

Item 2.2 SW/13/1571			
APPLICATION PROPOSAL			
The erection of four wind turbines with a maximum blade tip height of up to 126.5 metres, together with a substation and control building, associated hardstandings, an improved access junction, connecting internal access tracks, and other related infrastructure.			
ADDRESS New Rides Farm, Leysdown Road, Eastchurch, Sheerness, Kent, ME12 4DD			
RECOMMENDATION GRANT subject to conditions and the adoption of the Appropriate Assessment			
SUMMARY OF REASONS FOR RECOMMENDATION			
The development would substantially contribute towards the production and provision of sustainable, renewable energy as dictated by current national and international policy, without giving rise to substantial identifiable harm to local amenity, the character of appearance of the wider marshland landscape, or to local wildlife and designated wildlife sites. As such there is no justification for the refusal of planning permission.			
REASON FOR REFERRAL TO COMMITTEE			
Parish Council objection, local objections, and significance.			
WARD Sheppey Central	PARISH/TOWN COUNCIL Eastchurch	APPLICANT Airvolution Energy AGENT Mr Richard Frost	
DECISION DUE DATE 12 December 2014 (extension agreed)	PUBLICITY EXPIRY DATE 1 August 2014	OFFICER SITE VISIT DATE Various	
RELEVANT PLANNING HISTORY (including appeals and relevant history on adjoining sites):			
App No	Proposal	Decision	Date
SW/10/1567	The erection, 25 year operation and subsequent decommissioning of a wind energy development comprised of the following elements: two wind turbines, each with a maximum overall height (to vertical blade tip) of up to 121 metres, together with new access tracks, temporary works, hard standing areas, control and metering building, cabling and new vehicular access from Brabazon Road.	Approved at committee	11.11.2011
This application related to land south of the prison cluster, and west of the current application site. The proposal was approved by Members in 2011 and the turbines have now been operating for approximately 2 years.			

MAIN REPORT

1.0 DESCRIPTION OF SITE

- 1.01 The application site forms agricultural land associated with New Rides Farm, Eastchurch. It is located to the south of New Rides Farm, east of the Eastchurch prison cluster, and to the southeast of Eastchurch village itself. The site lies within the open countryside on marsh land – the land level falls gently to the south towards the Swale estuary, and rises – dramatically in places – to the north and west towards the main village centre. The OS map for the area shows ground heights as approximately 2m AOD in the very south of the site, rising to 10m AOD in the very north – I believe the majority of the site to be set at around 5m AOD.
- 1.02 Immediately to the west of the site (approximate minimum distance between prison walls and turbines is 360m, and approximately 430m to nearest cell block) are HMP Swaleside and HMP Elmley, with HMP Stanford Hill beyond them to the west, on the far side of Brabazon Road. To the south and east lie the Eastchurch marshes which largely comprise grazing land and wildlife habitat – landscape designations covering these areas are discussed in detail below.
- 1.03 Eastchurch village lies to the north, approximately 1.5km from the northernmost turbine, and adjacent to the northernmost tip of the application site, which is the southern edge of the public highway (Leysdown Road, B2231). The nearest residential properties sit immediately to the north of the turbine area – New Rides is roughly 458m from the nearest turbine, and New Rides Bungalow approximately 660m from nearest turbine. The residential properties on Range Road lie approximately 600m to the west (roughly 690m to nearest turbine).
- 1.04 Also further to the northwest lies Parsonage Farm, which houses the Eastchurch Airfield. This is an unlicensed airfield consisting of a grass landing strip on an east-west orientation which is predominantly used by light aircraft and microlights (amongst others). The runway is approximately 1.65km from the northernmost turbine, and 1.55km from the northwestern-most turbine.
- 1.05 In terms of Local Plan designations for the area, the site lies within the open countryside, but the land to the west is characterised by built development in the form of the prison cluster and the houses on Range Road and Orchard Way. The land immediately (a minimum of 25m from the southernmost turbine) to the south of the site is designated by the Local Plan as a Special Landscape Area, and approximately 900m to the southeast is the internationally designated Swale Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), and Ramsar site – this closest part of the SSSI / SPA / Ramsar is a narrow stretch following Capel Fleet, which runs NE-SW up from the Swale.

- 1.06 Immediately to the south is Great Bells Farm. This land is owned by the Environment Agency and has recently been brought into use as compensatory habitat for land within the SSSI that will be lost to planned sea defence works. In 2011 application SW/11/0575 granted permission for habitat improvement works – these have recently been completed and the land is now in full-time use for the specific purpose of wildlife habitat, primarily in relation to birds.
- 1.07 I am sure that Members will recall application reference SW/10/1567 which, in 2010, granted planning permission (for a period of 25 years) for the erection of two wind turbines and associated plant to the southwest of HMP Stanford Hill. Those turbines (known as the PfR turbines) have been in operation for approximately two years now, and sit roughly 1km west-southwest of the southwestern-most turbine proposed under this scheme.
- 1.08 Early last year, application reference SW/13/0097 granted two-year temporary permission for the erection of an anemometry mast – a precursor to this application – at New Rides Farm. The mast is due to be removed shortly, having fulfilled its purposes in relation to data gathering for this current application.

2.0 PROPOSAL

- 2.01 The scheme proposes the erection of 4 wind turbines on the site. Each turbine will measure up to a maximum of 126.5m to the tip of the blade, with a hub height of approximately 80m. Each turbine will be fitted with 3 blades each measuring approximately 44m, with a full rotor diameter of approximately 93m (including hub) – turbine 1 will have a reduced diameter of approximately 83m to minimise potential impact upon the functioning of Eastchurch Airfield, which is discussed in further detail below. They will be of a similar design to the two PfR turbines, although roughly 5m taller to blade tip, and have an output of 2.3MW per turbine.
- 2.02 Each turbine will sit on a concrete pad measuring approximately 6m in diameter. The pads themselves will be the visible area of a much larger concrete foundation measuring approximately 17m in diameter. Cables will run underground from each turbine to a transformer housing (measuring approximately 5m wide x 3m deep x 3m high) standing alongside the concrete pad. The applicant does note, however, that the transformers could potentially be housed within the turbine shaft depending upon the exact model of turbine that is used.
- 2.03 The existing farm access track, which runs north-south past New Rides Farm and the properties to the north, will be upgraded and two further access tracks will branch off to provide access to the turbines themselves. The southernmost track branches eastwards from the existing route past turbine 2 before turning southwards towards turbines 2 and 4. A culvert will be provided where this western track crosses an existing drainage ditch. The

northernmost track branches westwards to turbine 1, then turns southwest towards turbine 3. The proposed layout plan illustrates this arrangement.

- 2.04 A substation / control building will be erected at the northern end of the site to provide connectivity to the grid. This will measure approximately 12m wide x 7m deep x 5.5m high (3m to eaves, with a pitched roof and three sets of double doors and two personnel doors providing access to three internal rooms.
- 2.05 The proposed layout is shown on the submitted drawing, but the applicant seeks a “micro-siting allowance” of 30m for all elements of the scheme to allow for on-site variations in levels, ground conditions, etc.
- 2.06 The total annual predicted output of the turbines is 26,390 MWh per annum based on average wind speeds for the location. This is sufficient to provide power to approximately 6,186 households, and will displace up to approximately 11,346 tonnes of CO² each year. The standard operational life of wind turbines is 25 years.

3.0 SUMMARY INFORMATION

	Existing	Proposed
Site Area (ha)	53.26 ha (131.6 acres)	
Number of turbines		4
Approximate hub height		80m
Approximate blade height		126m
Approximate rotor diameter		93m
Electricity produced		26,390 MWh/year (estimated to be sufficient to supply the requirements of 6186 homes, as per 1.7 of the ES.)

4.0 PLANNING CONSTRAINTS

- 4.01 The southern part of the site, including turbines 3 and 4, is designated as Flood Zone 3 and therefore at risk of flooding. The site layout has been designed to avoid encroachment in to the high risk flood zone wherever possible. With this in mind the majority of the proposed development, including turbines 1, 2, and the substation control building are located outside of the Flood Zone. (Chapter 14 and Appendix 14.2 of the ES specifically examine flooding and hydrology.)
- 4.02 As noted above the site lies close to the following internationally important sites:

- **The Swale SSSI, SPA and Ramsar site** which is located to the south of the application site on the banks of the Isle of Sheppey, and also to

the southeast of the site where it follows the route of Capel Fleet. The SPA designation is a European Union directive designed to safeguard the habitats of breeding, migratory and overwintering birds.

- Further to the north and west lies **the Medway Estuary and Marshes Special Protection Area (SPA) and Wetland of International Importance under the Ramsar Convention** (Ramsar site) (hereto referred as Medway SPA / Ramsar), which is located to the north and west of the site.

- 4.03 The Swale SPA / Ramsar is predominantly a grazing marsh supporting significant wintering populations of waterfowl and other birds. The site has an outstanding assemblage of scarce plants. Narrow-leaved and dwarf eel grass are found on the mudflats while Ray's knotgrass and White Sea kale are found on the beach. The saltmarsh supports glassworts and golden samphire. The area is typically visited in the spring and early summer by breeding birds (particularly waders), or the winter by ducks, geese and waders.
- 4.04 The Medway SPA / Ramsar site is a wetland of international importance comprising of grazing marshes, inter-tidal flats and saltmarshes providing breeding and wintering habitats for important assemblages of wetland bird species, particularly wildfowl and waders. It is an integral part of the larger Thames estuary and contributes to its overall regional significance for bird species in an international context.
- 4.05 It is not envisaged that the development would materially affect the Medway SPA / Ramsar, but the potential impacts upon the Swale SSSI / SPA / Ramsar are discussed in greater detail below. Members may also care to note that an Appropriate Assessment (under Regulation 61 of the Conservation of Habitats and Species Regulations 2010) has been undertaken by the Council with respect to the potential impacts of the development upon these protected areas – that document was in the process of being agreed at the time of writing, and I will update Members at the meeting.
- 4.06 Aside from the above the site lies within the defined countryside of the Borough (Policy E9), although the local area is somewhat characterised by the built form of the prisons to the west which contrast with the open marsh and grazing land to the south and east. The land also falls within the defined Coastal Zone (Policy E13) and part of the site that does not include turbines lies within a Special Landscape Area (Policy E9).

5.0 POLICY AND OTHER CONSIDERATIONS

General Climate Change

- 5.01 The previous and current Coalition Governments consider that reducing Carbon Dioxide CO₂ emissions must be achieved by changing established practices in our way of life by consuming less energy and natural resources in homes, work, and travel. It also requires new development must adopt

sustainable design and build principles set out in the supplement to the now superseded PPS1 on the effects of development on climate change, along with the Code for Sustainable Homes (February 2008) and Building A Greener Future (July 2007).

- 5.02 The global problems of climate change and tackling rising carbon dioxide levels have been placed at the heart of Government policy, particularly following the first Energy White Paper of 2003 and the Stern Review of 2006, which themselves stem from the Kyoto Protocol and the 1992 Rio Earth Summit. The Climate Change Act 2008, commits the UK to reducing its [carbon dioxide emissions](#) by 80% (from 1990 levels) by 2050.
- 5.03 The 2012 United Nations Climate Change Conference reached an agreement to extend the life of the Kyoto Protocol, which had been due to expire at the end of 2012, until 2020, and to reinforce the 2011 Durban Platform, meaning that a successor to the Protocol is set to be developed by 2015 and implemented by 2020. The European Union is playing an active role in coordinating member states' response to climate change. Relevant provisions include the following:
- **The EU Emissions Trading Scheme (ETS)**, which forms the cornerstone of UK action to reduce greenhouse gas emissions from the power sector. Since 2005, the EU ETS has set a cap on emissions from the large industrial sectors, such as electricity generation, and from Phase III (2013-2020) this cap will reduce at an annual rate of 1.74%. It is expected to deliver reductions from these sectors of 21% on 2005 levels by 2020, underpinning the transition to low carbon electricity generation.
 - **Directive 2009/28/EC on the promotion of the use of energy from renewable sources**, which amends and repeals the 2001 Renewables Directive (2001/77/EC), and is part of a package of energy and climate change legislation that provides a legislative framework for targets for greenhouse gas emission savings. The Directive encourages energy efficiency, renewable sources of power generation, and the improvement of energy supply. It thus establishes a EU-wide common framework for the production and promotion of energy from renewable sources, and sets the UK a target of 15% of total energy consumption, including transport, to be from renewable sources by 2020. In 2009 only 3% was from renewables.
- 5.04 The UK's response to the Directive is the National Renewable Energy Action Plan for the United Kingdom (NREAP), which, at pg. 4, states that *"the UK needs to radically increase its use of renewable energy. The UK has been blessed with a wealth of energy resources . . . As we look forward, we need to ensure that we also make the most of our renewable resources to provide a secure base for the UK's future energy needs."*
- 5.05 Energy generation for the nation also needs to be reviewed. CO₂ producing power stations from oil and coal need to be replaced, with the Energy White Paper 2007 stating renewable (including wind power) and nuclear technologies will be the future for meeting the UK's energy demands.

Aerodromes

- 5.06 The presence of Eastchurch Airfield to the northwest of the site, and the concerns raised by its owner, requires investigation and analysis of aviation policy in the UK.
- 5.07 The Civil Aviation Authority (CAA) is the regulator for the UK airspace. As the regulator, it produces a number of policy documents and procedures in the form of Civil Air Publications (CAPs). In this case; I consider two such documents are relevant.
- 5.08 CAP 764 is the publication referring to CAA Policy and Guidance on Wind Turbines. Specifically, Section 9 of Chapter 2 is relevant as it deals with turbulence; a key concern of the objectors. The section states the following:

“Wind turbines are generally large structures that can inevitably cause turbulence. However, given the requirements for minimum separation and avoidance of obstacles, turbulence in relation to wind turbine developments is not seen as requiring any additional consideration other than that which would normally be given to any large structure. Some research has been undertaken with regards to turbulence caused by wind turbines; however, no known recorded flight trials have taken place. The research found that there are two factors to turbulence caused by wind turbines. One is the blade tip vortices which are identical in nature to those found on fixed wing and rotary wing aircraft. The other is the effect of surrounding air rushing in to fill the void of de-energised air behind the turbine causing rolling turbulence (A similar effect to if the blades were replaced with a solid disc). Wind speed does not directly affect the distance that the turbulence travels downwind of the turbine before dissipating and returning to free flow. The greatest factor in determining the length of the wake is the ambient turbulence level. If the air in the vicinity of the turbine is already turbulent it will assist with mixing and result in the turbulent air returning to free flow more quickly. Therefore, wind turbines located in open areas (such as at sea) are likely to produce more persistent turbulence than those situated amongst hills or other obstructions. If the wakes of two turbines overlap, the effects are not doubled. In fact, due to increased mixing the wake of the second turbine returns to free flow more quickly than it might without the presence of the first turbine. This aspect should be assessed on a case-by-case basis taking into account the proximity of the development and the type of aviation activity conducted. In particular, turbulence will be of more concern to those involved in very light sport aviation such as parachuting, hang-gliding, paragliding or microlight operations.”

- 5.09 CAP 793 refers to Safe Operating Practices of Unlicensed Aerodromes. Specifically, Paragraph 3.6 of Chapter 4 considers Aerodrome Physical Constraints, stating that:

“The runway should, wherever possible, be designed such that trees, power lines, high ground or other obstacles do not obstruct its approach and take-off paths. It is recommended that there are no obstacles greater than 150 ft above the average runway elevation within 2,000 m of the runway mid-point.”

National Planning Policy Framework (NPPF)

- 5.10 The NPPF has a general overall thrust in favour of sustainable development. Paragraph 7 comments that the planning system should have an economic, social and environmental role, and contribute *“to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use natural resources prudently, minimise waste and pollution and mitigate and adapt to climate change including moving to a low carbon economy.”*
- 5.11 Paragraph 97 continues to state that *“local planning authorities should recognise the responsibility on all communities to contribute to energy generation from renewable or low carbon sources”* and *“consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources.”*
- 5.12 In this regard Figure 2 of Addendum 1 to the Swale Renewable Energy & Sustainable Development Study (AECOM, Nov 2011) carried out as part of the evidence base research for the emerging Local Plan (“Bearing Fruits 2031”) specifically indicates the area surrounding the current application site as having *“high potential for installation of large-scale wind energy.”*
- 5.13 Paragraph 98 of the NPPF states:
- “When determining planning applications, local planning authorities should:*
- *not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and also recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions; and*
 - *approve the application if its impacts are (or can be made) acceptable. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should also expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.”*
- 5.14 Paragraph 118 of the NPPF states that developments likely to have an adverse effect on a SSSI should not normally be permitted unless such harm can be mitigated, or the development would give rise to benefits outweighing the harm caused. It also states that *“sites identified, or required, as compensatory measures for adverse effects on European sites”* should be given the same protection as European sites. Further to this paragraph 99

notes that new development in vulnerable areas should be carried out in a way that ensures the “risks can be managed through suitable adaptation measures.”

National Planning Practice Guidance (NPPG)

5.15 The NPPG provides general advice to be incorporated when determining applications for wind farm development, including advice in regards to ecology, landscape and visual impact, shadow-flicker, heritage assets, aerodromes and neighbouring buildings, amongst others. This advice largely relates to the provision of information by applicants seeking to justify proposed wind farm developments, however, and I do not consider it necessary to expand upon it here.

Planning practice guidance for renewable and low carbon energy (PPG)

5.16 Adopted by DCLG in July 2013 this document replaced “Planning for Renewable Energy: A Companion Guide to PPS22” and forms the bulk of current Government advice specifically related to renewable energy developments.

5.17 Paragraph 8 of the PPG states that *“there are no hard and fast rules about how suitable areas for renewable energy should be identified, but in considering locations, local planning authorities will need to ensure they take into account the requirements of the technology and, critically, the potential impacts on the local environment, including from cumulative impacts. The views of local communities likely to be affected should be listened to.”*

5.18 Paragraph 15 continues to note that when considering planning applications *“it is important to be clear that:*

- *The need for renewable or low carbon energy does not automatically override environmental protections;*
- *Cumulative impacts require particular attention, especially the increasing impact that wind turbines and large scale solar farms can have on landscape and local amenity...;*
- *Local topography is an important factor in assessing whether wind turbines and large scale solar farms could have a damaging effect on landscape and recognise that the impact can be as great in predominantly flat landscapes as in hilly or mountainous areas”* [amongst others].

5.19 Paragraphs 30 to 45 (inclusive) of the PPG provide guidance on assessing potential impacts arising from noise, safety, interference with electromagnetic transmissions, ecology, heritage (listed buildings and conservation areas), shadow flicker, landscape impact and decommissioning.

Swale Borough Local Plan 2008

- 5.20 The Swale Landscape and Biodiversity Appraisal has been adopted as a Supplementary Planning Document. I discuss this material consideration at 9.20 to 9.22 below.
- 5.21 Policy U3 specifically refers to renewable energy generation. It states that the Borough Council will permit proposals for renewable energy schemes where they demonstrate environmental, economic and social benefits and minimise adverse impacts. In paragraph 3.177 of the supporting preamble of Policy U3, it states that that the Borough Council is supportive of the Government’s aims regarding renewable energy and will encourage the development of appropriate schemes. It goes on to state that location is a key consideration, with the Kent Downs and North Kent Marshes likely to be too sensitive for such developments, whereas existing industrial sites or previously developed land may present opportunities.
- 5.22 The site lies within the open countryside (albeit close to the prison cluster) and as such Policy E6 applies, which seeks to protect the countryside for its own sake but allowing, under certain criteria, some development to take place. Policy E9 seeks to protect the quality and character of the Borough’s landscape, stating that development which is harmful will not be acceptable.
- 5.23 Approximately 800m east and 1km south of the site lies the Swale Site of Special Scientific Interest (SSSI) / Special Protection Area (SPA) / Ramsar site, which enjoys international and national protection for wildlife, birds and wetlands. Policy E11 seeks to protect biodiversity in these areas whilst Policy E12 is specific to international sites, stating that the Council will give priority to its protection. It states that it will not permit development which directly, or indirectly has an adverse impact on this designated area.
- 5.24 Other policies relevant to this application are:
- | | | |
|--------|-----|--|
| Policy | SP1 | (Sustainable Development) |
| Policy | SP2 | (Environment) |
| Policy | SP3 | (Economy Development) |
| Policy | TG1 | (Thames Gateway Planning Area) |
| Policy | E1 | (General Development Criteria) |
| Policy | T1 | (Impact of Development on the Highway) |

The emerging Local Plan: “Bearing Fruits 2031” (Publication Version December 2014)

- 5.25 The emerging draft local plan, known as Bearing Fruits 2031, has not yet been formally adopted. It has, however, reached the publication version, and this can be given some weight in the determination of planning applications. As such, the policies and information set out within the document should be factored in when considering applications as they are a material consideration in the Council’s decisions on planning applications.
- 5.26 Chapter 7.6 of Bearing Fruits recognises the NPPFs drive towards sustainable or green energy production, and the Government’s commitment to

reducing carbon emissions. It also notes that the Swale Renewable Energy and Sustainable Development Study (2011) and the Council's Sustainable Design and Construction Guidance (2010) both highlight the considerable opportunities within the Borough for power generation by way of biomass, wind, solar, CHP and micro-generation. The studies suggest that *“Swale could achieve 30% of its electricity and 12% of its heat from renewables by 2020 to contribute to the Government's renewable energy target.”*

- 5.27 Policy DM20 does not specifically refer to wind farm proposals, but takes a more general approach and aims to achieve high levels of energy efficiency across all developments in the Borough. Members should also note the supporting text on pages 204 to 206, and the “Swale Energy Opportunities Map.”
- 5.28 As noted above the evidence base for Bearing Fruits includes the Swale Renewable Energy & Sustainable Development Study (AECOM, Nov 2011), which specifically identifies the application site and surrounding area as having high potential for wind farm development.

6.0 LOCAL REPRESENTATIONS

- 6.01 66 letters of objection (including 5 from duplicate addresses) have been submitted, raising the following summarised concerns:
- Local residents already suffer with noise from the two existing turbines, this proposal will add to that;
 - Noise impacts on people's sleep and general quality of life, particularly in summer;
 - Should not be erected near to residential properties, and should only be erected at sea;
 - The noise levels are allegedly within guideline limits, which suggests the limits are set too high;
 - The submitted noise data is misleading;
 - The Council should carry out noise monitoring [noise monitoring in respect of the two turbines on the adjacent land has been carried out by the Council];
 - There are no studies into the long-term health impacts of wind farms, and none should be erected until such studies are carried out;
 - Harm to the appearance of the countryside;
 - Visual intrusion will discourage tourists from visiting the area;
 - Such development amounts to “environmental vandalism;”
 - The red safety warning lights on top of the existing turbines are very noticeable at night;
 - The site is within a flood risk zone;
 - Increased traffic on inadequate road network;
 - Harmful to local wildlife, especially birds;
 - The “Swale Renewable Energy and Sustainability Study” states that there should be a 5km turbine exclusion zone around any airfield, and Eastchurch Airfield lies close to the site;
 - Nearby properties may be at risk of “ice and blade throwing;”

- No benefit to the local community;
- Other modes of power generation should be considered, such as solar panels;
- Wind turbines are not as efficient as solar panel, and the cost of erecting them is not compensated by the profit generated;
- Noise and vibration from the turbines will disturb and upset horses stabled nearby;
- General errors / inconsistencies within the submitted information; and
- Other non-material planning considerations such as property value, or loss of view.

6.02 One further, very detailed and extensive, objection has been submitted by a local resident who is also a volunteer RSPB warden at Great Bells Farm, adjacent to the site. His submission notes (in summary):

- Wind turbines can have a barrier effect for birds extending up to 800m from the pylon;
- Barn Owls, Little Owls, Long Eared Owls and Short Eared Owls have been found to nest / roost / near the site either permanently or when on migration, and rely on nearby grassland for food supply;
- Barn Owl sightings have reduced to almost nil since erection of the two existing turbines;
- Sightings of other birds nearby have dropped significantly since erection of the two existing turbines;
- Sheppey is home to the UK's second largest Marsh Harrier population, which would be disturbed as a result of the development; and
- Numerous other bird species living nearby, or that stop on Sheppey while migrating, will be affected, as well as vertebrates and invertebrates.

6.03 88 letters of support has been submitted, raising the following summarised comments:

- *"It's great to see proposals for green energy and I'd far rather see this sort of development than, for example, the waste incinerator proposed a few years ago just across the Swale. I like the view of wind turbines (I can see the existing two from my house) and I feel they add to the view rather than detract from it."*
- No noise is audible from nearby houses;
- The development will benefit the local community, particularly from the commuted sum;
- Reduction in reliance on imported energy;
- The government needs to explore new ways to produce energy;
- Will avoid approximately 11346 tonnes of CO² and generate enough energy for 6100 homes;
- Will be *"an iconic addition to the local landscape"* and *"would like to see more on the Island;"* and
- Preferable to looking at a conventional power station.

6.04 One letter neither objecting nor supporting has also been received, which reiterates points noted above.

- 6.05 The owner of Eastchurch Airfield, located to the northwest of the application site, has written in with some detailed comments in relation to the impact of the turbines upon the operation / safety of the airfield, with particular regard to risk of collision and risk of wake turbulence. He also comments (in summary):

Further to discussions with the agent for the application, however, Eastchurch Airfield has confirmed that they do not object subject to:

- All turbines to be fitted with “normal type ICAO red aviation obstruction lights” similar to those on the existing turbines;
- Request 24hr access to wind and turbine operation information, which can be done via a website;
- Emergency shutdown conditions similar to those stated on the planning permission for the existing turbines.

- 6.06 Swale Footpaths Group note that the nearby footpath (ZS46) terminates in a dead end, and questions whether some of the community benefit fund could be used to extend the footpath to meet with the continuation of Brabazon Road to the south and enable a walk from there to the Kingsferry Bridge.

- 6.07 The Kent Invicta Chamber of Commerce supports the application, particularly noting opportunities for local businesses to be involved in construction / maintenance, and skills training for local young people (as a result of the applicant’s intention to provide a commuted community benefit sum – discussed elsewhere in this report). They also note the wider benefits to be gained from sustainable energy production.

- 6.08 A substantial objection has been received from a Dr Yelland – a noise consultant who has been employed by various bodies across the country to submit technical objections to wind farm applications. The document runs to 53 pages and contains substantial amounts of technical data that I do not intend to reproduce here. The objection can, however, be summarised into 7 key points (which are noted by the objector at 2.3.1 of his submission):

- (a) Noise from the existing PfR turbines is not correctly accounted for;
- (b) The microphone used for measuring background noise levels was placed unnecessarily close to vegetation, which makes noise itself;
- (c) An unsuitable meter was used to record sound levels, and added its own electronic noise to the background readings;
- (d) Calibration drift of the sound meter was not accounted for a New Rides Bungalow;
- (e) Uncertainty in the turbine manufacturer’s noise data hasn’t been accounted for;
- (f) Uncertainty in the prediction of turbine noise levels at dwellings hasn’t been accounted for; and
- (g) The dwelling most affected by the predicted noise levels has not been included within the assessments.

6.09 A meeting between the Council’s Environmental Health Manager, the developer and their agent and noise consultant was held further to receipt of the above. As a result of that meeting and additional information in the form of a letter of response to Dr Yelland’s objection I am confident that the above issues have been adequately examined and accounted for within the application. I therefore do not agree with the objection, and the matter is explored in greater detail at 9.78 below.

7.0 CONSULTATIONS

7.01 Eastchurch Parish Council *“strongly objects to this application.”* Their comments can be summarised as follows:

- DCLG guidelines on renewable energy developments indicate that the existence of other schemes should not be considered as precedent for approval of future developments;
- The site is close to a number of residential properties, and also the prison cluster with a population of over 2000;
- The proposed turbines will be 5m higher than the existing two, and thus more visible;
- The existing and proposed turbines will have a cumulative impact on the Sheppey skyline, visible from Rodmersham, Teynham and the A249 to Sheppey, and will *“dominate both the surrounding street scene and countryside and be visible from a great distance off the Island;”*
- Alter the distinctive character of the marshes to the detriment of the character of the Island;
- The existing and proposed turbines will “sandwich” the nearby houses between two sets of turbines, *“giving no respite from the noise,”* and potentially causing further problems in regard to flicker effect;
- The visual impact will discourage people from visiting and be harmful to tourism on the Island;
- *“The peace and tranquillity that it [Sheppey] provides, particularly in its close proximity to London, is an asset to be valued and supported. The installation of the proposed turbines will do lasting damage to that perception and will almost certainly have a demonstrable impact on the economic growth of the holiday industry;”*
- Impact on wildlife, with particular regard to Great Bells Farm, and displacement of birds within the area; and
- Impact views from Bright’s Wood – a well-used public area close to the site, at the end of Kent View Drive.

7.02 Minster Parish Council has no objection, but comment:

“Although not a planning consideration, MPC feels that due to the proposal’s close proximity to Minster, any community benefit funding should be prioritised for allocation to the Sheppey Central Ward being an area of deprivation which includes Minster.”

7.03 The Defence Infrastructure Organisation, responding on behalf of the Ministry of Defence, has no objection but requests that the turbines are fitted with “25

candela omni-directional red lighting or infrared aviation lighting with an optimised flash pattern of 60 flashes per minute of 200ms to 500ms duration at the highest practicable point.” They also request that the developer notify them of the start and end date of construction; the maximum height of construction equipment; and the latitude and longitude of each turbine. These items are covered by the conditions and informative set out below.

7.04 HM Prison Service’s National Offender Management Service notes that the noise of the four additional turbines may be greater than the existing two, and could thus affect the prisoners at the cluster at night. They ask whether noise monitoring will take place before permission is granted. Members will note that noise data forms a substantial part of the submitted Environmental Statement, which has been examined by the Council’s Head of Service Development – as discussed below.

7.05 Atkins, on behalf of the Ministry of Justice (MoJ), state that whilst they are *“fully behind the principles of renewable energy development”* they *“need to operate the custodial estate at HMP Sheppey prison cluster in a manner which provides a safe and well-ordered establishment in which prisoners are treated humanely, decently and lawfully. Our concerns therefore relate to the potential impacts of the proposed wind turbines on the operation and the welfare of its charges.”* They object to the development on the following summarised reasons:

- Cumulative noise impact of the turbines, and the need to set a lower decibel level for any new turbines than on the existing turbines;
- The impact of shadow casting / flicker on the operation of external CCTV systems;
- Interference with the operation of the prison’s helipad, approximately 600m from the nearest turbine; and
- The impact of electro-magnetic fields (EMF) generated by the turbines on the operation of communications equipment at the prisons.

The applicant sent a response to the MoJ to address the above, but there have been no further comments received.

7.06 Natural England (after similar comments to the RSPB and KCC Biodiversity Officer as noted below) did not initially object, but stated that further information was required in respect to the potential impacts of the development upon the adjacent protected / designated areas and the species therein:

“The application site for the proposed turbines is in an area of high sensitivity for birds... It should also be noted that the area of land at Great Bells Farm to the south of the application site has been purchased by the Environment Agency as compensation for the loss of SPA due to coastal defence works in the future. Under the National Planning Policy Framework such areas identified as compensation are given the same protection as European sites. Given their location, the proposed turbines have the potential to result in

impacts to birds associated with designated sites through bird strike and displacement of birds.”

- 7.07 They recommend that, given the potential for impacts to protected wildlife, two years’ worth of bird data should be required to *“provide a robust assessment of the potential impacts... In the absence of this information Natural England is not able to provide advice to the Council on the likely impacts that may result from this proposal,”* and can not confirm that the requirements of Regulations 61 and 62 of the Habitats Regulations (relating to Appropriate Assessment) have been complied with.

However, following significant discussions with the applicant and submission of further information **NE has withdrawn its objection**, and commented that *“after discussions with the Environment Agency and the RSPB we are now satisfied that there will not be a likely significant effect on European designated sites or Great Bells Farm compensatory habitat subject to conditions”* as also requested by the RSPB (noted at 7.11 below).

- 7.08 The Kent County Council Biodiversity Officer also advised that additional information was required prior to determination of the application. They acknowledged that the applicant has carried out a great deal of surveys, but raised concern that the Great Bells Farm reserve was not operational at the time of those surveys, and that there may be a great deal more birds in the area now that it is operational.
- 7.09 They raised concern over the impact of the proposed grazing marsh to the south of the site on foraging habitat for birds, as this had not been explored by the applicant, and also suggested that further information be provided in regards to bat surveys and water voles / reptile surveys. Lastly, they suggested that, if permission is granted, a management plan be required to ensure that the site is appropriately enhanced and managed in the long term to secure most benefit to wildlife.
- 7.10 However, as with NE and the RSPB, KCC have subsequently withdrawn their objection further to additional information and discussions with the applicant and their ecologist. **KCC now has no objection** subject to the imposition of a condition requiring a bird monitoring strategy in respect of Great Bells Farm, as listed in the conditions below.
- 7.11 The RSPB originally objected to the application as they *“do not consider that the application or its Environmental Statement have adequately considered the impacts on designated species and habitat.”* They raised concerns over the impact of the turbines on the functionality of Great Bells Farm as compensatory habitat which, in due course, will be designated as part of the SPA, and also concerns over the impact of the turbines on the wider SPA / SSSI / Ramsar site and the wildlife therein. In this regard they raised four main points:

“1. Adverse effects on Great Bells Farm based on its state once it is fully established;

2. *The potential for turbines to reduce the full potential of Great Bells Farm to act as compensation [habitat for land within the SPA lost to sea defence works];*
3. *Impacts on breeding and wintering raptors; and*
4. *Potential adverse effects on wintering wader populations.”*

The RSPB also suggested that an Appropriate Assessment is required under section 61(1) of the Habitat Regulations. This has been carried out and, at time of writing, the document was in the process of being finalised / adopted – I will update Members at the meeting.

However, following significant discussions with the applicant and submission of further information the RSPB is *“now satisfied that there will **not be a likely significant effect on existing European designated sites or Great Bells Farm compensatory land (which should be assessed as if it were a currently designated SPA), subject to conditions (with which the Environment Agency and Natural England agree)** [my emphasis] which secure the following:*

- *Post-construction bird monitoring and reporting to assess the environmental effects of the turbines on Great Bells Farm. There is inherent uncertainty regarding the future bird usage of Great Bells Farm and surrounding land which means that future impacts are difficult to accurately predict. In light of this uncertainty, we strongly recommend that robust post-construction monitoring be carried out.*
- *Enhancement of 23 ha of land in accordance with the proposals in the application.*
- *Proposals to mitigate and compensate in the event that a detrimental effect is identified.”*

- 7.12 London Southend Airport originally objected to the application, commenting that *“the airport is currently working with the applicant and their consultants to identify a technical mitigation for the impact this proposal will have on the Primary Radar at Southend Airport. The Airport Authority shall maintain an objection until a suitable technical mitigation is agreed.”* Further discussions between the agent and the airport have taken place, however, and they now raise no objection subject to the use of a condition (as below) to ensure technical radar mitigation measures are implemented.
- 7.13 Vodafone, H3G and Everything Everywhere Ltd. (including T-Mobile and Orange) have no objection.
- 7.14 Arqiva (responsible for BBC and ITV transmissions) has no objection.
- 7.15 Kent County Council Public Rights of Way Officer objects to the application as the nearest turbine stands 126m high but only 110m from footpath ZS46. He states that this objection could be removed if the turbines were placed *“at least the fall over distance from the footpath,”* or by *“creation of a public right of way between the northern end of ZS46 and the B2231, Leysdown Road to link to Eastchurch village [which] would be of a benefit to the local community*

and wider public.” He continues to note that “the creation of such a route ...would only require the removal of existing signs stating that the route is not a public right of way and installation of a fingerpost at the roadside to indicate a public footpath.”

I am of the opinion that this can be addressed through the ‘micro-siting’ of the turbines within the agreed areas, as noted at 2.05 above.

- 7.16 The Lower Medway Internal Drainage Board states that their formal consent will be required for the proposed watercourse crossing within the site, and for any works within 8m of the adopted Aerodrome Ditch IDB1H. They also state that surface water runoff must not increase as a result of the development.
- 7.17 CPRE Protect Kent objects to the application, and *“feels that it is only in very rare cases that on-shore wind farms can be justified.”* They suggest that the turbines would be detrimental to local residents; harmful to the character and appearance of the area – including the wider Borough due to the long-range views available – with a consequent knock-on effect on the local tourism industry; and that local employment benefits are likely to be small and only during construction. CPRE also suggest that the devaluation of nearby properties should be a material consideration in determination of the proposal, as this will affect the amenity of the owners in terms of their enjoyment of their property.
- 7.18 The Council’s Climate Change Officer has no objections, and comments that the development *“will go towards national, Kent and Swale targets for renewables and CO2 reduction.”*
- 7.19 The Environmental Health Manager has no objection to the application, subject to the use of conditions as noted below (in particular a very substantial noise monitoring condition). In regards to the submitted noise monitoring he comments:
- “The assessment concludes that there is no evidence to show that any noise that the residents might hear will cause them a problem. All the readings and predictions from the model and standard used indicate this to be the case. There is also a noise contour plan of the whole site that indicates this. I therefore, have difficulty in disagreeing with this amount of consistent evidence, even though there are some issues that have not been completely explained and thus can have no objections to the scheme.”*
- 7.20 As noted at 6.08, above, and discussed in greater detail at 9.83, below, the EH manager has also responded to a technical objection submitted on behalf of local residents, and again raises no objection, commenting:

“Despite the late and sincere intervention from Dr Yelland it does not change my overall opinion that there is insufficient arguments to say that this proposal should not go ahead. An interesting addition has

been from the applicant's acoustic consultant who has suggested that a lengthy condition be included which they say that they can comply with. On this basis, I am satisfied that it is appropriate to include this condition."

8.0 BACKGROUND PAPERS AND PLANS

8.01 The application is accompanied by:

- Site location plan;
- Proposed layout plan (corrected version received 7 November 2014, showing turbines in locations discussed / explored within the ES – the original layout plan was incorrect, showing turbine 1 24m further north; turbine 2 33m to the north and turbine 3 90m to the east of their proposed positions. These changes do not impact upon the determination of the application, and will not give rise to any changes in assessment of the technical data, the correct positions having been used to inform the ES.);
- Wind turbine elevations;
- Wind turbine foundation / pad details;
- Substation elevations; and
- An Environmental Statement (ES) comprising four volumes of technical data, non-technical summaries, landscape and visual assessments, and wildlife / ornithology / ecological appraisals and studies, amongst others, as well as chapters dedicated to particular issues within the ES.

9.0 APPRAISAL

9.01 This application raises a number of important issues but I consider that there are three issues of primary importance, which are:

1. The principle of the proposal and the policy context with respect to wind energy;
2. Impact upon ecology (in particular avian ecology) and the functioning of the designated wildlife habitat areas to the south of the site; and
3. The impact upon the landscape and visual amenity.

Other issues which are raised by this proposal are:

4. The potential impacts upon Eastchurch Airfield and its users;
5. Siting and design;
6. Impact to residential amenity from noise, vibration and shadow flicker;
7. Impact on archaeology and cultural heritage;
8. Electromagnetic production and potential interference;
9. Impact upon the local highway network;
10. Ground conditions; and
11. Socio-economics;

Principle of Development

- 9.02 Members will be aware that national planning policy is entirely focused on sustainable development; the presumption in favour of sustainable development is *“a golden thread running through both plan making and decision taking”* (paragraph 14). The NPPF promotes renewable energy as a key planning objective; stating that local planning authorities should support renewable energy projects as noted at 5.08 and 5.09 above. In addition, at paragraph 97, the NPPF notes that *“local planning authorities should recognise the responsibility on all communities to contribute to energy generation from low carbon or renewable sources.”* Local Plan Policy U3, which I refer to above also supports renewable technology.
- 9.03 The proposed wind farm is therefore supported by national and local plan policies and contributes to renewable energy generation in Kent and the UK. As such, I have no objections to the principle of the proposal.

Ecology and ornithology

- 9.04 Chapters seven and eight of the Environmental Statement (ES) refer to ecology and ornithology.
- 9.05 The issues to be considered are the impact upon the bird wildlife on the land to the south which includes the Swale SSSI / SPA / Ramsar and Great Bells Farm, which, as compensatory habitat for loss of SSSI land elsewhere, is afforded the same legal protection as formally designated SSSI.
- 9.06 Although the site for the turbines lies within the defined countryside and close to the built form of the prison cluster, the southern part of the site lies within a Special Landscape Area and approximately 990m northwest of the Swale SSSI / SPA / Ramsar. The land to the south is home to an abundance of bird life. Accordingly, and in consultation with Natural England, the proposal had the potential to raise significant environmental issues requiring it to be subjected to an Environmental Impact Assessment (accordingly, a comprehensive Environmental Statement accompanies the application), as well as an Appropriate Assessment required by Regulation 61 of the Conservation of Habitats and Species Regulations 2010.
- 9.07 Paragraph 33 of the PPG (mentioned at 5.16 to 5.19 above) states that current *“evidence suggests that there is a risk of collision between moving turbine blades and birds and/or bats. Other risks including disturbance and displacement of birds and bats and the drop in air pressure close to the blades...”* It continues to note, however, that *“these are generally a relatively low risk”* and advises that the impacts of a development be assessed.
- 9.08 The most common cause of bird and bat deaths is generally from direct strikes with the blades. The applicants have undertaken a Collision Risk Model (CRM) for the species most likely to be affected by the development – including avocet, hen harrier, marsh harrier, golden plover, Mediterranean gull, redshank, shoveler and bar-tailed godwit. Within the CRM the number of birds colliding with the rotors each year was calculated and it was assumed that all collisions would be fatal. This provides an estimate of the number of

fatalities per year for the wind turbine development, assuming that birds take no avoiding action to prevent a collision.

- 9.09 The CRM showed that the predicted combined collision mortality rate for the most at-risk SPA-qualifying species would be below 1% of total population, for example:
- fatal marsh harrier collisions are estimated to occur at 0.17 birds per year during breeding season and 0.54 birds per year outside of breeding season;
 - fatal peregrine and golden plover collisions are predicted to be 0.02 birds per year (per species); and
 - Mediterranean Gull collisions are estimated to be negligible as, of the 6 flights recorded, none entered the collision risk area.
- 9.10 It must also be recognised that this model is a “worst case scenario,” and actual collision figures are likely to be much lower – the likely overall impact upon the populations of the identified bird species is therefore considered to be low risk and not significant. This issue is explored fully within the ES and also within the Appropriate Assessment carried out by the Council and reviewed by the KCC Biodiversity Officer.
- 9.11 Members must also carefully note the formal comments from KCC, Natural England, KWT and the EA set out in the preceding pages – they are now satisfied that the development would not give rise to ornithological impacts to such a degree that a refusal of planning permission on such grounds could be justified or reasonably defended at appeal.
- 9.12 Chapter seven of the ES also considers the potential impacts of the development, both during and post-construction, and in accumulation with other developments, on non-avian species. An extended Phase 1 Habitat Survey was submitted as part of the application along with a series of protected species surveys, including great crested newt, bat, water vole, otters and badgers.
- 9.13 No serious long-term impacts were identified in the course of these surveys when taking into account proposed mitigation measures – such as the formation of buffer zones around field margins, replanting hedgerow gaps, and other general site enhancement measures. In fact, some species, such as water vole, otter and amphibians, are expected to benefit from the development and mitigation proposals.
- 9.14 I am therefore confident that the development is acceptable in this regard, and have no reason to question the comments provided by the relevant ecological expert bodies.
- 9.15 The Council has carried out an appropriate assessment, as required by the Conservation of Habitats and Species Regulations 2010, and concluded that there will be no adverse effect upon the integrity of the Swale SPA / Ramsar site, either as a singular project or when taken as a cumulative impact or as a

direct or indirect cause during construction and operation, subject to the imposition of conditions as set out below. The Council is in the process of adopting the Appropriate Assessment and I will update Members at the meeting.

- 9.16 In summary, and having sought the advice of Natural England, the RSPB, Kent Wildlife Trust and the Environment Agency, I am of the firm view that this proposal will have no unacceptable detrimental impact on wildlife either within the site or on surrounding land; will not have an unacceptable detrimental impact on the SSSI / SPA / Ramsar or the compensatory habitat at Great Bells Farm. Accordingly, I consider the proposal is fully acceptable in this regard.

Landscape and visual concerns

- 9.17 Chapter six of the ES deals with landscape and visual implications.
- 9.18 The wider overall study area for the assessment of landscape and visual impacts extends approximately 30km from the development site – to areas in the proximity of Birchington (to the east); Selling and Doddington (to the south); Rochester (to the west); and Canvey Island, Southend and Foulness (to the north). However, due to the likely limited extent of significant impacts a narrower 15km study area was examined in detail – extending to Whitstable (east); Badlesmere (south); Upchurch (west) and the Isle of Grain (northwest).
- 9.19 The ES notes that under normal circumstances the study area for a cumulative assessment would extend to 60km but due to the limited extent of the development, and local topography limiting views from some directions, 15km was considered to be a reasonable distance. Having travelled extensively across the Borough and into neighbouring Boroughs (to Whitstable and Rochester, for example) I do not disagree with this logic.
- 9.20 The Swale Landscape Character and Biodiversity Appraisal (2011) – which has been adopted as an SPD – identifies the site as lying predominantly within the Central Sheppey Farmlands character area. The southernmost part of the site - not including land on which any of the turbines would stand - is within the Leysdown and Eastchurch Marshes character area. The site, as described above, consists of grazing grassland and is largely open and flat with some tree planting around the site boundaries.
- 9.21 The Central Sheppey Farmlands area is considered to be in poor condition and of moderate sensitivity. It is described as intimate in character with smaller field parcels, scattered farmsteads and settlements and undulating topography with only pockets of high ground where open views across to the mainland are possible. In terms of landscape management, there is a clear need to maintain the tranquil nature and wetland habitat of the marshes in the southern half of the Isle of Sheppey and to restore and recreate improved structure within the farmland landscapes in the north of the Isle.

- 9.22 The Leysdown and Eastchurch Marshes area is considered to be in good condition and of moderate sensitivity. The site consists of grassland fields. Flat, open marshland dominates the overall character of the area: the Leysdown and Eastchurch Marshes giving way to the Elmley Marshes to the west and the Harty and Spitend Marshes to the east and south. These marshlands are extensive, open landscapes with little built form and they afford wide, open views across the Isle of Sheppey to the mainland of Kent beyond.
- 9.23 The landscape and visual impact assessment has concluded that, in EIA terms, there are no predicted significant effects on landscape character as a result of the proposed development. I agree with this conclusion in that I believe that the turbines would sit well within the open landscape and would not detrimentally affect its character and value, and have no serious negative impact on the adjacent land designated as a Special landscape Area in the Swale Borough Local Plan 2008. In this regard Members have the benefit of viewing the existing PFR turbines.
- 9.24 The methodology used to make the assessment is a computer-generated Zone of Theoretical Visibility (ZTV), which defines landscapes and locations that are likely to have a view of the wind farm. The ZTV can be used to produce photomontages of the proposed masts taken from a number of vantage points. In this case 14 different view points have been analysed and these are set out in Volume 2 of the ES.
- 9.25 I consider the most significant views of the site are those from the Kingsferry Bridge (viewpoint 1) and Swale Crossing (no mock-up viewpoint provided due to lack of pedestrian access to the bridge); Elmley nature reserve (viewpoint 2); the B2231 Leysdown Road (viewpoints 5 and 8); Range Road, Eastchurch (viewpoint 7); Harty (viewpoint 10); and from the Saxon Shore Way at Oare (viewpoint 11).
- 9.26 There are direct views of the turbines from other locations to the south, but these are generally at such long range as to be insignificant, in my opinion. Furthermore the structures – which are admittedly very tall – will be set against the expansive backdrop of the wider marsh landscape, with a gently rising land level to the rear (north). As such, I conclude that the ZTV and its montages demonstrate that the four turbines will not be visually dominant when set against the substantial marshes – and the rolling hills to the north – when viewed from the south.
- 9.27 Significant visual effects are predicted from points 5 and 7, which lie closest to the turbines. Point 7 is on the B2231 Leysdown Road and the top of the turbines (hub and blades) will be visible to motorists passing by, and to residents of the 3 dwellings on the access track leading to the site (one of the dwelling is New Rides Farm, the landowner). Approximate separation distances to those dwellings are as follows:
- Sunrise: 1340m;
 - New Rides Bungalow: 780m; and
 - New Rides Farm: 560m

9.28 However, and as noted above, the turbines are set against wider views of open landscape and whilst they may present a prominent feature I do not believe that they would be so significant or dominant over that wider view as to be seriously visually harmful to the character and appearance of the landscape as to justify a reason for refusal on those grounds. Accordingly, I do not consider the proposal will have a significantly detrimental impact on the landscape character or to visual dominance and have no serious objections to the proposal in this regard.

Aviation

9.29 Members may recall that there was significant interest in this matter on the previous application for the PfR turbines to the south of the prison cluster. In the case of this current application there are two primary aviation issues to consider:

- i) The potential impact upon Eastchurch Airfield; and
- ii) The potential impact upon Southend Airport.

9.30 Contrary to the previous application there has, in fact, been relatively little concern raised by Eastchurch Airfield. The PfR turbines have been operation for nearly two years now, and the owner and users of Eastchurch Airfield have had opportunity to experience the impacts resulting from those two turbines – including previous concerns such as downwind turbulence impacting upon light aircraft.

9.31 As noted above the owner of Eastchurch Airfield has raised no objection subject to a reduction in the blade diameter of turbine 1, which lies closest to the airfield. The blades are to be reduced from 93m to 82m to achieve minimum safe separation distances as recommended by current guidance. The applicant has agreed to this and amended drawings have been provided. Other than this Eastchurch Airfield raise no objection subject to relatively standard conditions requiring aviation lighting (red flashing type) to be installed and being provided access to wind / turbine operation data – both of which are conditions imposed upon the existing two turbines. These issues are picked up in the conditions below.

9.32 London Southend Airport originally objected to the proposal due to likely impact upon the functioning of their radar. However, further to discussions directly with the applicant they have found a mutually acceptable solution and now have no objection subject to the use of a condition as below. In this regard I have no serious objection on aviation grounds.

Siting and design

9.33 The design of turbines of this scale is, in general, functional. The application notes that the final design of the turbines will be dictated by which models are available for purchase if planning permission is granted, but it likely that they will be of a standard design featuring a gently tapered upright, central

projecting hub with nacelle behind and three blades. I have recommended a condition requiring details of the units to be used to be submitted and approved prior to erection on site, and have no serious concerns in respect of design.

- 9.34 The submitted Design & Access Statement notes that a phased site selection process began with (para. 2.11) *“a desk-based assessment testing against predefined criteria such as areas with suitable average wind speed; locations outside landscape designations; suitable buffer distances from roads, railways, public paths, service infrastructure; and with sufficient area to ensure the turbines can be located at a suitable distance from woodland, hedgerows and residential dwellings.”* Para 2.18 continues to note that *“whilst the site was identified at an early stage as being an appropriate location for a wind energy scheme, the number of turbines and detailed layout has evolved over time in response to environmental factors and in consultation with the landowner.”*
- 9.35 The nearest turbine (turbine 2) to any residential property lies approximately 560m from the nearest residential property (New Rides Farm – the application site landowner).
- 9.36 I am of the firm view that the turbines are designed and coloured appropriately and are unlikely to have a detrimental impact to outlook or dominance to neighbouring properties by reason of distance.
- 9.37 I have not been provided with information on construction or decommissioning. However I consider this aspect can be controlled by planning condition, which I have set out below.

Impact to residential amenity from noise, vibration and shadow flicker

- 9.38 Chapter 9 of the ES refers to noise, and chapter 11 to operational safety.
- 9.39 The National Policy Statement for Renewable Energy provides advice on this topic, and recommends that such applications are assessed in accordance with the Energy Technology Support Unit (ETSU) report ETSU-R-97. This document advises on noise limits for wind turbines and aims to *“offer a reasonable degree of protection to wind farm neighbours, without placing unreasonable restrictions on wind farm development,”* and Members will recall that it was referenced in the assessment of the two adjacent turbines and those approved on the Lappel Bank near Sheerness.
- 9.40 Current guidance notes that wind turbines are not noisy in absolute terms, and that it is possible to stand at the base of a turbine tower and hold a normal conversation. ETSU-R-97 states that *“noise limits from a wind farm should be set relative to the existing background noise at the nearest receptive noise-sensitive properties and the limits should reflect the variation in both turbine source noise and background noise with wind speed”*. It also states that noise from wind farms should be limited to 5dB(A) above background noise levels both day and night, but no greater than 43dB(A)

externally in total at night, based on an internal sleep criteria requirement of 35 dB(A).

- 9.41 The ES states that noise surveys were carried out at two representative locations from 10th to 28th October 2013 to determine baseline noise conditions, and thus set noise limits for the development. Current accepted methodology has been referred to and used in the assessment (i.e. ETSU-R-97, the 1996 Assessment and Rating of Wind Turbine Noise and the Institute of Acoustics (IoA) 2013 Good Practice guide to the use of this standard). The principle behind this method is to establish background noise readings at/near the nearest residential properties and then to project predicted noise levels from the turbines in question at different operating speeds, in this case from 4 – 10 metres/second. (The IOA GPG gives advice on minimising the effect of existing turbine noise and specifies a calculation method ISO 9613-2 with certain stipulated input parameters. The assessment has used this standard.) The terrain in question also has to be taken into account and fed into a computer model. No actual readings from the turbines themselves are possible so similar types of turbines, both in terms of height and energy output have been used to produce sound power levels – the assessment has used manufacturer’s noise data for the two proposed turbine types with additional margins for uncertainty included in the calculations. These have then been extrapolated to produce predicted sound pressure levels at both the nearest residential properties and the prisons.
- 9.42 Some of these predictions are in excess of 35dB(A). ETSU-R-97 states that, if this is the case, a further assessment at these locations should be made against the noise limits which vary with wind speed. This was carried out at a position of the nearest residential property (apart from New Rides Farm, as referred to at 9.35 above) to this scheme, i.e. adjacent to 11 Range Road. Here, the levels of predicted turbine noise with varying wind speed were less than that expressed in the ETSU-R-97 noise limits, even though they were above some of the background noise measurements. In addition, the noise levels are all well below those suggested in the WHO noise guidelines for sleep disturbance. The developer has also indicated that noise levels at the prison can meet the same standard adopted for the existing turbines.
- 9.43 The cumulative noise effect from the two existing turbines, in addition to the proposed four, has also been calculated, and the six turbines in combination will result in an increase of no more than +1.5 dB – hence still within the ETSU-R-97 limits. The effect of the predominant south-westerly wind has been taken into account within this assessment, and will have a limiting effect on any cumulative noise heard by local residents who are situated north or west of the application site. Therefore downwind conditions which represent the worst case noise levels for the proposed turbines will occur infrequently.
- 9.44 The impact from other types of noise from the turbines – i.e. tonal noise, vibration, low frequency, infrasound and amplitude modulation (i.e. noise from periodic stalling of blades to produce low frequency noise at a modulation frequency of ~1Hz) – affecting nearby properties has also been examined, and is considered to be unlikely. There have been huge improvements in

recent technology to reduce these effects as far as practicable, as any noise or vibration generated by the turbine represents energy inefficiency in that (at the fundamental level) power is being used to generate the noise / vibration rather than to generate electricity. I am sure this will be proved to be correct, but there is very little hard evidence in the assessment to back up these statements. There is a section on Amplitude Modulation included, for which current guidance states that there is no necessity to measure it due to its rarity though it is acknowledged that it could be an issue under certain circumstances. The PfR turbines have a condition in relation to Amplitude Modulation which can also be used on this proposal.

- 9.45 The ES concludes that noise levels can meet the applicable limits and that there is no evidence to show that the development, in accumulation with the existing turbines, would generate levels of noise sufficient to seriously disturb local residents – I note local concerns referencing the existing turbines in this regard, but have some difficulty in assessing the validity of such claims due to letters from other nearby residents who claim to not be able to hear them. Furthermore Members should be clear that any disturbance arising from the existing turbines is not a matter for consideration here and could be dealt with separately.
- 9.46 The evidence before me shows that the proposed turbines can comply with Government approved noise limits and will not generate a nuisance, and all the readings, predictions and noise contour plans from the model and standard used indicate this to be the case. I therefore have difficulty in disagreeing with this amount of consistent evidence and thus have no objection on this ground, and reiterate that the Environmental Health Manager has no objections.

Shadow Flicker

- 9.47 Chapter 11 of the ES discusses shadow flicker and general safety surrounding installation and operation of the turbines.
- 9.48 Shadow flicker is a phenomenon that can occur in the proximity of wind turbines when, under certain conditions, a shadow is cast onto the windows of nearby properties. Rotation of the blades can result in this shadow appearing to ‘flicker’ on and off when viewed from within those properties. Paragraphs 2.7.63 and 2.7.64 of the National Policy Statement for Renewable Energy Infrastructure note that the potential significance of the effect is dependant on a number of factors, including:
- Location of the relevant building relative to the path of the sun and the turbines;
 - Distance between turbines and affected buildings;
 - Size of windows on the affected building, and the relation of the aperture to the turbines;
 - Height and rotor diameter of the turbine;
 - Local topography, buildings and vegetation;
 - Frequency of bright sun and cloudless skies;

- Time of year; and
- Prevailing wind direction and usual rotor orientation.

- 9.49 Current guidance states that there is unlikely to be a serious affect within a building if a wind turbine is located more than 10x the rotor diameter (approximately 93m in this instance) from the turbine, and will not happen when there is intervening topography, buildings, vegetation or other obstruction.
- 9.50 The UK Shadow Flicker Evidence Base (2011) suggests that a property subjected to 30 hours or more of shadow flicker per year is regarded as affected to the extent that mitigation may be required. The ES, at Figure 11.1 and Table 11.1, shows that 8 properties – including the three prisons – are likely to experience more than 30 hours of flicker per year (up to 119 hours at HMP Elmley, the closest property). These effects are, however, a worst-case scenario modelled on perfect window alignment, clear skies, constant sunshine all year-round and no intervening vegetation or structures.
- 9.51 The ES suggests that mitigation measures be employed to prevent exposure from exceeding 30 hours per year, and states that this can be achieved by programming the operating system of the turbines to shut down the offending turbine when defined conditions coincide, including:
- Specified times of year that correspond with an identified period of likely shadow flicker;
 - If turbine-mounted photo-cells indicate that the sun is bright enough to give rise to flicker; and
 - When wind direction corresponds to an orientation of the turbine which would be likely to give rise to flicker at identified receptors.
- 9.52 I have recommended a condition in-line with the above items, and consider that this will adequately mitigate against any serious issues of shadow flicker for local residents. Members may also care to note that such a condition was also imposed upon the PfR turbines.

Impact on archaeology and cultural heritage

- 9.53 Chapter 13 of the ES refers.
- 9.54 Known heritage assets (including Scheduled Monuments, Listed Buildings, archaeological sites and other features of historic, architectural, archaeological or artistic interest) within 5 km of the proposed development site have been assessed for the potential for both direct (fabric and structural) effects and indirect (character and setting) effects. All the standard national databases and the County Historic Environment Record have been searched for relevant information on the significance of assets.
- 9.55 The ES states that there are three individual scheduled monuments within a 5km radius of the site: Shurland House (1.8km north); the medieval moat site at Sayers Court (4.2km southeast); and the nunnery at Minster Abbey (4.8km

northwest). There are also five Grade I or II* listed buildings within that 5km radius, the closest of which are All Saints Church, Eastchurch (1.8km northwest); the ruins of Shurland Hall (1.9km north). Minster Abbey and Church lie 4.9km northwest, and the Church of St Thomas the Apostle sits 4.3km to the southeast.

- 9.56 The closest listed buildings are the former aircraft hangars at HMP Standford Hill, 2km to the west. These lie beyond the built form of HMPs Elmley and Swaleside, however, and within the context of HMP Standford Hill itself.
- 9.57 Both English Heritage and the Council's conservation officer, and also KCC Archaeology, have assessed the application and neither raises any objection to the proposals, and I have no serious concerns in this regard.

Electromagnetic production and potential interference

- 9.58 Chapter 10 of the ES examines impacts upon communications.
- 9.59 Paragraph 32 of the PPG for Renewable and Low Carbon Energy states:
- “Wind turbines can potentially affect electromagnetic transmissions (e.g. radio, television and phone signals). Specialist organisations for the operation of electromagnetic links typically require 100m clearance either side of a line of sight link from the swept area of turbine blades. OFCOM acts as a central point of contact for identifying specific consultees relevant to a site.”*
- 9.60 The ES, at paragraph 10.33, states that should a risk of television interference at nearby properties be identified mitigation measures could be employed (such as repositioning aerials or installing satellite dishes). However, and as noted at 7.13 and 7.14 above, it should be reiterated that Vodafone, H3G and Everything Everywhere Ltd. (including T-Mobile and Orange) – who are responsible for mobile phone signals – and Arqiva – responsible for BBC and ITV transmissions – have no objections.
- 9.61 Nevertheless a planning condition will be employed to secure mitigation if necessary in future and I therefore have no serious objections in this regard.

Impact upon the local highway network

- 9.62 Chapter 12 of the ES examines transport and access.
- 9.57 Since the withdrawal of PPS22 a number of years ago there is no specific guidance in relation to transport and highways in association with wind farm development. The applicant has therefore carried out their assessment using the Department for Transport's "Guidance on Transport Assessments" and current best-practice techniques.
- 9.63 The application includes proposals to upgrade the existing site access tracks and the junction with the B2231 Leysdown Road, including the provision of vision splays to allow drivers to see an appropriate distance along the road.

The ES also provides details of a traffic management plan, including a breakdown of the routes to be used by construction and delivery traffic (ES paragraphs 12.14 to 12.16).

- 9.64 Table 12.3 of the ES provides a breakdown of traffic flows along the B2231, stating that in a normal 24hr weekday period there are an average of 6898 vehicle movements in both directions, at an average speed of between (approximately) 46 and 50mph. Construction is estimated to last between 9 and 12 months, and be completed by 2016. It is anticipated that there will be 35 construction vehicle movements per day in association with this development, which represents a 0.5% increase over the total 24hr flow on the B2231, and which I consider to be insignificant in number terms.
- 9.65 The ES does note, however, at paragraph 12.40, that the greatest number of movements will occur in construction month 3, when stone and hard-core will be imported to site for upgrading of the site access tracks. This would equate to 37 movements per day, which would decline once that phase of construction has been complete.
- 9.66 Little additional traffic (maintenance) is predicted to arise during the normal operation of the proposed turbines, due to the nature of such sites.
- 9.67 Kent Highway Services have raised no objection to the proposal, commenting *“it is appreciated that the development will only generate occasional maintenance visits once operational, and the greatest impact on the highway will be during the construction and decommissioning phases. This temporary traffic can be controlled adequately with the Construction Management Plan, and the improvements to the access are considered to provide a suitable junction during this time.”*
- 9.68 I therefore have no serious objections to the scheme subject to the highway conditions noted below, as requested by KHS.

Ground conditions

- 9.69 Chapter 14 of the ES examines geology, hydrology and hydrogeology.
- 9.70 There are no geological designations that cover the site or surrounding area, but there are a number of small local drainage channels within the site and extending into surrounding land and beyond to the Swale.
- 9.71 Construction, operation and decommissioning of wind farms can impact upon:
- Runoff rates and volumes;
 - Erosion and sediment release;
 - Flooding and impediments to flows;
 - Water resources / supplies;
 - Quality of ground and surface waters;
 - Groundwater levels;
 - Natural drainage patterns;

- Base flows; and
- Pollution risk.

- 9.72 Information related to each of these issues has been derived from site-based assessment, consultation with relevant authorities, and collation of relevant environmental data sets related to local geology, site topography and hydrology, flood zone designation, groundwater vulnerability and source protection zone review, water abstractions / discharges and other surface water or groundwater dependent features. This assessment has demonstrated that the proposed development will have no effect on local geology and that, once operational, the development will have no effect on local groundwater resources.
- 9.73 There has however been an acknowledgement of potential for minor impacts arising from oil / fuel pollution (from vehicles, fuel, and turbine lubrication oils), and para 14.74 of the ES sets out measures to ensure that any such opportunities are minimised and controlled through good working practices. A planning condition will be employed to ensure this takes place.
- 9.74 A full Flood Risk Assessment (FRA) was conducted in accordance with National Planning Policy Framework (NPPF) technical guidance, and is included as Appendix 14.2 to the ES. The northern half of the site lies within Flood Zone 1, and the southern half of the site lies within Flood Zone 3. The southern part of the site is at risk to tidal flooding from the Swale and from fluvial flooding arising from the backing up of water in the Eastchurch Marshes drainage network. In order to mimic the existing greenfield drainage arrangements the application proposes to raise low permeability areas above the surrounding ground and construct suitable crossfalls such that surface water will shed onto the adjoining ground as at present.
- 9.75 The Environment Agency has raised no objections to the proposal in this regard, but have recommended conditions be imposed requiring a landscape management plan, details of long-term surface water run-off management, and pollution control measures.
- 9.76 With this in mind officers are satisfied that this aspect of the application can be controlled by mitigating conditions as set out below, and as such I consider the application acceptable and in accordance with current policy.

Socio-economics

- 9.77 The proposed wind farm development is likely to have minor positive effects on the local and district area as a result of an increase in local spending and a temporary increase in employment, largely during the construction phase.
- 9.78 The development is unlikely to have a significant effect on recreation, in my opinion, due to the remote nature of the site, and there are no major tourist attractions in the local vicinity that could be seriously affected. There will be views of the turbines from some of the holiday parks at the eastern end of the Island, but these are at such a distance as to not be significantly affected.

- 9.79 I have set out a condition below to require the developer to first seek to ensure there is a local end user of the electricity generated by the development.

Other matters

- 9.80 In the interests of openness and transparency it must be reported that the applicant has offered to enter into agreements with Eastchurch Parish Council and other local organisations to provide a community benefit payment of approximately £40,000 per year for the lifetime of the development to be spent on projects within the parish and local area. The developer has also engaged in talks with the Economic Development team at Swale Borough Council to provide a commuted sum of approximately £23,000 to be used for the provision of skills training and apprenticeships for young people in the Borough. These payments are intended to provide a wider community benefit from the development, and would be subject to legal agreements outside of the planning process.

- 9.81 Appendix 4.4 of the ES comments:

“We would like each of our schemes to be considered a local asset and are keen to work with communities over the lifetime of our projects... If consented, the turbines would generate a minimum of £40,000 per year into a fund over the life of the project... Our funds are administered by GrantScape [who administer the funds for the existing PfR turbines], an independent charity who works with the local community to establish a panel of local representatives to decide where the funds would be distributed...”

- 9.82 Whilst these payments are noted they have not contributed to my assessment of the application, or been factored into my recommendation.

Dr Yelland’s technical objection

- 9.83 As noted at 6.08 above Dr Yelland has submitted a technical objection, on behalf of a number of local residents, in which he raises seven key points. The applicant has submitted a response compiled by their noise consultant, who carried out the original monitoring and assessment queried by Dr Yelland, which begins by providing some background context to the objection:

“The general approach taken by Dr Yelland in the report is to argue on an issue by issue basis that background noise levels have been overestimated and predicted noise levels have been underestimated. At no point does Dr Yelland look objectively at an issue and accept that the approach taken in the noise assessment is, valid. This is the same approach that Dr Yelland has taken on other wind farm schemes; many of the points are effectively standard arguments that he has made on other proposals and there is nothing unique about the New Rides scheme or the noise assessment that has been undertaken.

In short, it should be remembered that Dr Yelland's frame of reference is to object to the proposal rather than approach the noise assessment in an objective way."

- 9.84 The response goes into detail in respect of each of Dr Yelland's seven points, and is attached as an appendix to this report should Members wish to review it in detail. The summary conclusion of the response states:

"In summary, we do not believe there is anything in the Dr Yelland's report which would make any significant change to the assessment or which prevents the New Rides scheme complying with ETSU-R-97 noise limits determined in accordance with the IoA Good Practice Guide. And furthermore, we believe his implementation of additional correction factors to the predicted noise levels and comparing these to measured noise levels at an isolated farm location is actually misleading and contrary to the intention of the GPG."

- 9.85 Having discussed both the objection and the subsequent response with the Environmental Health Manager I am confident that the issues raised by Dr Yelland have been adequately and appropriately considered within the application, and that the noise assessment has been carried out in accordance with both ETSU-R-97 and the Institute of Acoustics Good Practice Guide for the Application of ETSU (2013).

- 9.86 Therefore I do not agree with Dr Yelland's objection and, as noted at 9.38 to 9.46 above I do not believe that there are reasonable or justifiable grounds to refuse permission on the basis of noise. Refusal of permission on such grounds, in the face of the submitted evidence, could leave the Council extremely vulnerable at appeal.

10.0 CONCLUSION

- 10.01 International, national, and local planning policy and guidance is supportive in principle of proposals for renewable energy production, and it is generally highlighted that such proposals have wider environmental and economic benefits that these should be given weight in determining planning applications for such development.
- 10.02 The proposed wind farm would make a significant contribution to renewable energy production (generating enough electricity to meet the needs of approximately 6186 dwellings) and there are no over-riding objections to its proposed location.
- 10.02 With regard to detailed matters, and subject to the conditions as set out below, it is considered that the proposal would have limited implications on ecology and ornithology; that its impact on landscape character and visual dominance would be acceptable; that its siting and design is acceptable and has no significant negative impact to residential amenity; that its noise outputs

are acceptable and in accordance with the ETSU rating guidelines; that shadow flicker issues are capable of being successfully mitigated; that it would not harm the heritage assets in the locality; that it does not give rise to concerns with respect of electromagnetic interference; has no significant negative impact on the local highway network through construction and operation and is acceptable in terms of ground conditions and flood risk.

10.03 In light of the above, I recommend that planning permission be granted subject to conditions as set out below .

11.0 RECOMMENDATION – GRANT Subject to the following conditions:

CONDITIONS

- (1) The development to which this permission relates must be begun not later than the expiration of three years beginning with the date on which the permission is granted.

Reasons: In pursuance of Section 91 of the Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004.

- (2) Unless permitted by one of the following conditions, development shall be carried out in strict accordance with the following plans:

AEL006	- Rev 5	Site location plan
AEL007	- Rev 5	Proposed Layout Plan
PLTUB126.5-93		Typical Wind Turbine Details
PL002		Typical new and upgraded track details
PL003-R1		Typical turbine & transformer foundation details
PL005		Typical substation and control building details
PL007RA		Typical Arched Culvert

Reasons: For the avoidance of doubt and in the interests of proper planning.

Pre-Commencement

- (3) Prior to the commencement of the development, a Construction Method Statement shall be submitted to and approved in writing by the Local Planning Authority. This shall include details relating to:
 - (i) The control of noise and vibration emissions from construction activities including groundwork and the formation of infrastructure,
 - (ii) The control of dust including arrangements to monitor dust emissions from the development site during the construction phase;
 - (iii) Measures for controlling pollution/sedimentation and responding to any spillages/incidents during the construction phase;
 - (iv) Measures to control mud deposition offsite from vehicles leaving the site;
 - (v) The location and size of temporary parking;

- (vi) The control of surface water drainage from parking and hard-standing areas including the design and construction of oil interceptors (including during the operational phase);
- (vii) The use of impervious bases and impervious bund walls for the storage of oils, fuels or chemicals on-site; and
- (viii) The means by which users of public rights of way would be protected during the construction period.

For the avoidance of doubt and other than for wind turbine component deliveries or as qualified later in this paragraph, no construction work in connection with the development shall take place on any Sunday or Bank Holiday, nor on any other day except between the following times:- Monday to Friday 0700 – 1900 hours, Saturdays 0700 – 1300 hours unless in association with an emergency or with the prior written approval of the Local Planning Authority. Outside these hours limited construction activity on the development will be permitted provided it is not audible from the boundary of any noise sensitive property and any such construction activity will be limited to turbine delivery, erection, commissioning, maintenance, dust suppression and the testing of plant and equipment. Development shall be carried out in compliance with the approved Construction Method Statement unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: In the interests of local amenity.

- (4) Prior to the commencement of the development, a scheme for post construction bird monitoring, to verify the predicted environmental effects of the construction and operation of the turbines on land at Great Bells Farm shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall include provisions for management actions, similar to those agreed for the HMP Stanford Hill wind energy scheme, should there be a demonstrable detrimental effect on the bird populations at the Great Bells Farm site from the operation of development. Monitoring and any management measures required shall be carried out for a period agreed in the monitoring and management scheme. Development on site shall take place in full accordance with the approved monitoring and management scheme unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: To ensure the development does not prejudice or endanger the bird population.

- (5) Prior to the commencement of the development a Habitat Management Plan (HMP) shall be submitted to and agreed in writing by the Local Planning Authority. The HMP shall include details of habitat enhancement for the 24 hectare area of land referred to as field 14 on Figure 8.3 of the Environmental Statement addendum. The HMP will also include biodiversity enhancement measures defined in Table 7.22 and illustrated on Figure 7.6 of the Environmental Statement and Table 8.51 of the Addendum. Development on site shall take place in full accordance with the approved HMP unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: To ensure the development provides ecological enhancement in accordance with the provisions of the Environmental Statement.

- (6) Vegetation clearance will be undertaken outside of the breeding bird season (1st March to 31st August). Where this cannot be avoided a competent ornithologist will be appointed to undertake a pre-vegetation clearance survey to identify the presence of any nests being built or in use, details of which shall be submitted to and approved in writing by the Local Planning Authority prior to any clearance works taking place during bird breeding season. To avoid any potential disturbance to Schedule 1 species, notably marsh harrier, in advance of any construction works to be undertaken during the breeding season, all areas within 500m of construction works will also be subject to a pre-construction survey undertaken by a competent ornithologist, to identify any nesting locations for any Schedule 1 protected species. If identified work exclusion zones will be established around nest sites, in line with best practice guidance for the species, in consultation with the appointed competent ecologist. A Breeding Bird Protection Plan (BBPP) would be implemented with the aim of protecting breeding birds from disturbance and ensuring compliance with nature conservation law during the construction phase (e.g. during vegetation removal).

Reasons: in the interest of biodiversity.

- (7) Prior to the commencement of the development, a site walk-over will be made by a competent ecologist to check for any changes to baseline conditions; this will include a specific check for badger setts, otter holts and water vole burrows in the vicinity of construction areas, using standard survey methods and recording all evidence or potential evidence of the presence of these species. A survey radius of 100m from all construction works locations is proposed. If any such features are identified, the survey results will be reviewed to determine whether any additional mitigation measures will be necessary to ensure legal compliance.

Reasons: in the interest of biodiversity and legislative compliance.

- (8) In the event of severe weather conditions (more than seven days of consecutive frozen ground) construction activities within 500m of favoured foraging/roosting areas of waterfowl, waders and target duck species will be limited in accordance with details to be included within the Construction Method Statement, and agreed in writing by the Local Planning Authority prior to construction commencing.

Reasons: in the interest of biodiversity

- (9) A series of Reasonable Avoidance Measures (RAMs) will be implemented throughout the construction phase in order to prevent individual amphibian or reptile species from being inadvertently killed or injured. Measures include the timing of operation to avoid sensitive periods when amphibians and reptiles are more likely to be present within different habitats, watching briefs and staged vegetation removal prior to ground works. Details of RAMs will be

provided within the Construction Method Statement, and agreed in writing by the Local Planning Authority prior to construction commencing.

Reasons: in the interest of biodiversity and legislative compliance.

- (10) Prior to the erection of the turbines, full details of the make and model of the wind turbines; aviation lighting as well as, details of the wind turbine external finish and colour shall be submitted to and approved in writing by the Local Planning Authority. The structures shall not contain any symbols, signs, logos or other lettering/markings and they shall not be permanently illuminated unless any variation has been first submitted to and then agreed in writing by the Local Planning Authority.

Reasons: In the interests of visual amenity and to ensure the development does not act as a distraction.

- (11) Prior to the commencement of the development a written scheme of investigation and programme of archaeological works shall be submitted to and approved in writing by the Local Planning Authority. Development on site shall take place in full accordance with the approved archaeological investigation programme unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: To ensure any archaeological remains discovered during construction are recorded and preserved.

- (12) Prior to the operation of the turbines, details of a scheme to notify Eastchurch Airfield of turbine operation, prevailing wind speeds and direction determined periodically using data gathered by the development, shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall also include details of procedures where it may be prudent to reduce or shut down the operation of the turbines in an emergency situation should aircraft encroach closer than 16 rotor diameters from turbines (or whatever subsequent CAA guidance might be issued). The approved scheme shall be implemented if requested by the operator of Eastchurch Airfield and retained throughout the duration of the permission or until the Eastchurch Airfield ceases operation or the development is decommissioned, whichever is the soonest, unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: In the interests of aviation safety.

- (13) Prior to the commencement of the development, a strategy for shadow flicker mitigation in the event that a complaint is made shall be submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with those approved details.

Reasons: To ensure the development does not prejudice conditions of amenity following a complaint.

- (14) Prior to the commencement of the development, a Construction Traffic Management Plan as set out in the submitted Environmental Statement shall be submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved plan unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: To ensure the development does not prejudice conditions of safety or the free flow of the local highway network.

- (15) Prior to the erection of the turbines, a scheme for the investigation and alleviation of electro-magnetic interference, including television reception, caused by the development, shall be submitted to and approved in writing by the Local Planning Authority. The development shall take place in full accordance with the approved scheme unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: To ensure the development does not prejudice residential amenity or other communication interference.

- (16) The planning permission is for a period from the date of this permission until the date occurring 25 years after the date of the first commercial supply to the electricity network. Written confirmation of the date of first commercial supply to the electricity network shall be provided to the Local Planning Authority no later than one calendar month after that event. Not later than six months from the date that the planning permission expires, all wind turbines, ancillary equipment and buildings shall be dismantled and removed from the site and the land reinstated in accordance with the prevailing environmental standards, unless otherwise approved in writing with the Local Planning Authority.

Reasons: In the interests of visual amenity and to ensure that all redundant equipment is removed from the site and that works do not prejudice wintering birds.

- (17) Any wind turbine that ceases to function for a continuous period of twelve months (unless such cessation is as a result of the turbine or ancillary equipment being under repair or replacement or as a result of events outside the reasonable control of the operator such as a sustained network outage or under instruction from the Distribution Network Operator or the wind farm's Licenced Supplier) shall be dismantled and removed from the site, unless otherwise agreed in writing by the Local Planning Authority, in accordance with a scheme of works (including the timing of such works) which has first been agreed in writing by the Local Planning Authority, such removal to take place within six months of the end of the initial six month period.

Reasons: In the interests of visual amenity and to ensure that all redundant equipment is removed from the site.

- (18) The wind turbine blades shall all rotate in the same direction, clockwise or anti-clockwise.

Reasons: In the interests of visual amenity and to ensure the development does not act as a distraction.

- (19) The rating level of noise emissions from the combined effects of the wind turbines (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes (to this condition), shall not exceed the values for the relevant integer wind speed set out in, or derived from, the tables attached to these conditions at any dwelling which is lawfully existing or has planning permission at the date of this permission and:
- a) The wind farm operator shall continuously log power production, wind speed and wind direction, all in accordance with Guidance Note 1(d). These data shall be retained for a period of not less than 24 months. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.
 - b) No electricity shall be exported until the wind farm operator has submitted to the Local Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.
 - c) Within 21 days from receipt of a written request from the Local Planning Authority following a complaint to it from an occupant of a dwelling alleging noise disturbance at that dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority to assess the level of noise emissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to and any identified atmospheric conditions, including wind direction, and include a statement as to whether, in the opinion of the Local Planning Authority, the noise giving rise to the complaint contains or is likely to contain a tonal component.
 - d) The assessment of the rating level of noise emissions shall be undertaken in accordance with an assessment protocol that shall previously have been submitted to and approved in writing by the Local Planning Authority. The protocol shall include the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken, whether noise giving rise to the complaint contains or is likely to contain a tonal component, and also the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise emissions. The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning

Authority under paragraph (c), and such others as the independent consultant considers likely to result in a breach of the noise limits.

Table 1 – Between 07:00 and 23:00 – Noise limits expressed in dB LA90,10 minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

Location	Standardised wind speed at 10 meter height (m/s) within the site averaged over 10-minute periods											
	1	2	3	4	5	6	7	8	9	10	11	12
Nearest prison cell at Swaleside	43	43	43	43	43	43	43	43	43	43	43	43
New Rides Bungalow	36	36	36	36	37	39	41	43	45	45	45	45
New Rides Farm	45	45	45	45	45	45	45	45	45	45	45	45
Residential properties on Range Road, Orchard Road, Brabazon Way, Church Road, Kent View Drive	35	35	35	37	38	39	42	45	45	45	45	45

Table 2 – Between 23:00 and 07:00 – Noise limits expressed in dB LA90,10-minute as a function of the standardised wind speed (m/s) at 10 metre height as determined within the site averaged over 10 minute periods.

Location	Standardised wind speed at 10 meter height (m/s) within the site averaged over 10-minute periods											
	1	2	3	4	5	6	7	8	9	10	11	12
Nearest prison cell at Swaleside	43	43	43	43	43	43	43	43	43	43	43	43
New Rides Bungalow	43	43	43	43	43	43	43	43	45	45	45	45
New Rides Farm	45	45	45	45	45	45	45	45	45	45	45	45
Residential properties on Range Road, Orchard Road, Brabazon Way, Church Road, Kent View Drive	43	43	43	43	43	43	43	44	45	45	45	45

- (20) Prior to the commencement of the development, the area between the nearside carriageway edge and lines drawn between a point 4.5m back from the carriageway edge along the centre line of the access and points on the carriageway edge 90m from and on both sides of the centre line of the access shall be cleared of obstruction to visibility at and above a height of 1.05m above the nearside carriageway level and thereafter maintained free of obstruction at all times.

Reasons: To ensure the development does not prejudice conditions of highway safety.

- (21) Finished floor levels of the permanent substation building and transformers should be raised a minimum of 150mm above ground levels.

Reasons: To ensure the development is not at risk of flooding.

- (22) The wind turbines and their associated infrastructure shall be situated within 30m of the positions shown in drawing AEL007- Rev 5 Proposed Layout Plan. Any turbine movements between 31 – 50m will be subject to the prior written approval of the Local Planning Authority.

Reasons: For the avoidance of doubt and in the interests of proper planning.

- (23) Construction of the substation and control building shall not commence until details of the external appearance, dimensions, layout and materials of that building and any associated compound or parking area, and details of surface and foul water drainage from the substation and control building and any associated compound or parking area have been submitted to and approved in writing by the Local Planning Authority. The sub-station and control building and associated infrastructure shall be constructed in accordance with the approved details.

Reasons: In the interests of visual amenity.

- (24) All cabling on the site between the wind turbines and the site substation shall be installed underground.

Reasons: In the interests of visual amenity.

- (25) Prior to the commencement of development, a scheme detailing the protection and/or mitigation of damage to populations of water vole, a protected species under The Wildlife and Countryside Act 1981 as amended and its associated habitat during construction works and decommissioning including details of the methodology and timing shall be submitted to and approved in writing by the Local Planning Authority. The development shall take place in full accordance with the approved water vole protection plan unless any variation is first agreed in writing by the Local Planning Authority.

Reasons: To protect the water vole and its habitat within and adjacent to the development site.

- (26) Prior to the commencement of the development, the area shown on the approved plans for parking for site personnel / operatives / visitors shall be provided and retained throughout the construction of the development.

Reasons: To ensure provision of adequate off-street parking for vehicles in the interests of highway safety and to protect the amenities of local residents.

- (27) During construction provision shall be made on the site, to the satisfaction of the Local Planning Authority, to accommodate operatives' and construction vehicles loading, off-loading or turning on the site.

Reasons: To ensure that vehicles can be parked or manoeuvred off the highway in the interest of highway safety.

- (28) Prior to the erection of any wind turbines within the development, an agreement must be reached between the wind farm operator and London Southend Airport with respect to a Radar Mitigation Solution and the existence of such an agreement has been confirmed in writing to the Local Planning Authority by both the wind farm operator and London Southend Airport. The turbines will not be brought into use until the requirements of the Radar Mitigation Solution have been implemented in full as confirmed in writing by the wind farm operator together with London Southend Airport to the Local Planning Authority. For the purposes of this condition, radar mitigation solution means a technical or commercial solution put in place to mitigate the impact on the air traffic control radar at London Southend Airport.

Reasons: In the interests of aviation safety.

Guidance Notes for Noise Conditions

These notes are to be read with and form part of the noise condition. They further explain the condition and specify the methods to be employed in the assessment of complaints about noise emissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Guidance Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Guidance Note 3. Reference to ETSU-R-97 refers to the publication entitled “The Assessment and Rating of Noise from Wind Farms” (1997) published by the Energy Technology Support Unit (ETSU) for the Department of Trade and Industry (DTI).

Guidance Note 1

- (a) Values of the $L_{A90,10 \text{ minute}}$ noise statistic should be measured at the complainant’s property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.
- (b) The microphone should be mounted at 1.2 – 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved in writing by the Local Planning Authority, and placed outside the complainant’s dwelling. Measurements should be made in “free field” conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the

measurements shall be undertaken at the approved alternative representative measurement location.

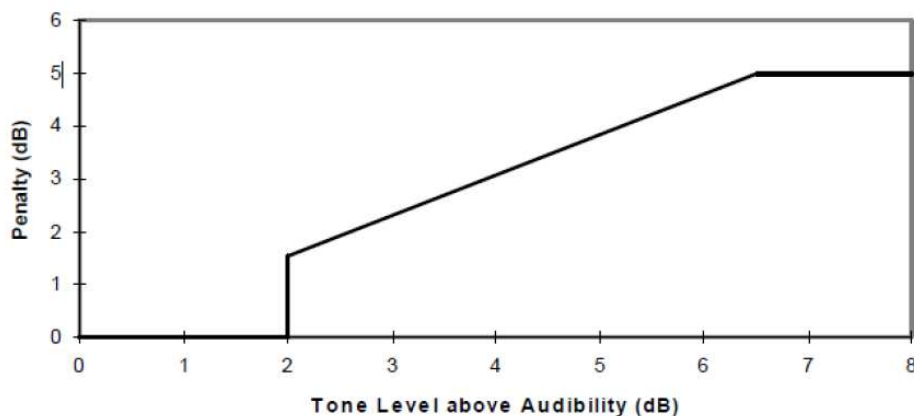
- (c) The $L_{A90,10 \text{ minute}}$ measurements should be synchronised with measurements of the 10-minute arithmetic mean wind and operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.
- (d) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second and wind direction in degrees from north at hub height for each turbine and arithmetic mean power generated by each turbine, all in successive 10-minute periods. Unless an alternative procedure is previously agreed in writing with the Planning Authority, this hub height wind speed, averaged across all operating wind turbines, shall be used as the basis for the analysis. All 10 minute arithmetic average mean wind speed data measured at hub height shall be 'standardised' to a reference height of 10 metres as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05 metres. It is this standardised 10 metre height wind speed data, which is correlated with the noise measurements determined as valid in accordance with Guidance Note 2, such correlation to be undertaken in the manner described in Guidance Note 2. All 10-minute periods shall commence on the hour and in 10- minute increments thereafter.
- (e) Data provided to the Local Planning Authority in accordance with the noise condition shall be provided in comma separated values in electronic format.
- (f) A data logging rain gauge shall be installed in the course of the assessment of the levels of noise immissions. The gauge shall record over successive 10-minute periods synchronised with the periods of data recorded in accordance with Note 1(d).

Guidance Note 2

- (a) The noise measurements shall be made so as to provide not less than 20 valid data points as defined in Guidance Note 2 (b)
- (b) Valid data points are those measured in the conditions specified in the agreed written protocol under paragraph (d) of the noise condition, but excluding any periods of rainfall measured in the vicinity of the sound level meter. Rainfall shall be assessed by use of a rain gauge that shall log the occurrence of rainfall in each 10 minute period concurrent with the measurement periods set out in Guidance Note 1. In specifying such conditions the Local Planning Authority shall have regard to those conditions which prevailed during times when the complainant alleges there was disturbance due to noise or which are considered likely to result in a breach of the limits.
- (c) For those data points considered valid in accordance with Guidance Note 2(b), values of the $L_{A90,10 \text{ minute}}$ noise measurements and corresponding values of the 10- minute wind speed, as derived from the standardised ten metre height wind speed averaged across all operating wind turbines using the procedure specified in Guidance Note 1(d), shall be plotted on an XY chart with noise level on the Y-axis and the standardised mean wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the data points and define the wind farm noise level at each integer speed.

Guidance Note 3

- (a) Where, in accordance with the approved assessment protocol under paragraph (d) of the noise condition, noise immissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.
- (b) For each 10 minute interval for which $L_{A90,10 \text{ minute}}$ data have been determined as valid in accordance with Guidance Note 2 a tonal assessment shall be performed on noise immissions during 2 minutes of each 10 minute period. The 2 minute periods should be spaced at 10 minute intervals provided that uninterrupted uncorrupted data are available (“the standard procedure”). Where uncorrupted data are not available, the first available uninterrupted clean 2 minute period out of the affected overall 10 minute period shall be selected. Any such deviations from the standard procedure, as described in Section 2.1 on pages 104-109 of ETSU-R-97, shall be reported.
- (c) For each of the 2 minute samples the tone level above or below audibility shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104 -109 of ETSU-R-97.
- (d) The tone level above audibility shall be plotted against wind speed for each of the 2 minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be used.
- (e) A least squares “best fit” linear regression line shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the “best fit” line at each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Guidance Note 2.
- (f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.

**Guidance Note 4**

- (a) If a tonal penalty is to be applied in accordance with Guidance Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Guidance Note 2 and the penalty for tonal noise as derived in accordance with Guidance Note 3 at each integer wind speed within the range specified

by the Local Planning Authority in its written protocol under paragraph (d) of the noise condition.

- (b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Guidance Note 2.
- (c) In the event that the rating level is above the limit(s) set out in the Tables attached to the noise conditions or the noise limits for a complainant's dwelling approved in accordance with paragraph (e) of the noise condition, the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rating level relates to wind turbine noise immission only.
- (d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:
 - (e) Repeating the steps in Guidance Note 2, with the wind farm switched off, and determining the background noise (L3) at each integer wind speed within the range requested by the Local Planning Authority in its written request under paragraph (c) and the approved protocol under paragraph (d) of the noise condition.
 - (f) The wind farm noise (L1) at this speed shall then be calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[10^{L_2/10} - 10^{L_3/10} \right]$$

- (g) The rating level shall be re-calculated by adding arithmetically the tonal penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L1 at that integer wind speed.
- (h) If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note 3 above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (e) of the noise condition then the development fails to comply with the conditions.

INFORMATIVES

Please note that, in the interest of aviation safety, the Ministry of Defence requires the developer to notify them of the following items prior to commencement of development:

- a) the date construction starts and ends;
- b) the maximum height of construction equipment; and

c) the latitude and longitude of every turbine.

You must therefore contact Mr Michael Billings, Safeguarding Assistant, Ministry of Defence, Kingston Road, Sutton Coldfield, West Midlands, B75 7RL; 0121 3112025; or DIOODC-IPSSG2a1a@mod.uk.

The Council's approach to this application:

In accordance with paragraphs 186 and 187 of the National Planning Policy Framework (NPPF), the Council takes a positive and proactive approach to development proposals focused on solutions. We work with applicants/agents in a positive and proactive manner by:

Offering pre-application advice.

Where possible, suggesting solutions to secure a successful outcome.

As appropriate, updating applicants/agents of any issues that may arise in the processing of their application.

In this instance the applicant/agent was advised of minor changes required to the application and these were agreed. The application was subsequently considered by the Planning Committee where the applicant/agent had the opportunity to speak to the Committee and promote the application.

Case Officer: Ross McCardle

NB For full details of all papers submitted with this application please refer to the relevant Public Access pages on the council's website.

The conditions set out in the report may be subject to such reasonable change as is necessary to ensure accuracy and enforceability.