation of wind turbines on school sites. Following representations from Elected Members and the public the Council commenced a review of the risk assessment process and the installations of wind turbines at Council schools. That review will focus on reports from the Building Research Establishment (BRE) which will provide independent assessments for each school site.

Based on initial feedback from BRE and taking account of the Council's own enhanced risk assessment tool, the decision has been taken to suspend operation of the turbines which are sited in or adjacent to school sites. This is a precautionary measure which will allow time for proper consideration of the findings of the BRE reports when we receive them over the next few weeks. The Council takes the issue of safety within schools very seriously and where additional measures are deemed necessary these will be planned and undertaken in consultation with Head Teachers and the Council's Health and Safety team.

The BRE reports will, when we receive them, be shared with Elected Members, Head Teachers, Parent Councils and published on the Council's website.

It is important to note the continued commitment of the Council to reducing carbon emissions and energy costs through the use of renewable energy technologies. The deployment of wind turbines forms an important part of our plans to meet challenging national targets for carbon reduction. Following the proper assessment of risks, selection of appropriate locations and deployment of protective measures we intend to continue with our turbine programme.

The Council currently has 16 wind turbines on or adjacent to school sites – these are listed below. Measures to suspend operations of wind turbines on all of these sites are in hand and will complete today. It will be important to note that this is a precautionary measure to allow the BRE reports to be considered and for any additional measures deemed necessary to be planned, consulted and implemented. Gordon Fyfe will arrange for the release of a press statement to this effect.

Please address any queries in the first instance to myself



**Wind Turbines on or adjacent to School Sites**

Bower Primary School, Wick  
 Crossroads Primary School, Thurso  
 Castletown Primary School, Thurso  
 Culloden Academy, Inverness  
 Gairloch Academy, Gairloch  
 Pultneytown Primary, Wick  
 Dornoch Academy, Dornoch  
 South Primary, Wick  
 Scoraig Primary, Wester Ross  
 Inver Primary, Tain  
 Stoer Primary, Wester Ross  
 Acharacle Primary, Acharacle  
 North Primary, Wick  
 Holm Primary, Inverness  
 Rosehall Primary, Lairg  
 Eigg Primary, Eigg

Kind Regards

*Steve Barron*

*Depute Chief Executive / Director of Housing and Property*

*The Highland Council*

*Glenurquhart Road*

*Inverness*

*IV3 5NX*

*Telephone: 01463 702853*

*E-mail: [steve.barron@highland.gov.uk](mailto:steve.barron@highland.gov.uk)*

4i

**From:** [Martin Bell](#)

**To:** Brenda

**Cc:** [Rob Coghill - Member](#) ; [Jim Crawford - Member](#) ; [Donnie Kerr - Member](#) ; [Gary Westwater](#) ; [Eddie Boyd](#)

**Sent:** Wednesday, November 07, 2012 4:58 PM

**Subject:** Wind Turbines on School Sites - CRM 452475

Dear Ms Herrick,

I have been asked to respond to your query (*my questions below with his replies inserted*) in the absence of Eddie Boyd, who is currently on leave, and would respond to your question as below;

As suggested, I should be grateful if you could supply answers to the following basic questions:

1. What is the actual diameter of an ejection zone as referred to in the reports, say for a 15m tower turbine?  
 There are no fixed dimensions for the "ejection zone" identified in the diagrams contained within the various Risk Assessments. We have interpreted the ejection zone as a hypothetical area around a turbine in which an object, if thrown from the turbine, could land. The MCS is unable to provide any guidance on exclusion zones due to the number of variables at any given time, however it was considered appropriate to include the diagram to ensure this issue was considered. The Council's approach has been on prevention of risk, thereby negating the need for exclusion.
2. How has this been calculated ?  
 As above.
3. Since failure can occur at any time, not just in adverse weather, how do you propose to permanently exclude children from this area? With a fence? How high? Exclusion from only the fall or topple zones will not protect children from flying parts.  
 The conclusion of the risk assessment is that there is no need to exclude anyone from a hypothetical 'ejection zone'. The turbines were installed by fully qualified contractors and are approved by the MCS scheme. They are maintained to a higher level than would be a normal requirement and are operating significantly within their design limits.
4. Where such exclusion leaves too little play area remaining, will the turbine be removed?  
 Not applicable.

5. What action will be taken to remove play equipment, such as football goals at Bower, from the ejection zone?

There are no plans to move equipment at Bower.

I trust this answers your questions.

Regards,  
Martin Bell  
Renewable Energy Engineer  
01463 255 280 | [martin.bell@highland.gov.uk](mailto:martin.bell@highland.gov.uk)

4j

**From:** Brenda  
**Sent:** 28 November 2012 10:59  
**To:** Rob Coghill - Member; Jim Crawford - Member; Donnie Kerr - Member  
**Subject:** Fw: Wind Turbines on School Sites - CRM 452475

Dear Councillors

I thought you might be interested in the response I received to my email below. Alastair Dodds passed it on to Steve Barron and I attach a copy of his reply. As you can see, nothing has changed and it seems nothing will. I understand they are erecting fences around some turbines but not large enough or enclosing sufficient protection area to keep children out of the potential danger zone. As I mentioned earlier, they have also stated they intend taking no action over the proximity of the football pitch at Bower to the turbine where there is no room between the two for a protection zone. I have just been told by a concerned parent at Castletown that the turbine there is by a sandpit regularly used by younger children; I was not aware of this. In any event the turbine there is too close to school buildings.

They apparently continue to believe that twice-yearly maintenance will prevent any failure. Last year all Proven 35 turbines were ordered to be braked (several hundred) as they were found to be potentially dangerous and the company subsequently failed; just recently all owners of Evoco 10kw turbines in the UK have been told to brake them for the same reason.

<http://www.clickgreen.org.uk/news/national-news/123009-evoco-issues-alert-to-shut-down-all-its-wind-turbines-after-series-of-failures.html>

Both these makes were MSC approved originally.

It was disappointing to see at the last meeting of PEDC that Cllr. Farlow found the whole subject a source of amusement when he commented that he had recently parked his car by the Stoer school turbine and "there was no damage done at all". He appears to have a short memory -

<http://www.northern-times.co.uk/News/Controversial-wind-turbines-blade-crashes-to-ground-7506746.htm> . That was an Eoltec turbine, another make recently found to have problems <http://www.bbc.co.uk/news/uk-northern-ireland-18330468> but originally MSC approved.

The Council mainly use Evance turbines; is there any guarantee they will not go the same way? No mechanical/electrical equipment operating at high speeds can be guaranteed 100% failure proof.

I remain unconvinced that the Housing Dept.'s attitude is not influenced by the huge capital costs incurred plus current income losses and am continuing to pursue this with colleagues so am glad to see that the subject is not being allowed to rest at Council meetings.

Kind regards

*Brenda*

**From:** Brenda  
**To:** Alistair Dodds  
**Sent:** Thursday, November 15, 2012 9:10 PM  
**Subject:** Wind Turbines on School Sites - CRM 452475

Dear Mr Dodds

I am sorry to have to write to you again on this subject but, like the councillors mentioned below, I was very surprised to see what seemed to be a premature press release stating that turbines in school playgrounds were to be switched on again when nothing has changed. It seemed only fair to ask your Housing Dept. exactly what they proposed and I was appalled to see the responses below from Martin Bell which again confirm that nothing has changed. This makes repeated assurances that the Council takes the safety of children seriously sound very hollow but unfortunately the widespread ignorance about the risks associated with wind turbines means the public generally seem content to accept what you say. There is no excuse however for the Council to be equally ignorant and I cannot help wondering whether the decision to switch them on again is influenced by the huge capital cost, which I estimate at £400,000 plus, and the loss of income. Erecting fences around the base of turbines will do nothing to protect children from blade throw or tower collapse unless they create an exclusion zone around the ejection area.

You might find the Comments appended to a recent article in the Herald interesting.

<http://www.heraldscotland.com/news/environment/school-wind-turbines-checked-for-safety.19255218>

One of the Comments mentions wind turbine operators banning staff from sites in winds above 56 mph and I think he may be referring to a **press release by Infinis Energy** last year - copy attached. It is unlikely they are the only company with this safety rule. Manufacturers and the MSC documents frequently include references to keeping turbines, large and small, away from children. How can you continue with this policy or does it take a serious incident to reverse it? Even Tesco have seen sense: "Tesco Stores Ltd has taken a corporate decision, on the grounds of health and safety, not to include wind turbines as a source of renewable energy within any new store proposals." This recent statement followed the destruction of a turbine in a store car park.

The Council's own report following the Raasay school turbine failure contained sensible recommendations for future installations which were then ignored. Why?

Yours sincerely



Brenda Herrick

----- Original Message -----

**From:** [Martin Bell](#)

**To:** Brenda Herrick

**Cc:** [Rob Coghill - Member](#) ; [Jim Crawford - Member](#) ; [Donnie Kerr - Member](#) ; [Gary Westwater](#) ; [Eddie Boyd](#)

**Sent:** Wednesday, November 07, 2012 4:58 PM

**Subject:** Wind Turbines on School Sites - CRM 452475

Dear Ms Herrick,

I have been asked to respond to your query in the absence of Eddie Boyd, who is currently on leave, and would respond to your question as below;

1. What is the actual diameter of an ejection zone as referred to in the reports, say for a 15m tower turbine?

There are no fixed dimensions for the "ejection zone" identified in the diagrams contained within the various Risk Assessments. We have interpreted the ejection zone as a hypothetical area around a turbine in which an object, if thrown from the turbine, could land. The MCS is unable to provide any guidance on exclusion zones due to the number of variables at any given time, however it was considered appropriate to include the diagram to ensure this issue was considered. The Council's approach has been on prevention of risk, thereby negating the need for exclusion.

2. How has this been calculated ?  
As above.
3. Since failure can occur at any time, not just in adverse weather, how do you propose to permanently exclude children from this area? With a fence? How high? Exclusion from only the fall or topple zones will not protect children from flying parts.  
The conclusion of the risk assessment is that there is no need to exclude anyone from a hypothetical 'ejection zone'. The turbines were installed by fully qualified contractors and are approved by the MCS scheme. They are maintained to a higher level than would be a normal requirement and are operating significantly within their design limits.
4. Where such exclusion leaves too little play area remaining, will the turbine be removed?  
Not applicable.
5. What action will be taken to remove play equipment, such as football goals at Bower, from the ejection zone?  
There are no plans to move equipment at Bower.

I trust this answers your questions.

Regards,

Martin Bell

Renewable Energy Engineer

01463 255 280 | [martin.bell@highland.gov.uk](mailto:martin.bell@highland.gov.uk)

4k



Mrs B Herrick  
Sandmill  
Harbour Road  
Castletown  
THURSO  
KW14 8TG

Your Ref:  
Our Ref: SB/mim  
Date: 23 November 2012

Dear Mrs Herrick

### **Wind Turbines on School Sites**

The Chief Executive, Alistair Dodds, has asked me to reply to your e-mail of 15<sup>th</sup> November. Thank you for your interest in this matter.

It was my decision to suspend operation of the turbines on school sites and this was because I took the view that the Council needed a clearer understanding of risks and mitigation measures on a site specific level. My staff took advice from the Building Research Establishment and worked together with staff from our Education and Corporate Health and Safety teams to develop a robust and thorough set of risk assessments. These risk assessments recommended site specific measures and controls including the procedure to ensure that they are not operational in extremely high winds.

This process took some time to complete but we took the view that this was time well spent and on the basis of the set of risk assessments which we have now published on our web site, I have approved a process which will see the turbines re-energised.

The risk assessment processes and conclusions are available for all stakeholders to view and consider. I am satisfied that the conclusions they reach are sound and well evidenced. You will see that financial considerations do not form any part of the process and I reiterate our previous statements that safety is paramount. We will, of course, regularly review the risk assessments and take account of industry guidance as it develops.

You highlight your concerns about blade throw or tower collapse and you will note that these hazards have been considered in the risk assessments and the controls and mitigation measures are described. I recognise that you take the view that this is inadequate but the conclusion of the risk assessments is that the turbines are safe to operate other than in exceptional wind conditions.

It is for each organisation involved in operating turbines to conduct their own risk assessments and to reach their own conclusions. The Council has been open and transparent about its own process, rationale and conclusions.

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**Steve Barron:** Depute Chief Executive/Director of Housing and Property,  
Glenurquhart Road, Inverness, IV3 5NX  
Tel: (01463) 702853 E-mail: [housingandproperty@highland.gov.uk](mailto:housingandproperty@highland.gov.uk)



The Council has taken the lessons of the Raasay failure into account in these risk assessments and in each location we have the support of the Education Service and the Head Teacher.

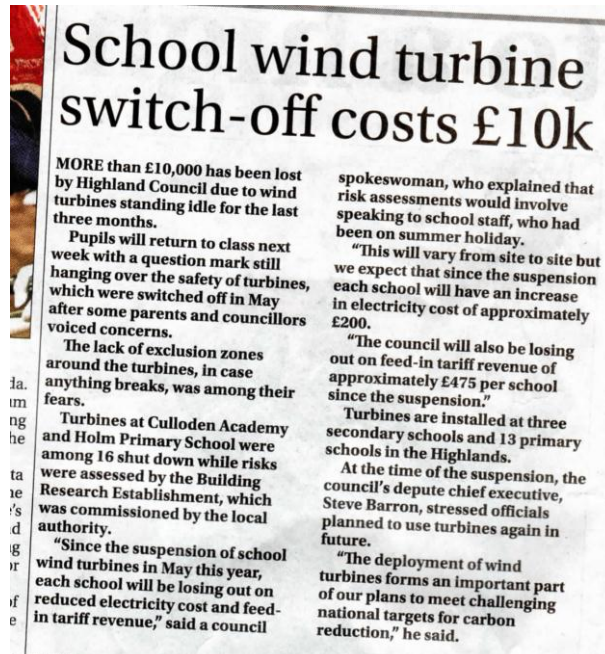
I hope that this has gone some way to allay your concerns.

Yours sincerely



**Steve Barron**  
**Depute Chief Executive/Director of Housing and Property**

*Note: reference to "financial considerations do not form any part" – see below from Inverness Courier Aug. 2012*



**School wind turbine switch-off costs £10k**

MORE than £10,000 has been lost by Highland Council due to wind turbines standing idle for the last three months.

Pupils will return to class next week with a question mark still hanging over the safety of turbines, which were switched off in May after some parents and councillors voiced concerns.

The lack of exclusion zones around the turbines, in case anything breaks, was among their fears.

Turbines at Culloden Academy and Holm Primary School were among 16 shut down while risks were assessed by the Building Research Establishment, which was commissioned by the local authority.

"Since the suspension of school wind turbines in May this year, each school will be losing out on reduced electricity cost and feed-in tariff revenue," said a council spokeswoman, who explained that risk assessments would involve speaking to school staff, who had been on summer holiday.

"This will vary from site to site but we expect that since the suspension each school will have an increase in electricity cost of approximately £200.

"The council will also be losing out on feed-in tariff revenue of approximately £475 per school since the suspension."

Turbines are installed at three secondary schools and 13 primary schools in the Highlands.

At the time of the suspension, the council's depute chief executive, Steve Barron, stressed officials planned to use turbines again in future.

"The deployment of wind turbines forms an important part of our plans to meet challenging national targets for carbon reduction," he said.

5	<b>Correspondence with Highland Councillors</b>
5a	<p><b>From:</b> Brenda  <b>To:</b> <a href="#">Cllr.Carolyn Wilson</a> ; <a href="#">Cllr.Richard Durham</a> ; <a href="#">Cllr.Ian Ross</a> ; <a href="#">Cllr.Willie Mackay</a> ; <a href="#">Cllr.Marion Thurso</a> ; <a href="#">Cllr.David Bremner</a> ; <a href="#">Cllr.Robert Coghill</a> ; <a href="#">Cllr.Bill Fernie</a> ; <a href="#">Cllr.David Flear</a> ; <a href="#">Cllr.Donnie Mackay</a> ; <a href="#">Cllr.Graeme Smith</a> ; <a href="#">Cllr.George Farlow</a> ; <a href="#">Cllr.Jim McGillivray</a> ; <a href="#">Cllr.Martin Rattray</a>  <b>Sent:</b> Tuesday, August 09, 2011 5:09 PM  <b>Subject:</b> School Turbines</p> <p>Dear Councillors</p> <p>I presume that, like me, you assumed all necessary precautions as to safety were being taken by The Highland Council before applications concerning school turbines came before the Planning Committee for consideration. Unfortunately this has proved not to be the case. As it happens I was at the Alness Meeting of CSER PAC when Bower and Crossroads Schools turbines were approved and I cannot recall any mention of safety issues. Highland Council have confirmed to me that assessments on noise and flicker have been carried out but no risk assessment as to safety, which given the location of these turbines seems quite extraordinary. You may recall the incident at Raasay Primary School in 2009 which could have resulted in serious injury to children and staff. One recommendation contained at the end of THC report (<b>copy attached - Raasay</b>) following that incident was to:  Ensure that there is an adequate buffer zone from the main pathways and occupied area, in schools this should include entrance and regularly used pathways and playground areas.</p> <p>This has been ignored in both Bower and Castletown schools, so presumably also at Crossroads and others. I am informed that there are plans to fence off some turbines but there is no space for an adequate buffer zone in any of these playgrounds, Bower being possibly the worst example as the turbine is by the football pitch in a very small playground.</p> <p>Also attached is the <b>HSE report on the Raasay incident</b> - you will note the comment of the complainant re THC - plus a list of school turbine incidents.</p> <p>I have spent some time trying to find out who, if anyone, is responsible for the safety of children and no-one seems willing to accept it. The Govt. says it is the responsibility of the local authority (I tried the Minister for Children); HSE have been helpful but state it is not a matter for them and they confirmed that everything to do with this is the responsibility of the local council as the duty holder. What did surprise me was the Health &amp; Safety officer for Schools at THC knew nothing about school turbines and referred me to the Principal Engineer in Housing. I have also spoken to Evance, the maker of local turbines, and asked if they had any guidance on location - they have none and state they are not responsible for installation. When H&amp;S seems to govern almost every aspect of children's lives at school, why does no-one care about this?</p> <p>I have mentioned the issue to various people who either are or have been engineers and familiar with H&amp;S; I do not have permission to mention names but these are some quotes:</p> <p>"even without any prior record of accidents, it goes against any risk assessment methodology to place a high speed rotating machine above an area where people regularly congregate. Public access to normal windfarms is mitigated by time-at-risk considerations and the fact that it is their choice to be there. Over the course of a child's school attendance the time at risk is considerable and, apart from missing outside activities, there is no choice in the matter."</p> <p>"Sounds like their enthusiasm is getting in the way of common sense. I am astounded that no risk assessment has taken place. Surely that is basic to the installation of any piece of equipment on any school premises, from a photo-copier to a desk. To fail to do this for a high voltage mechanical devise is weird. One might almost suggest, intentional. .... Buffer zones for ice throw, let alone mechanical defect plus the issue of bird attrition which caused one school in the south to close down their turbine and request that it be removed."</p> <p><i>"All the HSE seems to have done is to describe the incident and document the miserable consequents action by Highland Council. The very least they should have demanded of the Council was a safety plan, not just to minimise the possibility of this happening in the future but to mitigate the consequences when/if it does happen. Notice that when politicians visit wind facilities, they have to wear a hard hat??? What about school children – are they less important??"</i></p>



"What a terrible indictment of HC procedures and lack of risk appreciation. Incidentally, I called in and had a look at the turbine in the corner of the Bower playing field, and how anyone in their right mind could have approved that location is beyond me! "

It has taken me some time to obtain all this information and I will now be away for a few days so am concerned that term will be starting soon and with winter coming the risk of incident must increase. Could I please ask you to look very carefully at all school turbine applications that come before you and Caithness councillors - please look at local schools and consider the consequences of mechanical failure, e.g. if one of those turbines either starts shedding parts from the top or collapses full length, or electrical problems, either of which can happen. The Head Teacher at Raasay had to take the turbine down - this is simply not acceptable.

Thank you

*Brenda*

Brenda Herrick

5b

**From:** [David Sutherland - CEO, Ward Manager](#)

**To:** [Rob Coghill - Member](#)

**Cc:** A Geddes

**Sent:** Thursday, July 21, 2011 9:14 AM

**Subject:** FW: Castletown Turbine

Robert

Information about turbine at Castletown as requested.

Regards

**David Sutherland**  
**Caithness Wards Manager**  
**Tel 01955607740**  
**Mobile 07721948822**

**From:** Neil Campbell - Housing & Property

**Sent:** 14 July 2011 14:59

**To:** David Sutherland - CEO, Ward Manager

**Subject:** Castletown Turbine

David,

Cllr Robert Coghill asked me to send you this e-mail:

As per our telephone conversation regarding the turbine at Castletown Primary, please find **attached risk assessment, (Council Proposed Range of wind turbines)** as requested.

We are currently in discussions with THC maintenance and THC health & safety to decide upon any further measures for this type of installation. I will let you know of the outcomes / actions.

I am travelling to Caithness on Tuesday and meeting the maintenance officer of the school. We will be looking at positioning a wooden fence to separate the turbine from the playground.

Please let me know if you need further information.

Regards

**Neil Campbell**  
 Electrical Engineering Technician  
 Housing and Property Services  
 Kinmylies Building  
 Leachkin Road  
 Inverness  
 IV3 8NN  
 Tel. 01463 703511 Fax. 01463 703555  
 E-mail - [Neil.Campbell3@Highland.gov.uk](mailto:Neil.Campbell3@Highland.gov.uk)

5c	<p><b>Subject:</b> Next Planning Meeting  <b>Date:</b> Mon, 20 Feb 2012 15:18:31 -0000  <b>From:</b> Brenda  <b>To:</b> Cllrs. Donnie Kerr, Jim Crawford, Dave Fallows, David Henderson</p> <p>Dear Cllr.</p> <p>I see that two applications for school turbines are on the agenda for tomorrow's Planning Meeting. May I suggest that you raise the issue of safety as I know that Highland Council does not carry out site specific risk assessments for school turbines. I am sure I do not need to tell you how dangerous a turbine can be as there have been many incidents with small turbines over the past few months, mainly not near houses fortunately, and any failure in a playground with children playing all around could be disastrous. I have complained about those installed in my local schools and a small fence has been erected around the base of some to prevent children actually climbing them but far too small to keep children at a safe distance from flying parts or collapse. They are also in danger from footballs being kicked high, even primary children can kick pretty hard and it must be a temptation to try and hit the turbine when no-one is looking. I have only looked at one of the applications you will be considering and see that the turbine is to be located right next to the all weather pitch.</p> <p>I asked for the risk assessment for my local school and was shocked to find it covers all Highland schools - <b>see attached (Council Proposed Range of wind turbines)</b>. This is totally unsatisfactory. I suspect in many cases no survey of the site is carried out by a Council official as if this was done one application near us would not have been submitted. It has since been withdrawn as the site was so obviously unsuitable. When the turbine at Raasay School on Skye started shedding springs the Head Teacher had to take it down with the help of a parent! Where is Health &amp; Safety in all this?</p> <p>Please ask some questions.</p> <p><i>Brenda</i>  Brenda Herrick</p>
5d	<p><b>From:</b> <a href="#">Donnie Kerr - Member</a>  <b>To:</b> 'Brenda'  <b>Sent:</b> Monday, February 20, 2012 5:43 PM  <b>Subject:</b> RE: Next Planning Meeting</p> <p>Thanks Brenda, I will flag up your concerns.</p> <p>Yours, Donnie.</p>
5e	<p><b>Subject:</b> RE: South Planning Committee  <b>Date:</b> Fri, 24 Feb 2012 18:00:03 +0000  <b>From:</b> David Henderson - Member &lt;David.Henderson.Cllr@highland.gov.uk&gt;  <b>To:</b> 'Brenda'</p> <p>Thank you, Brenda, for your information on this – matters of which frankly I wasn't aware. This helped us greatly to make the case for deferring the applications.</p> <p>We will be seeking very stringent and site specific assurances on any proposals that return.</p> <p>Yours sincerely  David Henderson, Cllr</p>

5f

**Subject:** South Planning Committee  
**Date:** Thu, 23 Feb 2012 14:38:23 -0000  
**From:** Brenda  
**To:** <dennie.kerr.cllr@highland.gov.uk>, <sandy.park.cllr@highland.gov.uk>, <robert.wynd.cllr@highland.gov.uk>, <david.henderson.cllr@highland.gov.uk>, <jimmy.gray.cllr@highland.gov.uk>, <janet.campbell.cllr@highland.gov.uk>

Dear Councillors

Having just watched the webcast of Tuesday's Planning Meeting I hope you will forgive me writing to those of you who spoke on items 4.7 and 4.8.

I was disappointed, but not surprised, by the comments from the Council officials. In the past no site specific safety assessments have been carried out at Highland schools, which in itself is negligent. I requested a copy of the risk assessment for Castletown Primary and was sent the **attached (Council Proposed Range of wind turbines)**. - one risk assessment to cover all Highland schools. A turbine was proposed for Halkirk Primary, to be sited next to Riding for the Disabled and, following objections including one from the RDA, this was withdrawn. I do not believe any official had visited the school as the dangers would have been obvious; it is well known that turbines spook horses. The Council's own report on Raasay (**attached** - see p.25) recommends community engagement on these proposals but no-one at Halkirk, including parents and school staff, were aware of the application until I informed a parent I know.

Councillor Wynd referred to the Education Service being responsible but I contacted the Council's H&S Assistant who knew nothing about school turbines and referred me to the Housing Dept., which is the department responsible for these applications. Risk assessments should be carried out by a suitably qualified, impartial risk assessor.

Mr Todd's comment that the reason the Raasay turbine started shedding springs was not entirely correct. The maintenance was faulty but this was a Proven turbine with a record of shedding springs, it was a fault either in the design or the manufacture. The company has since failed due to safety issues following the instruction to all owners of Proven turbines to brake them. Highland Council now use Evance for school turbines but there is no guarantee these will be any safer; presumably Proven turbines complied with Safety regulations as they would not otherwise have been MCS compliant. The turbine at Bower Primary School, an Evance turbine, has not worked since the beginning of January so it must have a fault.

I have spoken to Evance about safety and they, like everyone else I have contacted (Govt., HSE etc.), say it is the responsibility of local planners, they make no recommendations. Most members of Planning Committees are not sufficiently well informed on safety issues to make these decisions and there is no reason why they should be. The Planning Officers should be but obviously are not. Indeed it does not even seem to occur to them that there is an issue. The Council is legally responsible in the event of an accident; I believe it was partly a reminder of this fact by concerned parents which led to the application at Thurso High School being withdrawn.

The following is a quote I found from one small turbine manufacturer's manual:

**STOP! DANGER!** It is your responsibility to obtain all required permits and engineering certifications for your tower and tower location. Soil and wind conditions vary and tower foundations must be designed for your specific location. Tower must not be able to fall on occupied buildings, neighbour's property or power lines. Tower climbing is dangerous and should be attempted only by experienced personnel using proper safety equipment. Locate your mounting mast (tower) well away from occupied buildings and power lines: a minimum of 30m is recommended.

**STOP! DANGER!** If the generator appears or sounds loose in the tower or is making an unusual sound, the condition must be corrected immediately. A loose generator or component will soon damage itself further and may fall from the tower or lose parts that could be lethal. Never stand in line with an operating propeller.

**STOP! DANGER!** Provide climbing protection against all unauthorized persons or children. Never allow an untrained person or someone without the proper safety equipment to climb the tower. Always stop the propeller before climbing the tower. Both falling from the tower and contact with the operating propeller can be lethal.

Why are Planning Officers not aware of the Council's own recommendation at the end of their report on Raasay:

"Ensure that there is an adequate buffer zone from the main pathways and occupied area, in schools this should include entrance and regularly used pathways and playground areas."

Watching the webcast it was obvious that a buffer zone had never occurred to them. If the Planning Officer at this meeting believes the application complies with Council H&S requirements, there is something seriously wrong. They repeatedly refer to Noise but not safety, yet the sentence above refers to regularly used pathways which cannot be a noise issue. The Stoer Community Hall turbine blade flew 18m in January, so an exclusion zone of 36m diameter should be required to ensure no children are in danger.

<http://www.northern-times.co.uk/News/Controversial-wind-turbines-blade-crashes-to-ground-7506746.htm> . These blades spin very fast, if that had been a school turbine a child in the blade's path would not have stood a chance.

Last summer I received the following advice from an officer of Falkirk Council following the failure of a Proven turbine:

The 180m2 exclusion zone was put forward by the turbine manufacturers themselves (Proven Energy) as a recommendation in June 2011. We fully endorsed this recommendation (in light of the past experience) although it has not been approved formally by the Council in any way, mainly because this is the only turbine we had on or near any school sites. I personally do not see us commissioning any more turbines on any school site in the future.

It is a pity other Councils do not follow their example. I believe all school turbines should be removed before an accident occurs, rather than waiting for one to happen.

Regards  
Brenda Herrick

5g

**Subject:** RE: South Planning Committee  
**Date:** Tue, 28 Feb 2012 11:30:54 +0000  
**From:** Robert Wynd - Member <Robert.Wynd@highland.gov.uk>  
**To:** 'Brenda', Donnie Kerr - Member <Donnie.Kerr@highland.gov.uk>, Sandy Park - Member <Sandy.Park@highland.gov.uk>, David Henderson - Member <David.Henderson.Cllr@highland.gov.uk>, Jimmy Gray - Member <Jimmy.Gray@highland.gov.uk>, Janet Campbell - Member <Janet.Campbell.cllr@highland.gov.uk>

Brenda

Thank you for your e-mail, things have moved on and a number of matters have been highlighted and are under investigation and consideration, Health and safety matters are of the highest priority.

Bob

6	<b>FOI requests to Highland Council</b>
6a	<p><b>From:</b> William Brown  <b>Sent:</b> 15 April 2012 09:59  <b>To:</b> Lynda Duncan  <b>Subject:</b> FOI request on costs of school turbines</p> <p>Achscrabster,</p> <p>15/04/2012</p> <p>Dear Sirs,</p> <p>Under Freedom of Information I request information as follows;</p> <p>For each school having a wind machine in the Highland area I want to know.</p> <p>1 Who or what department put forward the proposal to install each turbine.</p> <p>2 The capital cost of each machine, including all costs of installation (inclusive of planning, surveying procurement etc), and from what budget was the machine funded.</p> <p>3 What is the profit/loss account for each installation to date?</p> <p>Regards,</p> <p>William D Brown</p>
6b	<p><b>From:</b> Joan Macdonald - Housing &amp; Property Service [mailto:Joan.Macdonald2@highland.gov.uk]  <b>Sent:</b> 15 May 2012 14:02  <b>To:</b> (William Brown)  <b>Cc:</b> Freedom of Information  <b>Subject:</b> FOI120433 - cost of school turbines</p> <p>Dear Mr Brown,</p> <p>You made a request for information on the 17/04/2012 concerning ' school wind turbines'. We have referenced your request as FOI120433 and you should quote this number if you have any further queries on this particular set of questions. We have provided you with answers to your questions below.</p> <p>For each school having a wind machine in the Highland area I want to know.</p> <p>1 Who or what department put forward the proposal to install each turbine.  <a href="#">Energy and Sustainability</a></p> <p>2 The capital cost of each machine, including all costs of installation (inclusive of planning, surveying procurement etc), and from what budget was the machine funded.  <a href="#">The capital cost of installation of each 5kW Evance R9000 turbine is approximately £27,000 (varies slightly depending on ground conditions, distance from building etc) and is funded from the Energy Capital Budget.</a></p> <p>3 What is the profit/loss account for each installation to date?  <a href="#">We do not have profit/loss accounts for each turbine installed but here are some typical figures for 2011/12. (Many of the new turbines are only recently installed and so their performance has not been fully monitored yet)</a></p> <p><a href="#">Castletown Primary (commissioned 17/6/2011)</a></p> <p><a href="#">electricity generated to date: 8297 kWh</a>  <a href="#">electricity cost saving to date: £821.40</a>  <a href="#">income from Feed in Tariff to date: £2,323.16</a>  <a href="#">Tonnes CO2 saving to date: 4.32</a>  <a href="#">CRC saving to date: £51.90</a></p> <p><a href="#">Annual servicing cost: £500 (approx)</a>  <a href="#">Installation Cost: £27,000</a></p>

Under Section 20 of the Freedom of Information (Scotland) Act 2002 and/or Regulation 16 of the Environmental Information (Scotland) Regulations 2004 (EIRs), you have the right to request that the Highland Council reviews any aspect of how it has dealt with your request. This requirement for review should be put in writing to the Freedom of Information Officer, Chief Executive's Office, Glenurquhart Road, Inverness IV3 5NX, within 40 working days of receipt of this letter. The request should include details of the information requested and the aspects of the Highland Council's response which you are not satisfied with.

If you are subsequently dissatisfied with the outcome of the Council's review, you have the right to appeal to the Scottish Information Commissioner under Section 47 of the Act (Regulation 17 of the EIRS), within six months of receiving the Council's review response.

Yours Sincerely

***Sent on behalf of Eddie Boyd, Principal Engineer, Energy and Engineering***

*Joan Macdonald*  
Performance Analyst  
Housing and Property

Tel: 01463 702032  
Email: joan.macdonald2@highland.gov.uk

I apologise Mr Brown for not noting this in full but CRC stands Carbon Reduction Commitment

6c

17 May 2012

  
Achscrabster,  
  
17/05/2012

F O I 120433

Dear Ms Macdonald,

In my F O I request I asked the following question "Who or what department put forward the proposal to install each turbine."

You replied as follows, "Energy and Sustainability."

That is a model of brevity and is the answer to my question.

I expected rather more than three words however in the answer, accurate though it is. If I can explain the nature of the question and what was behind it may I expand on the situation regarding the building of wind turbines in schools.

Up to recently there were no turbines in schools. Now however it appears that each school must have one. What I really want to know is why this has happened. Persons must have proposed this and that is the point of the "who" in my question above. There must have been discussions and meetings and so forth. Who first raised this issue? Who were the persons voting for it?

You mention the department "Energy and Sustainability". Who runs this? What finances do they have at their disposal and from where did the money come from?

I could go on asking specific questions but do not know what is going on and I am determined to find out. It would save a lot of coming and going if you were to give me an account of how we came from no wind turbines to the state where we must have them. Is for example the wind industry assisting this drive in any way? I want to know.

There are fourteen schools in the Highland area with these turbines at a capital cost given by you at £27,000 each. That is more than a third of a million pounds on capital costs alone. On round figures that sum will not be paid back for ten years when the maintenance costs are taken into account. So for ten years the Council will have spent money from the public for absolutely no purpose. Since these units are not industrial quality despite what the salesmen have said there is doubt in my mind that they will survive ten years without major replacement costs.

A further aspect is that the money to pay for the subsidy so this scheme can be made to appear to be viable comes from the public in their electricity bills.. The Council has not enquired of us whether we want to be paying this.

I have heard that a survey is to be carried out in each school to evaluate safety. You have not listed in your answer on costs a figure for this survey. It has been floated that it is many thousands of pounds for each school. I trust this is not the case.

It seems to me that this is the point where a financial examination of the whole plan should be undertaken to establish the viability as on the face of it the Council is wasting our money in a scandalous way.


To forestall any reply that indicates the Council is doing this to bring about a change in the climate of the world, I advise an examination of the actual figures of carbon dioxide involved and the total in the whole world, before trying.

Yours Sincerely,

William D Brown

6d

  
Achscrabster,

  
09/02/2013

#### Freedom of Information Request

Dear Sir,

#### **Wind turbines in school playgrounds**

1. In the Primary School risk assessments, the report by BRE states:  
*"Bower Primary School*

- *The turbine was found to be producing a louder noise than would be expected under normal operation".*

The report recommends further investigation etc.

1. What was found to be the cause of the loud noise from the Bower Primary School turbine?  
2, how was it rectified?

3, who authorised its restart?

And 4, if a fault was found, were all other identical turbines checked for the same fault condition?

5. What instruction or training has been given to head teachers in the application of the turbine braking system?

Please provide a copy of instruction/training material.

Yours faithfully

William D Brown



6e

**Subject:** RE: School wind machines  
**Date:** Wed, 6 Mar 2013 20:28:50 -0000  
**From:** William Brown  
**To:** 'Freedom of Information' <foi@highland.gov.uk>

Dear Sir,

According to my records I do not appear to have received any answer to the attached freedom of information request. I believe the statutory last day for an answer has now passed.

Regards,

W Brown

6f



Mr WD Brown

[REDACTED]  
 Achscrabster

[REDACTED]

Lagan Ref: 525449  
 Tel: 01349 886606  
 Date: 8 March 2013

Dear Mr Brown,

**Request for information under the Freedom of Information (Scotland) Act 2002 or Environmental Information (Scotland) Regulations 2004**

With regard to your request for information dated 9<sup>th</sup> February, 2013, please find below answers to your questions:

- 1) The turbine was checked and serviced but no abnormal noise was observed. The turbine was in good operational condition prior to the maintenance procedures going ahead.
- 2) N/A
- 3) The turbine was recommended to be re-started by Martin Bell, Renewable Energy Engineer, following application of the revised Risk Assessment procedures and a full annual service by the contractor. This was authorised by Steve Barron, Depute Chief Executive and Director of Housing and Property.
- 4) N/A
- 5) The head teachers have been shown by the installation contractor how to switch off the turbine in an emergency. This training was based on the manufacturer's Owner's Guide.

Under Section 20 of the Freedom of Information (Scotland) Act 2002 and/or Regulation 16 of the Environmental Information (Scotland) Regulations 2004 (EIRs), you have the right to

request that the Highland Council reviews any aspect of how it has dealt with your request. This requirement for review should be put in writing to the Freedom of Information Officer, Chief Executive's Office, Glenurquhart Road, Inverness IV3 5NX, within 40 working days of receipt of this letter. The request should include details of the information requested and the aspects of the Highland Council's response which you are not satisfied with.

If you are subsequently dissatisfied with the outcome of the Council's review, you have the right to appeal to the Scottish Information Commissioner under Section 47 of the Act (Regulation 17 of the EIRS), within six months of receiving the Council's review response.

Further guidance on information request reviews and right to appeal can be found on the Scottish Information Commissioner website at [www.itspubliknowledge.info](http://www.itspubliknowledge.info).

Yours sincerely,

Martin Bell

<p>7 7a</p>	<p><b>Comments from professionals</b></p> <p>..... I certainly would not plant a wind farm anywhere within 500m of a school or anywhere school children play. The reliability of blades breaking is too too great and many people including owners do not know the limitations of the wind farm tower and the fact that it must be powered to survive a storm (often powered by a 6 hr battery where the owner may not know its importance).</p> <p>I was approached last year by a company who had shut down a wind tower within about 100 meters of a school. The Eng. manager was getting flak over the shut down which he thought was unsafe. When I arrived at his office he showed me he had Googled the internet and found 3 or 4 blade failures and asked what I thought. I took out 35 pages of blade failures where I thought the blade landed within 500 m of its origin and suggested that the company would surely be considered grossly negligent if they didn't keep the turbine shut down. I then asked if mothers lined up to pick up their kids along the roadway and thus were exposed to blades hitting the cars if they parted; did kids play in the fields under the turbines e.g. make a nice baseball field; then asked if the turbines were fenced to prevent close access; if the towers had padlocked doors etc. As a result of our discussion, I believe he decided to carry out a study by sending someone to site to monitor the activity around the school and assess the risk – he did not engage us further, but it was interesting he did not know that the tower would have been designed to survive ONLY if it could rotate into the storm as it passed, or the tower would likely fail in a 1 year storm which is a very severe thunderstorm in these parts.</p> <p>Ensuring no schools are within 500 m is a worthy goal.</p>
<p>7b</p>	<p><b>From:</b> George Lindsay  <b>To:</b> Brenda CWIF  <b>Sent:</b> Thursday, August 04, 2011 2:58 PM  <b>Subject:</b> Fw: Wind turbine scam exposed?</p> <p><i>Brenda</i></p> <p><i>Let me know what I can do to help with your mini/school wind turbine campaign (I have the disadvantage of not being resident in the Highlands though!). It sounds as though you're well on your way and, as usual, doing a fine job.</i></p> <p><i>I have been aware of this issue for years – see one of my first letter (2006 – how time flies!!) on the subject below, albeit on the cost issue as opposed to safety.</i></p> <p><i>At the time I did a little online research and found that Proven manufactured turbines had big reliability problems, not to mention failure to achieve promised amounts of electricity.</i></p> <p><i>One such turbine (don't think it was a Proven one), not in a school but on a farm, near where I live experienced a catastrophic failure earlier this year but the farmer is not allowed to talk about it for reasons of confidentiality. The history is that it stood for month not operational due to problems with delivery of the inverter. In February 2011, I was driving down the M90 towards Edinburgh and noted that the blades were birling like crazy (it was quite windy) and thought that to be odd – next time I looked there was no wind turbine – closer inspection showed that the tower had collapsed and the blades were scattered all over a field (apparently not all bits have been found!!). Apparently the braking mechanism (designed to slow the blades down in high winds) had failed and not even the manufacturer could stop it before it disintegrated!! Can you imagine the consequences of this happening in a school playground??</i></p> <p><i>The one major issue which this failure highlighted was the “confidentiality issue” where the installer/manufacture gags the end user – hence frustrating proper investigation, analysis and learning.</i></p> <p><i>I was appalled when I drove into Dornoch earlier this year and saw the turbine in the High School playground – no fencing around it as far as I could see and right at the edge of the playground.</i></p> <p><i>I hope that it doesn't take a serious injury or even a fatality to get Highland Council to waken up and take it Health and Safety responsibilities seriously!! All councils seem to care about is being seen to be “green” and</i></p>

	<p><i>are totally ignorant of the risks and potential consequences of their actions. The attitude seems to be green is good, wind turbines are "green" and hence they are soft and cuddly - little do they know!!!!</i></p> <p><i>Keep me posted on this one and let me know how/when I can help. What happened with the Raasay turbine - was it reinstalled, relocated or abandoned??</i></p> <p><i>Best wishes</i> <i>George Lindsay</i></p> <p><i>ps you may find the following report of interest - it shows the abysmal performance of mini wind thingies <a href="http://www.warwickwindtrials.org.uk/resources/Warwick+Wind+Trials+Final+Report+.pdf">http://www.warwickwindtrials.org.uk/resources/Warwick+Wind+Trials+Final+Report+.pdf</a></i></p> <p><b>From:</b> George Lindsay <b>Sent:</b> Wednesday, September 27, 2006 2:12 PM <b>To:</b> <a href="#">The Courier</a> <b>Subject:</b> Wind turbine scam exposed?</p> <p><i>Letter to The Editor</i></p> <p><i>Sir</i></p> <p><i>The more we learn about wind turbines as a means of generating electricity, the more the myths of this scam are exposed. Perhaps this is why major companies hide behind a screen of "commercial confidentiality" in their total refusal to provide performance data?</i></p> <p><i>The most recent expose is that the £50,000 pilot scheme involving the installation of micro wind turbines in five Fife schools has generated total "benefits" of less than £50 over a 12 month period. In one school (Collydean), the "benefit" was a mere £1.51p and at the best performing site (Largoward), the "benefit" was £24.64p!</i></p> <p><i>Since these turbines have a maximum life of 25 years, and incur regular maintenance costs, it is obvious that the capital costs will never be recovered far less providing a "benefit". Despite this, a Fife council officer describes the Largoward performance as "reasonable". I would suggest that a better word to describe this abysmal performance, and associated waste of taxpayer's money, is "disgraceful".</i></p> <p><i>Before "green" organisations rush to claim greenhouse gas emission "benefits", I would suggest that at these performance levels, more emissions would be generated during the turbine manufacture alone than would ever be saved. When will politicians recognise wind electricity generation to be the high cost scam that it is, benefiting only developers and manufacturers at a huge cost to the consumer?</i></p> <p><i>Yours etc</i></p>
7c	<p>"even without any prior record of accidents, it goes against any risk assessment methodology to place a high speed rotating machine above an area where people regularly congregate. Public access to normal windfarms is mitigated by time-at-risk considerations and the fact that it is their choice to be there. Over the course of a child's school attendance the time at risk is considerable and, apart from missing outside activities, there is no choice in the matter."</p>
7d	<p>"Sounds like their enthusiasm is getting in the way of common sense. I am astounded that no risk assessment has taken place. Surely that is basic to the installation of any piece of equipment on any school premises, from a photo-copier to a desk. To fail to do this for a high voltage mechanical devise is weird. One might almost suggest, intentional. .... Buffer zones for ice throw, let alone mechanical defect plus the issue of bird attrition which caused one school in the south to close down their turbine and request that it be removed."</p>
7e	<p><i>"All the HSE seems to have done is to describe the incident and document the miserable consequents action by Highland Council. The very least they should have demanded of the Council was a safety plan,</i></p>

	<i>not just to minimise the possibility of this happening in the future but to mitigate the consequences when/if it does happen. Notice that when politicians visit wind facilities, they have to wear a hard hat??? What about school children – are they less important??</i>
7f	"What a terrible indictment of HC procedures and lack of risk appreciation. Incidentally, I called in and had a look at the turbine in the corner of the Bower playing field, and how anyone in their right mind could have approved that location is beyond me! "

8 8a	<p><b>Wind Industry</b></p> <p><b>From:</b> Brenda  <b>Sent:</b> 31 August 2011 10:06  <b>To:</b> Chris Streatfeild  <b>Subject:</b> From a visitor to the staff page</p> <p>Dear Mr Streatfeild</p> <p>Apologies if I have the wrong person but I think it was you (I didn't catch your name) who telephoned me at the request of Indre Vaizgelaite responding to my query about safety of single turbines, in particular those installed in school playgrounds. As suggested I read through MCS3003 and found the following under Appendix A Site: Survey Form</p> <p style="text-align: center;">8. Health and Safety considerations necessary for a risk assessment to include:  <b>d. details of public access and any congregation zones</b></p> <p>Also in document ce72:</p> <p><b>4. Safe siting and working</b>  <b>Safe siting</b>  The wind turbine should ideally be placed <b>well clear of any buildings</b>, obstructions and <b>places where the public may gather</b> (see Section 2, Practical issues). (note NA)</p> <p>It is clearly not always possible to achieve the ideal location. So <b>the additional risks and Health &amp; Safety considerations must be carefully weighed</b>. Some manufacturers do offer extra safety features to minimise the - already small - risk still further.</p> <p><b>General issues</b></p> <ul style="list-style-type: none"> <li>• Due regard should be given to any <b>public rights of way</b> close to the installation site</li> <li>• <b>The local situation should be taken into account, e.g. the likely presence of children</b></li> </ul> <p>I have tried to contact some of the installer organisations without success to find out what the implications of these recommendations are in practice since it appears that even if the installers of turbines local to me have noted the situation regarding children and the public generally, e.g. staff and parents, it has not affected their decisions on suitable locations. If this guidance is meaningless, what is the point of it? Is it just box-ticking, because that is how it appears?</p> <p>Thank you</p> <p>Brenda Herrick  Caithness  tel: 01847 821035</p>
8b	<p><b>From:</b> <a href="#">Chris Streatfeild</a>  <b>To:</b> Brenda  <b>Sent:</b> Wednesday, August 31, 2011 12:29 PM  <b>Subject:</b> RE: From a visitor to the staff page</p> <p><a href="#">Brenda</a></p> <p>I think the guidance is very clear and sets out a sensible and responsible framework. I am not able to comment on individual sites other than restate the duty holder(s) would need to carry out the relevant risk assessments taking into account this guidance as well as all the other H&amp;S requirements.</p> <p>Kind Regards</p> <p><b>Chris Streatfeild</b>  <b>Director of Health &amp; Safety   RenewableUK</b>  Tel: +44 (0)20 7901 3017   Fax: +44 (0)20 7901 3001   Mob: +44 (0)77 9246 7023  RenewableUK, Greencoat House, Francis Street, London SW1P 1DH</p>



8c	<p>Extract from Vestas safety manual (since removed):</p> <p>Do not stay within a radius of 400m (1300 ft) from the turbine unless it is necessary. If you have to inspect an operating turbine from the ground, do not stay under the rotor plane but observe the rotor from the front.</p> <p>Make sure that children do not stay by or play nearby the turbine. If necessary, fence the foundation.</p> <p>The access door to the turbine must be locked in order to prevent unauthorized persons from stopping or damaging the turbine due to mal-operation of the controller.</p>
8d	<p>See also extract copied from a current small turbine manual:</p> <p><b>STOP! DANGER!</b> It is your responsibility to obtain all required permits and engineering certifications for your tower and tower location. Soil and wind conditions vary and tower foundations must be designed for your specific location. Tower must not be able to fall on occupied buildings, neighbour's property or power lines. Tower climbing is dangerous and should be attempted only by experienced personnel using proper safety equipment. Locate your mounting mast (tower) well away from occupied buildings and power lines: a minimum of 30m is recommended.</p> <p><b>STOP! DANGER!</b> If the generator appears or sounds loose in the tower or is making an unusual sound, the condition must be corrected immediately. A loose generator or component will soon damage itself further and may fall from the tower or lose parts that could be lethal. Never stand in line with an operating propeller.</p> <p><b>STOP! DANGER!</b> Provide climbing protection against all unauthorized persons or children. Never allow an untrained person or someone without the proper safety equipment to climb the tower. Always stop the propeller before climbing the tower. Both falling from the tower and contact with the operating propeller can be lethal.</p> <p><b>STOP! DANGER!</b> High voltage systems (system with an inverter) represent a dangerous shock hazard and could be lethal. All high voltage systems should be wired and maintained by a qualified and licensed electrician.</p> <p><b>STOP! DANGER!</b> Batteries may emit explosive and irritating gas while charging. Never turn on a light switch or make any other electrical connection or light a match or make any type of spark near a recently charged battery. Use protective gloves and eyeglasses when working around a battery. Turn off all loads, wear safety glasses, and look away when making a final battery connection.</p> <p><b>STOP! DANGER!</b> Never put objects on top or near the charge controller, inverter, and wind interface, when applicable. These devices must dissipate heat as part of normal operation. FIRE AND FAILURE can result if airflow is blocked.</p>
8e	<p><i>One question I have not asked – what are the arrangements for regular inspection and maintenance? Vestas state (presumably for large turbines but must be an issue on smaller ones):</i></p> <p>The gearbox needs replacing after 14 months of continual use (on average) at a cost of £68,000 +VAT with the turbine being out of action for six complete days. This cost does NOT include the removal of the old gearbox and the installation of the new gearbox and this can be as much as £45,000 +VAT. Turbine blades are NOT deemed to be a major problem and would normally last the lifetime of the turbine.</p>

<p>8f</p>	<p><a href="http://www.renewableuk.com/en/publications/guides.cfm/Smallwindplanningguidance">http://www.renewableuk.com/en/publications/guides.cfm/Smallwindplanningguidance</a></p> <p><i>(Note – <b>document attached Small wind planning guidance</b>) with no mention anywhere of safety for people, only birds and bats)</i></p> <p>Footpaths, Bridleways and Public Rights of Way          Generally, policy guidance states that the minimum distance of a small turbine from a right of way is such that the blades do not oversail the right of way and it is recommended that the topple distance (height + 10%) be used. For bridleways the British Horse Society April 2010 Advisory Statement has recommended 3xheight as a distance with the 200m recommended in the Technical Guidance to PPS 22 being seen as the minimum (although this tends to be more applicable to larger wind turbines). Any potential distraction to horses will be affected by the planting between the bridleway and the turbine site. It is also the case that the size of the turbine is more important than the mounting height – a 2.5m diameter turbine on a 15m mast will be less distracting than a 5m diameter turbine on a 10m mast.          Taking these factors together it is suggested that a sensible approach would be to site turbines a minimum of height +10% from any public right of way.</p>
<p>8g</p>	<p><a href="http://www.evancewind.com/news/article/schools-have-just-five-months-to-apply-for-wind-turbine-grants">http://www.evancewind.com/news/article/schools-have-just-five-months-to-apply-for-wind-turbine-grants</a></p> <p><b>Educational benefits</b></p> <p>Wind turbines can play a valuable role in the study of renewable energy in the school curriculum particularly in science, geography and technology where the study of energy supply, the costs of that energy and the design of the turbine are all relevant.</p> <p>A wind turbine can often form part of the Eco-Schools programme, being a step towards the reduction of the overall environmental impact of a school and contributing to the Sustainable Schools framework.</p> <p><i>Note – Highland Council now use Evance turbines</i></p>
<p>8h</p>	<p><b><u>MCS documents re installation requirements</u></b></p> <p><b>ce72</b></p> <p><b>3.1 Wind turbine, tower and foundations</b>  <b>Turbine support structures</b>          (a) General          .....</p> <ul style="list-style-type: none"> <li>• the design must ensure that any exposed moving parts are at least three metres from any point where persons or livestock may stand. it should also prevent unauthorised access</li> <li>• towers should be designed in such a way as to prevent climbing by unauthorised persons (this is of particular relevance to lattice constructions)</li> </ul>



## 4. Safe siting and working

### Safe siting

The wind turbine should ideally be placed well clear of any buildings, obstructions and places where the public may gather (see Section 2, Practical issues). *(note NA)*

It is clearly not always possible to achieve the ideal location. So the additional risks and Health & Safety considerations must be carefully weighed. Some manufacturers do offer extra safety features to minimise the - already small - risk still further.

### General issues

- Due regard should be given to any public rights of way close to the installation site
- The local situation should be taken into account, e.g. the likely presence of children

## 6. Documentation

(ii) Operation

- details of safe operating limits
- a description of start and shutdown procedures
- procedures for functional checks on the protection subsystems
- a description of the subsystems and their operation

## Appendix A

### System siting and sizing: customer information checklist

Has the site been assessed and the actual turbine location been chosen appropriately (based on specific site considerations)?

## MCS3003

### 4.4 Site specific issues

The following issues shall be addressed in the design of the wind turbine system for each installation:

4.4.1 The suitability of a given site shall be assessed, by a qualified professional experienced in micro and small wind systems, using a site survey form including at least the details given in Appendix A. All contractors shall make their customers aware of all permissions and approvals required for the installation. Where required, planning and/or building control approval should be obtained before work is commenced.

9	<b>Press</b>
9a	<p><a href="http://www.echo-news.co.uk/news/5031951. Utterly irresponsible school wind turbine plan/">http://www.echo-news.co.uk/news/5031951. Utterly irresponsible school wind turbine plan/</a></p> <p>PLANS to build and test a 15m-tall wind turbine in a primary school playground have been slammed as “utterly irresponsible” by a councillor.</p> <p>Westborough Primary School, in Westcliff, submitted plans to build the turbine to Southend Council in June.</p> <p>Architect Richard Cottrell told the council’s development control committee the application was part of the school’s zero carbon refurbishment, which is funded by a £1million grant from the Government, and helps pupils learn more about green issues.</p> <p>However, Mr Cottrell also said the turbine would be tested in the playground and turned off if it did not meet the council’s recommended conditions.</p> <p>Ward councillor Ric Morgan, who is not on the planning committee, said: “I can see no benefits to the pupils of erecting a wind turbine.</p> <p>“Holding an experiment to find out if it is safe, carried out in the most crowded playground in this borough, seems utterly irresponsible to me.</p> <p>“If my children attended Westborough School and this wind turbine was going up, I would remove my child from the school.”</p> <p>The development control committee voted seven to three against the application at a meeting. They rejected the plan because they felt it was in a crowded area and they had not received assurances about noise or safety from the school.</p> <p>The school’s governors, who support the plan, have appealed to the Government and a planning inspector will now make the final call.</p> <p>Development control committee chairman Brian Kelly said the council was waiting to receive more assurances about the safety of the turbine, when the school governors appealed.</p> <p>He said they could not provide the information the council wanted because engineers are still looking at it.</p> <p>Neighbour Steve Wood, 62, from Westborough Road, also spoke out against the application.</p> <p>He said: “There’s been no real effort to understand the real concerns of those not in favour of the turbine. They do make excessive noise.</p> <p>“There are dangers caused by putting 1.2 tonnes of industrial machinery in a children’s playground.”</p> <p>He also said the turbine would dominate the skyline.</p> <p>More than 100 neighbours wrote letters of objection to the plan, as well as a petition, while 111 wrote letters in favour.</p>
9b	<p><a href="http://www.pressandjournal.co.uk/Article.aspx/1856669?UserKey=">http://www.pressandjournal.co.uk/Article.aspx/1856669?UserKey=</a></p> <p>A Scottish Government consultation was recently published which would make application for micro-turbines, such as the Stoer two, easier to pass through the planning process. In future, these turbine may require no planning permission if intended for use by a non-domestic building, such as Stoer school.</p> <p>Published: 05/08/2010</p>
9c	<p><a href="http://www.northern-times.co.uk/News/Pupils-at-risk-from-school-turbines-claim-19012012.htm">http://www.northern-times.co.uk/News/Pupils-at-risk-from-school-turbines-claim-19012012.htm</a></p> <p><b>Pupils at risk from school turbines claim</b></p> <p>HIGHLAND Council’s policy of erecting 6kw micro wind turbines at schools is putting pupils at risk, a north-west Sutherland woman has claimed.</p> <p>Dr Stephanie James, of The Smithy House, Stoer, wrote this week highlighting her concerns to the authority’s top official, chief executive Alistair Dodds.</p> <p>She fears it is only a matter of time before there is a fatality caused by a turbine malfunction.</p>

	<p>Dr James, who has previously contacted planners a number of times about her concerns, decided to take action again after a blade flew off a small domestic turbine situated behind Rhu Stoer Village Hall.</p> <p>No-one was hurt in the incident which happened at Hogmanay.</p> <p>Dr James was among a number of people who objected to the erection of both the micro turbine at the eight-pupil Stoer Primary and the one at the village hall.</p> <p>Planning consent for the Proven WT6000 turbine, mounted on a 15metre column at Stoer school, was granted in April last year. The 6kw turbine has a rotor diameter of 5.5metres.</p> <p>The 15m high Eoltec Scirocco turbine at the hall was given the go-ahead by planners in November 2010 and erected six months ago.</p> <p>The council has pursued a policy of erecting turbines either on school buildings or in school grounds in a bid to save money and to boost their green credentials.</p> <p>A similar turbine at the Rhue Stoer Hall was also given the go-ahead in November 2010 and erected amid much controversy.</p> <p>In her letter to the chief executive, Dr James points out the failure in November 2009 of a 50metre high wind turbine installed at Raasay School which collapsed and landed in the school playing field.</p> <p>She claimed that in recent years there had been 66 fatalities with many more injuries in the UK as a result of various wind turbine malfunctions.</p> <p>She states: "Pieces of blade are documented as travelling up to 1300 metres and blade pieces have gone through roofs and walls of nearby buildings.</p> <p>"Other serious incidents have occurred through structural failure from poor quality control, lack of maintenance and component failure. As turbines are now being placed in relatively close proximity to buildings, including schools, the accident frequency is expected to rise."</p> <p>And she writes: "I consider it can only be a matter of time before a fatality occurs."</p> <p>Dr James also claims that "unusual visual and sound data" have been noted recently from the Stoer school turbine.</p> <p>She has now demanded that Mr Dodds respond within 14 days outlining the steps the authority intends to take to ensure there is not a repeat of a turbine failure such as happened in the case of Rhue Stoer Village Hall.</p> <p>She concludes: "That the authority gave planning permission for the erection of this potentially lethal structure in such close proximity to humans is in itself a matter of great concern."</p> <p>Information provided by the authority shows that turbines have been erected, at a cost of £25,000 each, at nine north schools – Crossroads Primary (Thurso); Castletown Primary; Bower Primary (Wick); Culloden Academy (Inverness); Craighill Primary (Tain); Dornoch Academy; Inver Primary; Stoer Primary and Gairloch High School.</p> <p>Highland Council did not respond to a request by the Northern Times for a response to Dr James's claims about the danger presented by the turbines to schoolchildren.</p> <p>However, in previous correspondence with Dr James, chief executive Alistair Dodds has stated: "The use of wind turbines in school grounds have been subjected to discussions on safety with the council's education service, the council's health and safety team and also the Health and Safety Executive and the suitability in a school environment has been determined to be appropriate."</p>
<p>9d</p>	<p>28/09/2012</p> <p>Tesco Stores Ltd has taken a corporate decision, on the grounds of health and safety, not to include wind turbines as a source of renewable energy within any new store proposals.</p> <p>It was agreed with the Council during the determination period for the original application, to relocate the Tesco store from Delves Lane, that the existing wind turbine simply be moved to the new site on Genesis Way. The wind turbine was then destroyed in high winds and luckily did not cause injury to any customers.</p> <p>Tesco has taken the decision to pursue other sources of renewable energy in favour of wind turbines. In this case, a Combined Heat and Power unit.</p>
<p>9e</p>	<p><i>Highland Councillors not informed of decision to switch on again 29 Oct 2012</i></p> <p><i>I am annoyed that they have decided to release the info in a press release without councillors who raised the issue being given a chance to peruse the report in advance, in fact I feel the report should have gone to the relevant committee for appraisal, we should not be dealing with issues of safety like this by press release.</i></p>