

Conjoined public inquiry concerning:

WIN 370-4 Craiginmoddie Wind Farm, Dailly, South Ayrshire, KA26.

WIN 370-5 Carrick Wind Farm, Approximately 6 km South of Straiton, South Ayrshire, KA19.

WIN 370-6 Knockcronal Wind Farm, Knockcronal, Straiton, South Ayrshire, KA19.

**TOPIC : WIND TURBINE NOISE.**

ON BEHALF OF Save Straiton for Scotland.

Hunterston National Offshore Wind Turbine Test Facility.

Hearing Statement Rita Holmes.  
Chair of Fairlie Community Council.

**INTRODUCTION.**

1. The National Offshore Wind Turbine Test Facility (NOWTTF) at Hunterston close to Fairlie in North Ayrshire was commissioned to test offshore turbines on shore. The initial planning consent for the operational testing was for a period of five years.

The two operational turbines at that time, were the largest wind turbines ever to be constructed on shore in the UK and were operational between December 2014 and October 2017. These comprised of a Siemens 6MW turbine and a 7.2MW Mitsubishi Sea Angel turbine to a maximum height of 198.5m. The turbines were commissioned and operated by SSE.

**2. Witness Statement.**

2.1. My name is Rita Holmes. I have lived in the Ayrshire village of Fairlie, on the west coast of Scotland, since 1972 and brought my two children up there. I have a Diploma in Education and taught in primary schools over 22 years. For the last three years of my career, I delivered the excellent Science programme for our school for Primary 1 to Primary 7 classes.

I have been fortunate enough to enjoy robust good health throughout my 75 years.

I am Chairwoman of Fairlie Community Council, and have been a member of it for 18 years.

I have been Chairwoman of Hunterston Site Stakeholder Group (HSSG) for the past 8 years and a member since 2005, when it was set up by the Nuclear Decommissioning Authority.

I am co-chair of the Nuclear Decommissioning Authority / Non Governmental Organisations Forum (NDA/NGO Forum) which was set up last year.

I have been for the past 10 years and continue to be a member of the Office of Nuclear Regulation/ Non Governmental Organisations Forum (ONR/NGO Forum) and the Department of Energy Security and Net Zero/ NGO Forum (DESNZ/NGO Forum).

I am Fairlie Community Council's representative on the Hunterston Parc Liaison Group, which is concerned with developments at Hunterston Parc. This is land, owned by Peel Ports, just south of our village. Our Community Council is one of the Statutory Consultees for the Hunterston area which is designated for industry, so we consider many major planning applications. It was on this land, at

the redundant Marine Construction Site, that the National Offshore Wind turbine test facility was located. It lies 3.5km across water from our village. I personally did not oppose this development, as I saw it as helping with the way forward for renewable energy that would enable Scotland to move away from nuclear electricity generation. I became very interested in nuclear issues as we live about 5 kilometres from the two nuclear power stations, one, Hunterston B, now defuelling and Hunterston A which has been decommissioning for almost two decades now. My interest is primarily in Low Level Radiation and Health.

I am not a fan of nuclear power, but fully understand the need for safe and secure decommissioning and clean up, as well as the viable options. So, I was totally pro wind energy. I still appreciate its place in electricity generation, but I now do not support the push for larger more powerful wind turbines on land as I know the adverse effects that the non ionising radiation, i.e., Infrasound Low Frequency Noise had on my neighbours and me. My experience of the effects from the two huge wind turbines at Hunterston have made me realise that Wind Energy, like Nuclear Power has its severe and negative health impacts for those living within the range of the Infrasound Low Level Frequency sound pressure wave propagation from large scale wind turbines.

I have provided a personal impact statement at Para 6.1 below.

3. Background - SSE's NOWTTF Variation Application seeking to extend operation and testing for a further years 2 and subsequent Appeal Decision.

3.1 Despite the fact SSE gained a variation permission on appeal to Scottish Ministers (Date of appeal decision: 9 January 2018.) to continue operations for a further 2 years from the original consent expiry date of 14th October 2017, SSE did not conduct further testing, or operations after this date even though they had consent to continue operations to October 2019.

3.2. Hunterston S42 Appeal decision letter reference: PPA-3102028.

Site address: Clydeport Hunterston Terminal Facility, approximately 2.5 km south-west of Fairlie.

Extract:

*"The development proposed: the erection of up to 3 wind turbines with a maximum tip height of 198.5 metres and ancillary infrastructure, including foundations, crane hard standings, access tracks, three temporary meteorological masts, transformers, underground cabling, substation, control building, welfare facilities and a temporary construction compound"*

*"That the site shall be used as a facility for the testing of a maximum of 3 off-shore wind turbines at any given time for a period of 5 years from the date of operation of the first turbine, prior notification of which commencement date of operation of the first turbine shall be submitted in writing to North Ayrshire Council as Planning Authority; at the expiry of the 5 year period or 14th October, 2017.*

3.3. The Reporter at paragraphs 29 to 44 considered submissions by local residents in respect of the reported adverse health impacts by affected local residents and concluded at Para 45:

*I appreciate that some of those who complain about dizziness and other symptoms are extremely firm in their view that these symptoms are caused by the operation of at least one of the turbines on the appeal site. But the balance of evidence, including the literature reviews undertaken by the health authorities and the evidence from local survey and analysis, does not support complainants' views about the root cause of their symptoms. The potential effects of the Mitsubishi turbine operating in the future at full power (unlike its mode of operation, for instance, during the survey that I referred to at paragraph 39 above), are not clear. The balance of the evidence indicates to me that further turbine testing as*

*sought in the appeal application should not be refused on the basis of adverse effects on the health of the local population. In the event that a causal link is established between turbine operation at the appeal site and such effects, this could be addressed through environmental protection and public health legislation. Consequently, even with a reasonable application of the precautionary principle, I do not consider that the evidence of adverse effects on the health of the local population is sufficient to justify or support refusal.”*

4. Does the Reporter’s recommendations and decision in reality, honestly reflect the background and outcome of this case that led to the halting of testing and operations of both of the offshore turbines at around the time of the appeal decision in January 2018?

4.1 Let us carefully consider the evidence:

SSE's published intention for Continued Operation and Power Generation should the Variation Application be consented by either NAC planning or on appeal.

4.2 In consideration an important starting place is to reference a complete extract of the Hunterston Offshore Wind Turbine Test Facility - SSE Community Liaison Group - Meeting Notes held in Largs Library on 07/11/2016.

*Agenda.*

*4.) Noise Concerns*

*Claire confirmed that the operational noise monitoring for the Siemens wind turbine was completed in December 2014. The document detailing the results of the noise monitoring was emailed out to the Liaison Group following the Liaison Meeting held in April 2015 and has been recently sent out again for information as requested.*

*Standard noise monitoring for the Mitsubishi wind turbine has not as yet fully commenced due to the intermittency of wind turbine operation and daytime only operation during the commissioning phase. Noise testing would typically be done in the evening times and at weekends to measure the noise levels from the machine at times when there is predicted to be less background noise.*

*Low frequency noise monitoring commenced on Thursday 20th October in Fairlie. This has been set up in response to a specific low frequency noise complaint raised by a local resident who is concerned that the low frequency noise is making them dizzy and having an impact on their health and balance. The equipment for this testing is likely to be removed during w/c 14th November and we anticipate that the results of this survey will be available in December. It was noted that during the recent testing the Mitsubishi turbine had been operating on a pretty intermittent basis.*

*SSE were keen to stress that the concerns raised about low frequency noise have been taken seriously which is why the noise monitoring was set up and carried out straight away. There was a discussion about low frequency noise in general and the many different potential sources. The group agreed to wait and see what the results from the testing showed before agreeing how they felt it would be best to take things forward.*

*He then explained that the current plan is to submit a Section 42 Application (S42) which is for a two year extension to the existing five year consent. This S42 would include detailed information showing a full appraisal of the last four years including: information on construction works, training to date, testing to date and a socio-economic appraisal. It would also include detailed information of the projections for the next two years including potential partnerships, testing training and socio-economic impacts.*

*Immediate plans would be for the Siemens machine to stay up and running and for testing to continue. Regarding the Mitsubishi turbine we can't confirm what the further plans are for the machine as yet but would look to do so within the S42 application.*

*Investigations are already underway for looking at partnerships and training possibilities for the next two years. These include meetings with North Ayrshire College and Strathclyde University who are both very interested in being involved with the facility.*

*Michael didn't deny that SSE could have been more pro-active at sharing the good news stories from the site but that the fact of it is that the site has performed very well as a test facility and if consented we would certainly look to be far more pro-active in our approach to sharing information.*

4.3 If the S42 is consented SSE have also confirmed that their intention would be to look at submitting a Major Application for the site for a further 15-20 years.

## **5. Why were the Hunterston turbines subsequently decommissioned by SSE?**

5.1 Extract from press release confirming the Hunterston turbines have commenced power generation dated 3 March 2014.

### **Hunterston Siemens turbine generating power.**

**3 March 2014**

#### **First power exported from Hunterston Offshore Wind Turbine Test Facility**

**<https://www.scottish-enterprise-mediacentre.com/news/first-power-exported-from-hunterston-offshore-wind-turbine-test-facility>**

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Part of: [Energy](#)  
Region: [West of Scotland](#)

**SSE Renewables reached a significant milestone after electricity was exported for the first time from its offshore wind turbine test facility at Hunterston, North Ayrshire.**

The Siemens SWT-6.0-154 wind turbine, is 177 metres high, and incorporates the latest offshore turbine technology to generate six Megawatts (MW) of electricity.

The Hunterston site, on the North Ayrshire coast, has similar wind conditions to those found offshore, as well as access to the Grid and an adjacent jetty for facilitating component deliveries.

This makes it an ideal location for turbine manufacturers to test their latest turbine equipment before deploying it offshore.

**Ian Flannagan, SSE's Project Construction Manager, said: "It's great to see the Siemens wind turbine generating electricity for the first time which is testament to the hard work and commitment shown by everyone involved in the project.**

"We are busy preparing the site ahead of the second turbine, a Mitsubishi Sea Angel 7MW offshore wind model, arriving in a few months time."

Clark MacFarlane, Managing Director, Siemens Wind Power Offshore UK&I said: "We are delighted with the news of first power for our 6MW turbine at Hunterston. This is another important milestone for our next generation wind turbine technology.

"The SSE and Siemens team has worked extremely hard to get to this point and should feel proud of their achievement in delivering this important clean energy project."

The project, the UK's first onshore test site for offshore turbines, is being supported by Scottish Enterprise, the Department for Energy and Climate Change (DECC) and the Department of Business, Innovations and Skills (BIS).

UK Energy and Climate Minister, Greg Barker said: "SSE Renewable's test site for offshore wind turbines is an exciting and innovative project. It will help the country take another step towards delivering £110 billion investment into our energy sector while helping to support local jobs."

#### Notes to editors

Hunterston was identified for potential renewable energy supply chain development in the National Renewables Infrastructure Plan. The £20million funding of the project includes a commitment of up to £4.4million by Scottish Enterprise from the National Renewables Infrastructure Fund. Scottish Enterprise is developing one of the three test berths at the site.

5.2 Extract from Arcus Consultancy Services EIA submission to NAC on behalf of SSE Generation Limited in support of their variation application dated January 2017.

Para 2.2 Need:

*The NOWTTF retains a strong need to continue to operate from the Site. The continuing of the testing of offshore wind turbines is vital to support and enable the offshore wind industry to develop. The current Siemens turbine on the Site, the SWT-7.0154, is on test for usage on the 588 MW Beatrice Offshore Farm in the Moray Firth, **which is due to commence construction in 2017, and has influenced DONG Energy to purchase this turbine for the 1.2 GW Hornsea offshore wind farm in the North Sea. There is an imperative need for this testing to continue to ensure that the offshore wind energy industry continues to develop.***

*The continued testing of the Mitsubishi turbine and further investment on the Site will also enable further understanding of offshore wind turbines, to enable turbine designs to be refined and development, as well as allowing for the training opportunities detailed above.*

*Scotland, through facilities such as the NOWTTF, is advanced in the research and understanding of offshore wind turbine development. This puts Scotland in a strong position with the potential to export this technology to other parts of the world, where the offshore wind industry is less developed. This underpins the economic benefits of the NOWTTF, at the national scale.*

*There is clear support through planning and energy policy, for the need for the offshore wind industry to develop, in order to combat climate change and due to its economic benefits. This underpins the case for the need for the Development as a material in determining this Section 42 Application.*

*There are however few opportunities for the testing of offshore wind turbines to occur, due to the need to replicate offshore conditions on a site that is accessible and serviceable. The NOWTTF represents one of these few opportunities, and where such sites occur, they must in principle be permitted so to allow for the testing of offshore wind turbines.*

***The importance of the NOWTTF nationally is likely to last well beyond the proposed extension of the operational time period for a further two years. The extension of the operational period will however allow the Applicant to develop further options for the Site, so it is safeguarded over the longer term. This may also include energy storage and new forms***

of technologies that will further support the Scottish energy industry, and the local and national economies.

**5.4 It is clear from the above statements that there was an intention for SSE to continue operations at the NOWTTF beyond the 2 year variation consent. In addition, this evidence also confirms that SSE were generating power which was being exported to the National Grid.**

5.5 Extracts SSE - FCC Community Liaison minutes of a meeting held on 27th March 2017.

*1.) Project update SK - Existing planning permission expires October 2017. Siemens turbine commissioned and noise survey completed 2014. Mitsubishi turbine fully erected and connected to grid March 2015, not fully commissioned to date due to technical issues.*

*JL asked if the Mitsubishi Sea Angel technology is now redundant. SK SSE replied that it is true that Mitsubishi are not taking the 7MW Sea Angel turbine to market because of their partnership with Vestas, the technology is still important for later generation turbines though.*

*JR asked why the Siemens turbine is still being tested here if the 7MW version is already being deployed in offshore wind projects in Denmark and elsewhere and why other test sites which are offshore cannot be used instead.*

*SK explained that there is still a lot to learn operationally from the turbine for the SSE and UK application, for example Siemens are looking to test a UK grid compliance software update to comply with new UK grid code requirements. This will be extremely useful for SSE as it will allow us to anticipate what we will experience on the Beatrice turbines when they start to become operational next year.*

*SK added that an onshore location for offshore testing allowed safer and most cost effective testing of new technology. SK also advised that while the Siemens turbine is in the ownership and operational control of SSE the Mitsubishi turbine is owned by Mitsubishi and they are responsible for the testing of the machine. Although the technical data from the testing is for Mitsubishi, SSE does get sight of some operational information.*

**5.6 The minutes of this meeting again also advise SSE's intentions to continue testing, yet this was curtailed despite the Reporter's favourable appeal decision granting consent to October 2019.**

6. Impact Statements from Fairlie Residents presented during the Planning Committee Application Meetings and subsequent statements at public inquiries.

6.1 Rita Holmes.

*This is an impact statement about my experience of living in close proximity to the two large, high power output wind turbines, which were located at the Hunterston Marine Yard. It is a record of the consequential detrimental health I suffered during this time.*

*My name is Rita Holmes, I have been a resident of Fairlie since 1972, enjoying robust good health and well used to noise from the unloading activities at the coal terminal jetty which is 900 Metres due west of us. I never had cause to complain about audible noise from the wind turbines, so the noise from the wind turbines, which I refer to as causing my symptoms, was below 20Herz and inaudible. I also had my hearing and balance tested when I first*

*experienced symptoms. Apart from a few frequencies in the extremely high and low range, my hearing was fine and balance also.*

*I have never, before or after, experienced anything as awful as the effects from the two Hunterston wind turbines. It was tantamount to inescapable torture. Thankfully, they have now gone, as, during Covid 19, I would not have been able to escape. We never knew when the Mitsubishi Sea Angel would be operational, so in effect, there was no way of planning to be away from home, when it was operational. So, I took every opportunity to be away from home, staying overnight in the Central Hotel, visiting friends when I had meetings in London or Manchester and staying with relatives. My home became unliveable in, when the wind turbines were turning. However, at least, I knew that my ill health was due to the wind turbines, many people did not and were left wondering what on earth was wrong with them. I did go to my doctor and tell him about the effects and how it definitely was the wind turbines.*

*I did phone and write to Health Protection Scotland (now Public Health Scotland) and despite them telling me that my symptoms might well be from ILFN they assured me that there was no evidence in the literature to prove this. I have since looked at the papers and studies on ILFN and wind turbines and I found empirical evidence from all around the world. So no help from PHS, no help from Ayrshire and Arran Health Board who advised North Ayrshire Council and no help from the GP practice. Our GP advised in writing that their insurance did not cover them if they got involved.*

*I did not have to see the turbines to know they were turning, I felt the effects of them turning immediately. I also knew, without seeing them, when they had stopped. When they turned I was ill, when they stopped I was fine and it had nothing to do with me being anti wind energy, or a NIMBY, in fact I am the opposite and do not mind them aesthetically. I know without any doubt whatsoever, that my symptoms were due to the wind turbines when they turned.*

*As soon as the wind turbine was switched on, I would experience a single wave of nausea....like morning sickness for those who have had that. I would feel that my balance wasn't right and that I was walking differently, feeling like co ordination was out of sync and that without concentration I could crumple to the ground. Unlike my next door neighbour, I actually didn't collapse or fall. At its worst, when SSE was ramping both turbines up in power together, I could not walk, talk or think properly. The centre of my brain felt like a drill was whizzing away inside it and that I had to escape and get away from it. I remember thinking this is what whales must feel like when they beach themselves trying to escape. My neighbour was with me at the time. She was chatting and about to go off on holiday so getting some books from me. We both knew instantly they had started up and she had to resort to getting downstairs on her bottom as I clung to the handrail.*

*I drove us into Largs, 5km away and we made emergency appointments to see a doctor. But, what can your doctor do for wind turbine symptoms...offer anti nausea pills, sympathy but I did ask that I could register by phone when I was being affected. The doctor also told me that Ayrshire and Arran Health Board's claim at a North Ayrshire Planning Committee meeting that there was no epidemiological evidence was irrelevant and invalid as there was no code for GPs to register wind turbine symptoms for the Health Board statistics.*

*Nobody should have to unnecessarily suffer, as I and others did. I say unnecessarily because the size, power output and location are all important factors which need to be taken into account by developers and Planning Authorities, in order to avoid torture to residents. The*

effects of the two wind turbines at Hunterston could be felt as far away as the north end of Largs which is approximately 10km from Hunterston. Fortunately, for various reasons, the Mitsubishi Sea Angel did not “turn” for any extended period and the Siemens for the latter part of the time had a broken blade so was too dangerous to turn. Also there were periods with no wind so they did not turn.

Please note that I use the term “turn” and not “operate” as the Company SSE tried to discredit my evidence by claiming, that on two occasions I had complained of detrimental effects, when the wind turbines were “non operational”. It emerged on investigation, that “non operational” did not mean that they were not turning. The wind turbines had been “idling”. In fact, merely allowing the blades to idle in the wind was enough to produce ILFN, Infrasound Low Frequency Noise which can play havoc with the neurological system. The effects of ILFN from these large high power wind turbines were something one would not wish to happen to any other human being or living creature, so to hear that another community or person might have to put up with ill health due to large turbines near them fills me with fear for those people and anger at a system that allows the injustice of it, due to the lack of understanding from those with no experience of the severe effects and developers and their consultant acousticians who lie about the dangers from ILFN.

What I and others experienced was tantamount to torture and against our Human Rights. There was nothing that we could do to stop it, because there are no regulations that safeguard us against wind turbine noise at the ILFN level. Current noise regulations only deal with frequencies that are audible, i.e. above 20Hertz. What I discovered was that although the doctor was sympathetic, GP`s insurance does not cover them for getting involved in anything to do with this. Also, the claim made by Ayrshire and Arran Health Board that epidemiological studies showed no increase in wind turbine effects was invalid as, according to my GP, there is no code available for GPs to input statistics regarding this.

So, basically, once a development is approved and built don`t expect help from anybody, not from your GP, or NHS or PHS and don`t expect Planning Conditions to make a difference as the length of time between you reporting a statutory nuisance and a response can be up to 21 days.

Rita Holmes (Chairwoman Fairlie Community Council) June 2017.

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## 6.2 Karen Brodie.

This is a copy of my complaint regarding Hunterston Sea Turbine test centre.

“I am writing to you to raise a concern over the two test wind turbines, the Mitsubishi Sea Angel turbine and the Siemens turbine.

I live in Millport on the Isle of Cumbrae and I have been unwell for over a year with dizziness which (becomes quite severe at times), nausea, sleeplessness, poor coordination, the feeling of collapse, heart palpitations. These debilitating health effects I now believe to come from the low frequency noise produced by the two wind turbines. I have been seen by the consultant at Crosshouse Hospital, ENT department for a year now and I still don't have an official diagnosis as the doctor is not able to tell me why I have these severe symptoms. I have had both MRI and CT scans which have all come back clear.

*Please note that when I am off the island and away from the turbines or when they are switched off, my symptoms are greatly reduced and some of the, i.e., the feeling of collapse, disappear altogether.*

*I understand that there are many people who are suffering the same symptoms as myself. This issue must now have to be addresses as an Environmental Health problem.*

*As I do not buy the Largs & Millport Weekly News due to its inaccurate and awful writing, I was unaware of the fact that people in the village of Fairlie and some people in Largs were suffering the same symptoms as myself. As I stated previously, I have been attending my GP for some 18 months after having a very bad fall due to a dizzy spell. The symptoms became much worse as I had just moved to the other side of Millport Town. I now believe that I was in the line of the infrasound noise and this has affected my health, in having severe dizziness and vertigo attacks. Increased levels of Tinnitus, disturbed sleep, feeling of gravitational pull to the ground, which some call 'a feeling of collapse'. Sometimes my brain feels like it's turned to jelly and floating around my skull. I was referred to ENT at Crosshouse hospital 13 months ago. I have had a MRI scan which came back clear and a CT scan which also came back clear. I have not been given a diagnosis as yet as the Consultant wants more tests and monitoring done.*

*I understand that these two turbines are designed to gather wind energy out to sea I am not sure why they are being tested in such close proximity to towns and villages I also understand that Mitsubishi are not taking the 7MW Sea Angel turbine to market, because of problems with the turbine and a new model has been designed.*

*However, as these are TEST turbines, it is important the health issues that are being raised are used as part of the tests and these turbines should now cease and further testing should stop.*

*I am not against Green Energy, I am very much in support of cleaner energy, but only when it is positioned in the right place and not affecting health in close areas.*

*I want my health back, it has been a hideous time feeling so unwell with all of these symptoms and the consultant not being able to give me a diagnosis a year on.*

*I trust that this email will be taken seriously!*

*Yours sincerely,*

*Karen Brodie" 28th October 2020.*

*The test turbines were removed well before the extended testing date ceased. Mitsubishi took their turbine down extremely quickly for fear of being sued when they were aware so many people were affected by these turbines. The Siemens turbine did not operate due to a broken blade, it was blown up the following year, never repaired, again due to the adverse health impacts on local people.*

*The UK government stated on 21st October that Off shore wind energy was the way to go, Scotland has plenty viable coastal waters to sustain this kind of energy collection.*

6.3 Email from Fairlie resident [REDACTED] dated 6th January 2021.

Subject: Hunterston

*Thank You kindly for getting in touch regarding the offshore wind turbines sited at Hunterston in Fairlie North Ayrshire .*

*Unfortunately I have deleted all my emails and statements with regards to these offshore wind turbines.*

*What I can do is tell you that over the course of the years whilst these offshore wind turbines were in operation ( producing electricity) or idling , I suffered the most awful side affects relating to infrasound.*

*I had headaches, palpitations, nausea and general lack of energy . I phoned sse countless times whilst I was experiencing these symptoms and asked them to stop the operations . I had a visit to my home by 2 SSE workers. A very strange encounter indeed as still to this day the meeting served no purpose. My friend was in attendance at this meeting so I am guessing the 2 SSE representatives didn't actually fulfil their visit .*

*I have stood up and given a full account of my health affects at a North Ayrshire Planning meeting to halt SSE from extending the offshore wind turbine facility from extending their contract.*

*This information regarding the NAC planning meeting should all be on record .*

*As a footnote I would like to add that I am not against wind turbines BUT I am against any wind farm that has planning to be sited near anybody's home , village , town , school and beauty spots where there is abundant flora and fauna.*

*I am now in good health and have never experienced these awful side affects since the removal of the two offshore wind turbines that were sited at Hunterston  
And I wish you all the luck in Scotland and I hope you win this fight as your health will be in danger if these people are not stopped .*

*Kind Regards*

6.4 Statement in respect of the Determination of SSE's Variation Application extending the operational consent of the 2 Hunterston Turbines for a further 2 years.

(1 Siemens @ 6MW & 1 Mitsubishi @ 7MW. Height 200M to blade tip)

Dated: 18/08/2017

Ref: PA-3102028

(Contact details redacted) [REDACTED]

*Dear Sir or Madam,*

*I wish to object to SSE getting another two years of operation. I would prefer that operation stopped immediately as my life has been ruined since they started operating.*

*As far back as 2014, I complained to my GP about symptoms and blamed the Siemens turbine. ( The Mitsubishi was not operating then.)*

*However, what was bad is much worse now that the Mitsubishi has started operating and when both rotate at the same time it is horrendous.*

*As I am aware that SSE`s submission is only up until 1st July 2017, I feel that I need to bring to your attention that there are more formal complaints that have not been included in their Summary of complaints document.*

*I have lodged formal complaints with NAC Environmental Health and also informed my GP. These have been added to my medical files.*

*My first official complaint to SSE was made to an 0800 number, Sat 1st July, which I had managed to google online.*

*SSE returned my call nearly two weeks later. I spoke with Chris Bell of SSE at great length, describing my symptoms.*

*On Monday 22nd May I made an emergency appointment with my GP as I was suffering from palpitations (a new side effect for me) The Mitsubishi had been operating from Thurs 18th May through to Monday 22nd May intermittently but persistent.*

*On Wednesday 19th July, I called SSE at around 08:10 to make a formal complaint with regard to my severe adverse health effects that morning.*

*Around 08:35am, I had to call my GP for an emergency appointment as my heart was beating too fast. I collapsed in the doctor`s surgery. Now I am going through testing for my heart. One of the tests will be wearing a heart trace whilst the turbine is in operation.*

*I have completed the first part of the test wearing the heart trace while the turbine is non operational. I have kept a list of dates and symptoms I have suffered and I have lodged these with [REDACTED] NAC EHO and my local GP.*

*My symptoms are as follows, nausea, sharp ear pain in one or both ears, shallow breathing and heart palpitations. These symptoms disappear when the wind turbine stops, albeit it takes me longer and longer to recover.*

*I have logged these dates with NAC as complaints. Wed.14th June, apart from the last three.*

*Thur 15th June,  
Fri 16th June,  
Sat 1st July,  
8th July,  
Sun 2nd July,  
Fri 14th July  
Sat 15th July,  
Tues 18th July  
Wed 19th July.  
Thur 20th July  
Fri 28th July  
Sat 29th July*

*The turbines have not operated for almost three weeks and it has been bliss. I understand, as well as anybody, that this is hard to believe, that someone can be affected by low frequency infrasound, but I have no control over these symptoms when the turbines operate. I am a normal, healthy person who is rendered unfit with these adverse health effects .*

Yours sincerely,

██████████

7. Examination of Hunterston Appeal Decision letter in respect of reported health impacts by local residents (a small sample of which I have referenced above).

7.1 In the context of concerns regarding potential Health Impacts, it is notable that in the Hunterston Variation Appeal decision dated 9 January 2018, Reporter Mike Croft broadly concurs with submissions by Health Protection Scotland HPS and the National Health Service (NHS) stating;

*"Consequently, even with a reasonable application of the precautionary principle, I do not consider that the evidence of adverse effects on the health of the local population is sufficient to justify or support refusal".*

7.2 Relevant comments from the decision letter are copied below:

*(b) whether evidence of adverse effects on the health of the local population is sufficient to justify or support refusal.*

*34. However, most of the evidence I have received from professional sources lends limited support, at most, for that view. I have the views of Health Protection Scotland (HPS), dated July 2017. As HPS's function within the National Health Service (NHS) is to help protect the Scottish public from environmental hazards, I am bound to accord its views very considerable weight.*

*35. HPS considered four independent systematic literature reviews, including literature on infrasound/low frequency noise and amplitude modulation. It noted that all the reviews conclude that there is sufficient evidence to confirm a clear association between wind turbine noise and annoyance, and that such annoyance is related to, but not necessarily causally linked to, levels of anxiety, sleep disturbance and stress. Feelings of annoyance about wind turbines are also affected by a wide range of factors that are not related to health outcomes. Apart from this, HPS found that none of the reviews found sufficient evidence to confirm a causal relationship between wind turbine noise and the type of health complaints cited by local residents.*

*36. HPS considers that the balance of the objectively reviewed scientific evidence does not support there being a direct causal link between the symptoms described by local residents and the operation of nearby wind turbines. It does not exclude the possibility that there might be some sort of relationship between wind turbine noise exposure and symptoms in individual cases. But its view on balance is that the strength and consistency of the existing scientific consensus suggests this to be unlikely.*

37 NHS Ayrshire & Arran concludes that, *although the international literature suggests that wind farms can lead to concerns from the public, these concerns about health impact are not supported by good quality research.*

7.3 However, the Hunterston Reporter in reaching his decision, relied largely on the literature reviews undertaken by NHS Ayrshire & Arran and HPS, who reportedly '*considered four independent systematic literature reviews*' to reach his conclusions.

7.4 These literature reviews and supporting information have been subsequently reviewed by Professor Mariana Alves - Pereria then submitted as evidence at the Riggill Appeal.

Ref: PPA-310-2034 Appendix K Commentary on "*Wind turbine noise and human health impacts in Fairlie, North Ayrshire*" produced by Health Protection Scotland, July 2017, Authored by Mariana Alves-Pereira, Ph.D.

This document is also considered to be relevant to respond to the information submitted by the applicant's acousticians at this conjoined inquiry.

7.5 Professor Alves- Pereira's conclusions are copied below:

*T. Conclusions and Recommendations .*

*81. The institutions that, in Scotland, are mandated to protect human health against environmental hazards **self-report a lack of expertise** in this scientific field when the environmental hazard is infrasound and/ or low frequency noise.*

*82. As a result, **they are unable to carry out and implement** their obligations which include surveilling and monitoring environmental hazards.*

*83. Consequently, Scottish citizens with environmental health complaints that are suspected of being related to excessive exposure infrasound and low frequency noise (whatever the source) **go ignored, and often even ridiculed.***

*84. Since it is the health of Scottish citizens that is at play here, and since HPS/PHS has admitted to its lack of expertise of this subject, this would be my first suggestion to the appropriately competent decision-makers—**a fairly inexpensive first step that could provide invaluable epidemiological data (if properly done):***

*Implement a **mandatory notification rule for all Medical Practitioners (General Practitioners in particular)** so that all patients exhibiting specific signs and symptoms suspected of being related to 'noise' exposure could be formally counted and associated with a specific geographic location and/or occupation.*

7.6. I have noted that in the Craginmoddie -TNEI Operational Noise Report March 2023.

Para 3.2.7 & Para 3.2.8 states:

*The Reporter concluded that:*

- *The literature reviews by bodies with very significant responsibilities for the health of local people found insufficient evidence to confirm a causal relationship between wind turbine noise and the type of health complaints cited by some local residents;*

- *The NHS's assessment is that concerns about health impact are not supported by good quality research; and*
- *Although given the opportunity, the Community Council failed to provide evidence that can properly be set against the general tenor of the scientific evidence.*

7.7 In response to the Reporter's comment that;

- *Although given the opportunity, the Community Council failed to provide evidence that can properly be set against the general tenor of the scientific evidence.*

I would like to state, it is a bit much to expect an underfunded and under resourced Community Council, which did all it could to make the North Ayrshire Environmental Health Officer, the local doctors, Health Protection Scotland and Ayrshire and Arran Health Board aware of the problems and also referred them to research documents and the WHO Report, which supported claims about detriment to health from ILFN.

All this, whilst being pushed from pillar to post, seeking help, as well as battling Wind Industry misinformation.

7.8 I also note that Para 3.2.7 Craiginmoddie WF Operational Noise Report states:

*In addition, he also considered LFN surveys undertaken by the Appellant and the Local Authority, both of which demonstrated compliance with planning conditions and did not identify any problems attributable to the turbine operations; some periods with highest levels of low frequency noise were in fact recorded when the turbines were not operating.*

In response, this evidence was flawed there were periods when SSE stated the turbines were not operating, but I personally went to the control cabin and spoke to the technician who confirmed he had started low speed operations of the Mitsubishi Sea Angel turbine.

There is sound evidence that given the significant lengths of the blades of large scale turbines, blade resonance is a source of ILFN sound pressure waves, especially when the blades are not rotating at optimum speed.

I do know, that when one of the Hunterston wind turbines "turned" I was ill. When both turned, I felt worse, i.e. the symptoms were more numerous and more severe. When they did not "turn" I was symptom free. The one occasion they were ramped up to half their potential output, i.e. 4.2MW, I was severely physically and neurologically impaired and had to leave my house and the area, (as did my neighbour.)

I told SSE, that I and others locally, were being made ill by the noise. I was told by one of the Scottish engineers, that they had, in the past, been out on the beach in front of our houses to listen, and the noise wasn't too bad. I said I wasn't bothered by the audible noise, but the frequencies below the threshold of human hearing.

I said that I had been woken up about 6:55am experiencing a single wave of nausea and on getting up, I had problems with walking and balance. The Scottish engineer said that, his team had not got to site, until just before 8:30am and that the Mitsubishi wind turbine had just been turned on then. However, the Japanese engineer, when they looked at him for his response, said that he had

switched the turbine on just before 7am, to let the blades move freely and the oil in the system to warm up. This astounded them.

I also said that many in the community had been alerted by a constant rolling thunderous noise which went on overnight on the 2nd February of that year, it was dark so nobody knew if the wind turbines were turning or not. People reported on facebook that they felt very odd, their chests felt compressed during that long episode. I was told by the engineers that the Mitsubishi wind turbine was not operational that night. However, on referring to records, we subsequently found that it had been indeed been operating at that time.

Simply, I know when I was physically impacted and when I was not. To say otherwise, is questioning my integrity and personal and professional reputation.

7.9 It is also of extreme concern that Para 3.1 of the Conjoined Inquiry document Operational Noise - Statement of Agreed Matters Date: 21st March 2023 states:

*3.1 We note the WSP BEIS report considered the topics of infrasound and low frequency noise and the advice contained therein. Whilst it may be feasible to measure infrasound from wind turbines<sup>9</sup>, the current weight of evidence (see WSP BEIS report) indicates that wind turbine infrasound has no adverse effects on human health at typical exposure levels and that it is not necessary to consider wind turbine infrasound when determining development applications. Furthermore, assessment on the basis of 'A' weighted sound levels (the approach in the ETSU-R-97 assessment methodology) provides sufficient control over the potential impact of low frequency noise.*

7.10 Also the statement at Para 4.22 of the Craiginmoddie Hearing Statement - Noise:

*The WSP BEIS report (CD012.015) considered a number of studies which investigated claimed links between adverse health symptoms and infrasound emissions from wind turbines. The report notes on page 116 that:*

*Overall, the findings from the existing evidence base indicate that infrasound from wind turbines at typical exposure levels has no direct adverse effects on physical or mental health, and reported symptoms of ill-health are more likely to be \*psychogenic in origin.*

Note: Oxford Dictionary definition of \*psychogenic - having a psychological origin or cause rather than a physical one.

It is abundantly clear that the extremely worrying continual denial and denigration of harm of the significant debilitating health impacts from large scale wind turbines **are** putting at risk the health and welfare of a increasing number of adversely affected residents.

On what basis should medically unqualified acousticians, (as are the authors of the WSP BIES report) opinions on the health and wellbeing of affected residents, become accepted as statement of fact, on which large scale planning decisions are made?

The 3 applications this conjoined inquiry is considering, for a total of 34 x 200m and 2 x 180m high wind turbines, each with a proposed generating capacity of 6.5MW unacceptably close to homes and recreational facilities, based on our experience at Hunterston with just 2 comparable turbines is

alarming. Especially given these proposed developments are to be located in an extensive area between the operational wind turbines at Hadyard Hill, Tralorg and Assel Valley in the west and Dersalloch to the North East, forming a cumulative array of wind turbines extending for approximately 25 -30km.

## 8. Conclusion.

8.1. I confirm my personal evidence is based on my experience, which I consider is essential to inform this Inquiry and to counter misleading information on wind turbine noise, submitted by the applicants.

Although I will not be directly affected by these proposals, I am compelled by my free will to state my experience of living in close proximity to the Hunterston turbines. This is the only recorded physical evidence of the actual impact on health on those living close to turbines of this size and power in the UK. It also demonstrates the only physical evidence of the return to full health once the turbines were demolished.

8.2. It is worth mentioning that when I was getting nowhere with any public authorities or governments bodies, I decided that, if any Body/Group had an interest in ILFN research, it must be COMARE. Firstly, I was told COMARE did not have AGNIR`s remit, (that was incorrect), then that there was no money for this type of ILFN research as there were too many other priorities. I am telling you this, to illustrate, the dereliction of duty of care by public health and government officials in the UK; declining to act or further knowledge and research in this field, given the evidence available by the direct health impacts on the residents of Fairlie as a result of the operation and demolition of the Hunterston turbines.

8.3. Should the Reporters be minded to recommend approval to Scottish Ministers, then it is crucial my evidence forms part of the published record, raising my fully justified concerns for the future health and welfare of those forced to live in close proximity to turbines of this size and power.

8.4. Finally, given our knowledge and personal experience, I consider it would be irresponsible to consent these developments close to the homes of residents. We, in Fairlie and Millport were adversely affected by two such turbines, this conjoined inquiry application is considering allowing thirty six such turbines close to hundreds of homes.