



**APPLICATIONS FOR DETERMINATION
DEVELOPMENT CONTROL COMMITTEE - 16 February 2011
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Committee Report

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Case Officer **Sue Wheatley**

EN/10/00415/FUL

Date received	Date valid	Overall Expiry	Ward	Parish
3 March 2010	22 March 2010	12 July 2010	Higham Ferrers	Lancaster

Chelveston-cum-Caldecott

Applicant **Chelveston Renewable Energy Ltd**

Agent **Phillip Planning Services Ltd**

Location Chelveston Renewable Energy Park The Airfield Chelveston Wellingborough
Northamptonshire NN9 6AU

Proposal **Development of wind farm comprising nine wind turbines, five of which are located within the district of East Northamptonshire, each 125m high to blade tip, one anemometer mast 80m high, construction of access tracks, underground cabling, visitor car park and viewing area**

This application is reported to the Development Control Committee as it is a major development requiring an Environmental Statement.

1.0 SUMMARY OF RECOMMENDATION

1.1 That permission is Granted subject to conditions.

2. 0 THE PROPOSAL

2.1 This is an application for a windfarm. It falls within Schedule 2 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended). It is required to be accompanied by an Environmental Statement (ES). The ES comprises 3 volumes:

Volume 1 - The Environmental Statement (written text)

Volume 2 – Figures

Volume 3 – Appendices

2.2 The ES comprises 18 chapters covering the following:-

Section A: Background

1. Introduction.
2. The Proposal
3. Outline of Alternatives
4. Policy Background

Section B: Impacts

5. Landscape and Visual
6. Highways and Transport

7. Noise
8. Air Quality
9. Rights of way
10. Sustainability
11. Cultural Heritage
12. Ecology
13. Hydrology and Soils
14. Socio-economic and safety
15. Agriculture
16. Electromagnetic interference and radar
17. Archaeology

Section C: Conclusions

18. Conclusions

In addition to the Environmental Statement the following documents also accompany the application:

- Planning Design and Access Statement
- Non-technical Summary

2.3 Two Addendums to the ES have been submitted. The first in July and the second at the end of October.

2.4 The July Addendum included the following:

- Swept path analysis for local and trunk road networks
- Additional Ecological Assessment
- Updated Noise Assessment
- Updated Cultural Heritage Assessment

2.5 The November Addendum included:

- Further analysis in relation to cultural heritage
- Additional Landscape and Visual Assessment
- Information about the combined impact of the turbines and biofuel plant.
- Further Ecological Assessment
- Movement of turbine EN5, 50 metres west.

2.6 In December an additional ZTV (Zone of Theoretical Visibility) was submitted showing the cumulative impact of proposed windfarms. This ZTV was for visibility to blade tip.

Windfarm Operation

2.7 It is proposed that the windfarm would have 9 turbines. Five of the turbines are within East Northamptonshire and the other 4 are within Bedfordshire. Each turbine would be mounted on a tapered steel tower and consist of a nacelle containing the gearbox, generator and associated equipment to which are attached a hub and rotor assembly including three glass fibre-reinforced polyester blades. Each turbine is proposed at 125 metres, with a hub height of 80m and the rotor diameter of 90m. It is advised that the colour of the turbines would be goosewing grey.

2.8 There would be a small externally mounted transformer adjacent to each turbine.

2.9 Two 80m high anemometry masts are also included within the application. One in East Northamptonshire the other in Bedfordshire. The ES indicates that this is so that if necessary each part of the wind farm can be constructed independently. However it is noted that if both applications are approved only one will be built.

2.10 Power from the turbines would be transmitted along underground cables to the switch room that has previously been granted planning permission (ref 08/00451/FUL). It is advised that this cabling would follow, where practicable, the route of roads as well as using existing ducting where possible. This 33 KV underground cabling will be laid in cable trenches typically up to 1.2m deep and 0.65m wide.

2.11 A number of new access roads are also proposed. Only 4 km of existing track are proposed to be used with nearly 2.6 km of new on site access tracks. It is proposed to leave these access tracks in place after de-commissioning. Details of the method of construction of these tracks is included within the ES.

2.12 A central control room for the automatic remote control and monitoring of the wind farm is also proposed and this is to be located within the central area with the control facilities for the Biomass plant and Bio-fuel facility.

2.13 The applicant advises that each turbine would have nominally 2.5 MW of individual capacity and that the wind farm would have a nominal capacity of 22.5 MW, subject to final turbine selection. The applicant further advises that it is anticipated that the windfarm would generate 59,000 MWH of renewable electricity per annum to supply more than 12,500 typical households and would save in excess of 25,000 tonnes of CO2 emissions.

2.14 The turbines would start operating when the wind speed reaches 4 metres per second. It would be turned so that the 3 blade rotor faced into the wind. Once operating it would continue to operate with wind speeds as low as 3 m/s. The brake would be applied if wind speeds exceeded 25 metres per second. The turbines are designed to withstand wind speeds in excess of 55 metres per second (125 miles per hour). They have failsafe systems which shut the turbine down even in the event of a total loss of power. A turbine design life is noted as being typically 25 years. Turbines are also protected from lightening.

Wind farm construction

2.15 It is proposed to construct the turbine tower modules on site, using a portal frame building which was granted planning permission under the application for the Biomass plant (our ref 08/00194/NCC – for Members information this would require planning permission from ENC). This building is within East Northamptonshire and is 35m x 80m. The applicant however advises that if this building is not available then fabrication could be carried out in a temporary building on site or at the applicant's head office in Wymington. The raw materials to be used are steel plates or sections. The sections would be welded together to the tower modules, then shotblasted and painted.

2.16 The ES advises that the detailed design for each turbine foundation will depend on the location specific geotechnical site investigation. Details of standard concrete foundations are however provided. The ES anticipates that up to 400 m³ of concrete per turbine will be required. The foundation would be approximately 15.7 m square by up to 3.1m deep. The ES notes that where possible existing concrete foundations on site would be used.

2.17 The ES anticipates that the turbines would be erected using up to 2 sets of large all terrain cranes, a set consisting of the main lifting crane and the tail crane. The main lifting crane will be slightly taller than the tower of each turbine (80m)

2.18 The ES includes the following programme for each phase of construction:

- Siting of temporary site office and construction compound etc (with an area of 50m x 200m)
- On-site fabrication of turbine tower modules
- Construction of site access tracks to turbine location
- Construction of foundations and hardstanding areas

- Excavation of cable trench and cable laying
- Erection of wind turbines
- Connection of on site electrical power and signal cables
- Commissioning of the site equipment
- Site reinstatement and restoration

The on-site construction period is 9 months.

2.19 A Construction Management Plan would be drawn up and the ES notes also that an Ecological Clerk of Works would be retained and that suitably qualified experts would also monitor the works for the presence of contamination and archaeology.

Access to the site

2.20 Access to the site is proposed from the south of the site via Newton Road. The ES contains a schedule of traffic movements and these are included in 7.3 of this report.

Grid Connection

2.21 The ES notes that Central Networks, is to provide an upgraded connection to the site using existing wooden pole cable routes with no steel pylons, for the Bio-fuel proposal. This, the applicant advises, will be suitable for the wind farm. This upgrading work will replace the present 33 kV overhead line which runs from Irthlingborough sub-station across the Nene river valley to the northwest of the A45, over land designated as a SSSI. It is highlighted that this current 33kV line shares poles with an 11 kV line, which when removed, will leave Central Networks able to remove the poles and these overhead lines over the SSSI, as soon as they are able to re-route the 11 kV lines.

Site Reinstatement and Decommissioning

2.22 The ES indicates that reinstatement would be carried out as soon as possible after project completion; that turbine foundations would be re-graded with topsoil and re-seeded and cultivated. The temporary site office would be removed together with any additional hardcore.

2.23 Decommissioning is anticipated to take 6 months. It is proposed that the upper sections of the foundations would be removed to a depth which would permit continuation of the present land use. Unless required for agriculture or other operations it is suggested that the access tracks would be removed. All underground cables would be left in place. All crane hardstanding adjacent turbines would be removed if needed.

Landscape Proposals

2.24 The ES refers to the landscaping which has been approved in relation to the Biomass Plant:

- A woodland shelterbelt along the northern part of the central access track (ENC side); to the north of Bridleway (MM17 and BWY16) which runs through the middle of the site in an east-west direction; and along the western boundary of the airfield site from Hare Spinney to the existing woodland to the north.
- A new hedgerow along the bridleway referred to above
- Hedgerow improvements around the airfield site boundaries
- Shrub edge/scrub in the south eastern corner of the airfield site, within Bedfordshire.

3 THE SITE AND SURROUNDING

3.1 The site is located 2km south east of Chelveston. It is a former air base, however the site was cleared some time ago and is in now in use for the grazing of animals.

3.2 Within the central portion of the site however there are a small number of former MOD buildings. There is also a communication mast (referred to as the Boxer Mast) which is 70 metres high.

3.3 The nearest residential properties within East Northamptonshire are the former MOD properties on the south western boundary of the site (now known as Chelston Rise). These properties would be approximately 750 metres from the nearest turbine. Within Bedfordshire the nearest properties are Manor Farm (470m from the nearest Bedfordshire turbine), Silcombe House (previously known as High Barn Farm – 550 m from the nearest Bedfordshire turbine) and Top Cottage (600 m from the nearest Bedfordshire turbine) which abut the former airfield site to the east and Lodge Farm (850 m from the nearest Bedfordshire turbine) is located immediately to the north east.

3.4 There are a number of rights of way which cross the site. These are enclosed by 2m high fencing.

3.5 The site forms a plateau above surrounding land and is generally fairly flat.

4 POLICY CONSIDERATIONS

4.1 National Planning Policy Guidance

- PPS1 Sustainable Development
- PPS1 The Planning System: General Principles Supplement to PPS1 Planning and Climate Change.
- PPS5 Planning for the Historic Environment. (replaces PPG15 – Planning and the Historic Environment and PPG – Archaeology and Planning)
- PPS7 Sustainable Development in Rural Areas
- PPG8 Telecommunications
- PPS9 Biodiversity and Geological Conservation
- PPG13 Transport
- PPS22 Renewable Energy
Planning for Renewable Energy A Companion Guide to PPS22
- PPG23 Planning and Pollution Control
- PPG24 Planning and Noise
- PPS25 Flooding

4.2 East Midlands Regional Plan

On 10th November 2010 the High Court ruled that the Secretary of State's decision to revoke Regional Spatial Strategies was unlawful as it had been taken without primary legislation. A statement was then issued by the Government reiterating their intention to remove RSSs and that this should be treated as a material consideration. However a further application was then made to the High Court seeking a declaration that the Government's stated intention to revoke Regional Strategies was not a material consideration for the purposes of making planning decisions. The claim has been expedited but at the time of writing this report has not yet been heard. In the meantime both the Government's statement and its letter indicating that its proposal to remove RSSs should be treated as a material consideration were "stayed" until the outcome of the further application. The legal advice received by the Council is that weight still attaches to policies contained within Regional Strategies and it is not safe to regard the Government's stated intention to abolish Regional Strategies as a material consideration in taking planning decisions.

Policy 1 – Regional Core Objectives
Policy 2 – Promoting Better Design
Policy 3 – Distribution of New Development
Policy 26 – Protecting the Region’s Natural and Cultural Heritage
Policy 27 – Regional Priorities for the Historic Environment
Policy 29 – Priorities for Enhancing the Region’s Biodiversity
Policy 31 – Priorities for the Management and Enhancement of the Region’s Landscape
Policy 39 – Regional Priorities for Energy Reduction and Efficiency
Policy 40 – Regional Priorities for Low Carbon Energy Generation

4.3 Northamptonshire County Structure Plan

No relevant saved policies

4.4 North Northamptonshire Core Spatial Strategy

13 – General Sustainable Development Principles
14 – Energy Efficiency and Sustainable Construction

4.5 East Northamptonshire District Local Plan

EN8 – Protection of SSSI’s, NNR’s and LNR’s
EN9 – Safeguarding sites of local conservation interest
EN20 – Protection of important open land

4.6 Supplementary Planning Guidance / Documents

Sustainable Design (JPU SPD)

4.7 Three Towns: Preferred Options.

4.8 Locations for Waste DPD

This identifies the site that has planning permission for the Biomass Plant as a site for waste management- site WS12 Chelveston. This DPD has been found sound by the Inspector and NCC anticipate adoption in March/April 2011.

5 RELEVANT PLANNING HISTORY

- 5.1 06/00251/FUL - Installation of 70m anemometer mast for temporary period of one year. Approved 29.03.2006.
- 5.2 06/01824/FUL - change of use of redundant MOD buildings for electricity generation and construction and use of ancillary plant and equipment and construction and use of electricity switchroom refused 19.06.2007
- 5.3 07/00332/TMP Continuing operation of a 70m Anemometry mast for a further period of one year. Granted 30.06.2007. This mast has now been removed.
- 5.4 08/00451/FUL – Change of use of Redundant MOD buildings to electricity generation and switchroom. Refused 10.06.2008. Appeal allowed 3.06.2009.
- 5.5 08/00194/NCC – construction and use of Biomass Renewable Energy Plant. This Council advised Northamptonshire County Council that they objected to the proposal. It was however approved by NCC on 22.12.2008.
- 5.6 A formal scoping opinion in relation to a windfarm proposal (which is a document

which sets out what an ES should contain) was adopted by ENC on 16 June 2006.

5.7 Public consultation in respect of the project was carried out in 2006.

5.8 The applicant suggests that the proposal has been amended to take on board concerns of local residents. This is disputed by local residents. The scheme has however been reduced from the original 17 turbines to only 9.

6 CONSULTATIONS AND REPRESENTATION

6.1 Neighbours 367 letters and cards of objection were received in response to the original submission. 132 additional representations were received in response to the Addendums, however a number of these were from people who commented in response to the original submission. The concerns are:

Siting

- Too close to villages and homes
- Concern that the proposal will have an adverse impact on the setting of Lodge Farm. Demonstrated by the fact that the nearby Manor Farm was purchased by a company under the same directorship as the company Chelveston Renewable Energy Ltd. Lodge Farm is in a very similar position. All the main rooms face the site.

Size of turbines

- These are the largest operational models and are excessive for this location
- They are x2 the height of the existing boxer mast

Greenfield Site

- The site is a Greenfield site

Visual impact

- Adequacy of photomontages – appear to be have taken with wrong lens. Turbines appear smaller than they would be.
- Photomontages do not show the boxer mast in correct proportion – it appears too small.
- Both locally and the wider environment due to the height of the turbines and the anemometry mast – domination up to 30 miles
- Impact on environmental quality
- It is an open agricultural landscape
- Impact on rural character
- The size of the turbines – they are designed for off-shore use
- Overbearing impact
- Turbines sites along ridgeline makes them more dominant
- Turbines are ugly
- The turbines are much taller than those at Burton Latimer
- The turbines will be clearly visible at almost every vantage point within at least a 20km radius; an area that includes at least one area that has been designated as an “Area of Great Landscape Value” and 2 that had been previously designated as “Area of Great Landscape Value” and a “Special Landscape Area”
- Lack of consideration of impact on Shelton, Lower Dean and Upper Dean – as if they didn't exist.
- Whilst the site itself may just be capable of being described as a flat featureless landscape in the context of Bedfordshire and Northamptonshire the landscape is not flat and featureless.

- Site is at a higher level than surroundings
- Pylons to distribute the power will also be required; an additional eyesore
- Bedford Borough maps of Yelden Parish set out the many protected views of the village, looking towards the airfield site
- Not an unimportant landscape – charming villages
- Yelden and Melchbourne were recently celebrated in “Discover Bedfordshire” magazine
- The airfield has not been despoiled

Historic and Cultural Assets

- Visual impact on rural area with historic buildings
- This is a conservation area
- Too close to church
- Chelveston is mentioned in the Domesday Book and for that fact alone the application should be denied
- Too close to Yeldon Church (Grade I) and castle (ancient monument)
- Turbines will dominate Grade II listed farmhouse (Unclear which farmhouse and it is assumed reference was to Duchy Farm, Caldecott)
- Ancient church in Shelton 12th century- too early to have a spire therefore don't use this argument against it
- Protected roman mosaic in Yelden
- Landscape of H.E Bates; his Larkin family lived in Lower Dean
- Paragraphs 11.94 and 11.2 which relate to the visual association of farmhouses with their landscapes is disputed; in particular in relation to Lodge Farmhouse which is now known as Francis House. It is pointed out that this is still a working farm and that until the Enclosures Act of the late 18th and early 19th centuries farmhouses were rarely built in isolated positions. The owners of this property point to the huge amount of work that they have done to the building to restore the building and provide some historical background to previous occupiers.

Noise

- Particular concerns about night time noise due to the proximity to residential properties
- Also potential for noise from traffic
- This is a quiet, peaceful, tranquil rural area
- Noise generated from fan blades
- Already experience noise from a grain dryer
- I have lived near a turbine before and know noise can be a problem
- The noise levels of the turbines, being the biggest in the UK, will exceed the levels known to cause problems for residents
- Noise can only be assessed when turbines are built which is too late
- Lodge Farm is downwind of the turbines. Unclear if the Noise Assessment has taken this into account. Reference is made to the noise monitoring carried out by MAS and their reports. Summaries are provided.
- The Government figures for noise were issued in 1996/7 when the technology was much less advanced and turbines were smaller. There is more recent research into sleep deprivation.
- The existing background noise levels are particularly low
- Properties are downhill and downwind and therefore the aerodynamic or blade swish noise will be at the upper end of measurements
- The nearest house, Shelton Lodge, is not referred to at all.
- Recent reports have suggested that wind farms should be 2 km from villages
- Turbines bigger therefore noisier
- Turbines in Bedfordshire are in line which would cause a tunnel effect on sound
- Development will spoil the quiet enjoyment of my home

Health impact

- Siting the turbines with a biomass plant would spread airborne bacteria – tip speed of over 200mph.
- The smell will cause stress
- Not all gasses, methane, hydrogen sulphide and ammonia and pathogens including BSE, scrapie, blue tongue and botulism will be destroyed by the anaerobic process. The precautionary principle set out in PPS23 should be applied
- Remember the biohazards at Corby!
- Leakage of bacteria – eg Clostridium difficile
- No studies been carried out – need risk assessment
- One of turbines close to waste chimney of plant
- Bio-aerosols emitted from biomass plant
- The problem of “fugitive dust” well known in wind energy literature. Cannot be full confidence that fugitive pathogens will not be spread by turbine blades
- Can be no guarantee that there will not be a leak at the biomass plant
- Reference is made to a risk assessment carried out by DEFRA for biodegradation of food waste containing meat. They considered all pathogens as in a bioreactor there is no control over which bacteria will be present. Pathogens evaluated included BSE, scrapie, Foot and mouth, E.coli, Salmonella, Clostridium. Some of these were reduced in number by the high temperature but some pathogens like BSE, B.cereus and Clostridium botulinum were not destroyed. The risk analysis did not consider pathogens such as viruses like Avian flu and Blue tongue. Neither did the study consider airborne pathogens such as bacteria, spores and viruses. Anaerobic digestion is a high pressure process producing large quantities of noxious gases like H₂S, CH₄ and NH₃ and there are bound to be exhaust gases and aerosols containing whatever bacteria are present in the bioreactor. The report from the planning officer confirms release of micro organisms from the reactor carried by these high pressure gases.
- The current risk assessment does not anticipate the possibility of turbines.
- Impact specifically on children
- Mental damage

Safety

- Bits break off turbines
- In winter lumps of ice can be hurled
- They can catch fire and fire brigades are unable to deal with the fires
- Been 36 deaths associated with wind farms in Europe in last 10 years
- Are there standards of regulations that govern the manufacture of wind farms? If so what guarantees are in place that these will be met.
- Frightening

Smell

- Any smells that are generated may be fanned towards the village by the turbines
- Already plagued by smell from Biogen which is close

Fumes Dust

- From Biomass unit

Rights of Ways

- Impact on countryside walks
- Loss of natural nature of footpaths and bridleways

- Impact on walkers, cyclists and horse riders
- Will spoil the Three Shires Way

Wildlife

- Negative impact on wildlife.
- Evidence of air pressure drops bursting the lungs of smaller animals
- Impact on skylarks
- Hazard for red kites – these have been the most likely birds to be killed on European and Welsh wind farms
- Impact on migrating birds
- Impact on barn owls
- Impact on buzzards
- Impact on bats
- Impacts on raptors
- Swans
- Golden plovers
- Flight path of Canada geese
- Impact on great crested newts
- Out of date surveys – wildlife patterns have changed
- Hares
- Toads
- Lapwings
- Bats navigate by echo location but cannot cope with the speed of wind turbines and are most vulnerable when the wind speed is low as that is when their prey are flying. Some bats also die of shock. Many hundreds of bat deaths are recorded at wind farms in Europe.
- Insects
- Voles
- Five species of bees have become extinct due to the loss of this type of habitat.
- Geese regularly fly over the area to get to Grafham water

Traffic

- Small rural roads which already have HGVs
- Don't want traffic going through our villages
- Many people walk on the rural roads
- Increased traffic would be dangerous to children
- The visitor centre will encourage more vehicle use and pollution of rural roads
- More pot holes to repair
- Adjacent road already has enough fatal accidents
- Lack of an Abnormal Load Report
- Additional traffic on B645 which already has reputation for serious accidents
- No lighting for safety of other road users

Tourism

- The East Northamptonshire tourist industry is trying very hard to advertise this area as one of rural activities and pleasant landscape. Turbines will detract and impact on rural economy. Stanwick Lakes was voted one of top 10 attractions in the country recently. It will not be so popular if the turbines are built.

Pollution

- Increased vermin and rodents pests and flies
- Contamination of water and air for our villages and the cities of Cambridge and

Peterborough

- Spreading of toxins
- Dust from HGVs
- Light pollution – impact on night sky

Shadow flicker

- These kind of turbines create light flicker
- Impact of shadow flicker and white noise
- Specific comments made in respect of Lodge Farm. PPS22 accepts that shadow flicker can effect health. Whilst the ES claims that due to the surveyed levels of direct sunlight enjoyed by Lodge Farm, there will only be shadow flicker for a mere 3 hours each year. This property often enjoys spells of more prolonged sunshine that would be likely therefore to result in more of an impact.
- Strobing effects at sunset (some residents from Burton Latimer suffer)

Air safety

- Within MOD Low Flying Area 06. Installation will be hazard to aircraft.
- Will interfere with civilian gliding clubs
- Low flying area for MOD

Efficiency of Wind Energy

- There is poor wind efficiency in this location; better offshore
- The fact that the turbines are 125m high shows that they have to be that height to find wind
- When not in use the turbines must be powered by electricity or the blades break
- Possibly only 20%; 25% efficient
- Data for existing onshore sites provided. Only 8 achieved a capacity factor of 30% or more, Although the industry claims 30% is typical. 70% achieved a capacity factor of under 25%. The average capacity factor was 21.9%.
- No need for more energy; we need a smaller population
- There are better options for generating energy which are more efficient, give better return on financial investment and have less environmental impact
- The Burton Latimer turbines are often inactive as there is insufficient wind
- The layout of the turbines is not efficient as wash from the leading blades will mean that those on the back row will be in turbulent air flow, which will effect their efficiency and performance.
- The British Wind Energy Association (BWEA) has agreed to scale down its calculation for the amount of harmful carbon dioxide emission that can be eliminated by using wind turbines to generate electricity
- Solar power farms outperform windfarms so why isn't one being considered?
- During the recent cold snap turbines made no contribution due to lack of wind.

Policy

- The requirements of PPS22 are not met. The wind farm would be inefficient; There is no economic case for it. The development prejudices the environment,. Key Principle 1 (i) of PPS22 not met since the environmental, social and economic impacts cannot be addressed satisfactorily.
- Does not accord with PPS7 and PPS23
- East of England should be asked to explain why it has not considered its renewable energy targets for the contribution of wind power clearly in relation to key principle 1 (i) of PPS22, and the variable results of wind power developments

- Precautionary principle should be invoked when there is good reason to believe harmful effects would occur to human health and there is scientific uncertainty about the level of risk.
- Contrary to PPS5
- Contrary to Three Towns Plan which seeks to protect Greenfield areas

Sustainability Benefits and Greenhouse Gases

- Climate change is a foolish fallacy
- Carbon emissions do not lead to climate change it is a naturally occurring
- Alternative renewable energy sources are better
- It will not lead to a reduction in use of fossil and nuclear fuels
- No proven reduction in greenhouse gases
- Other sources of renewable energy are better
- We are told that wind energy is a “green” fuel. Has the amount of power required to manufacture, deliver and site almost 4,000 cubic metres of concrete for the turbine foundations been taken into account?

Cost of Windfarms

- Nobody knows the cost of turbines and payback time – waste of time and money
- Huge subsidies from Government
- Probably not even a UK company
- The cost in manufacturing and construction and later decommissioning will be greater to the environment than any benefit from the turbines
- Incorrect use of Government funds at a time of national difficulty
- Only person getting rich is developer/Council
- Subsidy of £400,000 per turbine per annum

Greenbelt and AONB

- Negative impact on greenbelt
- Chelveston/Caldecot is an Area of Outstanding Natural Beauty

Industrialisation

- Creeping industrialisation of North Northamptonshire
- Excuse to create an industrial area on a Greenfield site

Flooding

- Large quantities of concrete in the ground- will it effect flooding in Yeldon

Quality of life

- The combined impacts will have an adverse impact on quality of life
- People will not want to live and work in the area which will have a negative impact on the locality – will the villages survive?

Cumulative impact

- Combined effect of adding wind turbines to the digester, biomass plant; particularly as there is no risk assessment of the combined impact
- Combined visual impact
- Proximity of site to other wind farms in area and proposed windfarms (Burton Latimer; Ringstead; Podington; Bozeat; Sudborough, Rushton, Bicton)
- Although they usually only start with a few turbines the investment in a site leads to more

- 3 biomass plants nearby
- Generating plant at Wymington (Goosey Lodge)
- Biodigester at Knotting
- Biomass at Westwood
- Twinwoods plant – been number of complaints recently
- Higham Park Rushden

Environmental Statement

- Concerned that there was not an Environmental Statement for the Biodigester application. An ES should be required before this application is determined.
- No assessment of impact on properties in Newton Road, Rushden which has higher population levels than the villages
- Facts in the Environmental Statement are incorrect
- Biased ES

Public Consultation

- No consultation with local stakeholders or residents since 2006
- The current occupier of Lodge Farm has only been in residence since 2007 and therefore had no indication that a wind farm proposal was imminent.
- The form of the scheme has also changed since 2006
- 3 years since consultation and they then chose the month running up to general election to submit application.
- Wonder why LPAs have known about this for a year and public have not been consulted. Is there a public consultation process? If not can I trust that one will be organised.

Supporting Information

- A number of consultees draw attention to the inadequacy of the information that has been submitted

Human Rights

- May constitute an offence under human rights. It is contended that it is the responsibility of the decision maker to establish beyond reasonable doubt that the families right to respect for their homes and their private lives is not violated
- The effect on health and quality of life would be harmful to human rights

Miscellaneous

- The combined impact of a wind farm and biomass plant will adversely effect house sales
- Will lead to drop in house prices
- There should be a set back distance of 2Km
- Far more suitable areas exist
- Profit for developer at expense of local people
- The airfield is sacred ground and should be left so
- No financial gain for local community
- Overdevelopment of the site
- Smaller development with shorter turbines should be permitted
- Impact on TV reception
- Other ancillary structures that are required will add to the eyesore
- 100% objection at public meeting

- All waste should be brought in by train
- Viewing area unnecessary as turbines will be seen from 30 miles away
- Burning of palm oil – not carbon neutral.
- Destruction of rain forest - plight of Orangutan
- Develop the site as a conservation area
- Good grounds for reduction in Council Tax
- Amount of road construction and loss of land to farming
- The designed life span is 25 years – surely this is not environmentally friendly
- Disgrace to the brave airmen who flew from the site
- It will spoil the view from my house
- Viewing area – possibly need for toilets, café, shop – visitor traffic and disturbance
- Opposite our house which currently looks over fields
- Its not temporary
- No need as already have one at Burton Latimer

Specific Comments following October Addendum

- Chapter 2 and 5 of the ES need to be re-written to include the revisions in the Addendum
- The cumulative assessment needs to include Brampton, Molesworth and Thurleigh
- The data is not analysed to show that 30% capacity can be achieved. Last year Burton Latimer only achieved a 19% capacity factor. This should be requested.
- Compliance with the key principles set out in PPS22 is questioned.
- The Appendix containing the letter from Cambridge Environmental Research consultants is missing. It is presumed that this is the previous letter which did not address the key issue – the release and dispersal of pathogens and the uncertainty surrounding what might happen. It focuses on the air quality of the site. A more detailed analysis is required.
- The Ashby Magna appeal decision is a perverse personal opinion on the part of the Inspector, as was another Inspector's decision that palm oil was a renewable energy source.
- It should be noted that claims for loss of property value and reduction of Council Tax banding have successfully been made in the courts.
- The airfield is not remote and the landscape not limited
- Detailed comments made in relation to the accompanying letter.
- We are not remote
- Locality is not degraded
- The landscape is not on a grand scale
- Wind turbines are not temporary
- The attitude to heritage is disturbing
- The Ashby Magna appeal decision is not relevant
- Local communities do not need to be sacrificed to the national interest

4 Neighbours in support (3 from Newton Road Rushden one from Rushden):

- Wind power will reduce greenhouse gases. Will provide a better future.
- The wind turbines at Burton Latimer add a lovely aspect to a dreary landscape

6.2 Chelveston – cum Caldecott Parish Council – objects on the following grounds:

1. That the proposal fails to address the health risks of co-locating a large scale wind farm with potential aerosol releases from the Anaerobic Digester plant
2. That the proposal would create a disproportionate visual impact compared to the surrounding area
3. That there is an issue with cumulative effect of 7 similar existing, approved or

- proposed sites within 20KM of the site (all on high ground)
4. That there will be an increase in noise nuisance
 5. That it would be an unjustified use of a Greenfield site, further compounding the potential damage caused by the previously approved applications which were considered in isolation of each other
 6. That there will be an increase in road traffic on rural minor roads
 7. That there is an issue with wildlife impact which has not been correctly assessed
 8. That the application contains material flaws and omissions

Each of these objections is then amplified:

1. Anaerobic Digester – Photograph provided which provides a visualisation of the air wakes that occur downstream of wind turbines. The applicant has planning permission to build an Anaerobic Digester with two 7m exhaust stacks and also planning permission for 3 bio-fuelled generators which includes a 14.5 m exhaust stack. The output of the exhaust stacks are upwind of turbine EN3.

Whilst the applicant provided information to support the dissipation of the exhaust in the biofuel generator, by virtue of the height above ground level and the length of time before the gases would return to ground level, this did not allow for the exhaust gases being drawn into the turbine wake immediately after emission and returning to ground level in the turbulent wake.

The AD plant also uses a large (84m x 26m) bio-filter and is located upwind of turbine EN3. At 48,000 tonnes annually it will be one of the largest AD plants in the country. Any failure of the bio-filter will release airborne heat resistant pathogens (eg Bacillus Clostridium botulinum) from the AD reaction into the turbine wake, where they will be dispersed over a wider area than they might otherwise be. The possibility of airborne release is acknowledged in paragraph 9.161 of NCC's committee report. "The AD process has the potential to develop fugitive bio-aerosol emissions(bio aerosols are small organisms such as fungi and bacteria that become airborne) and release of methane, carbon dioxide and hydrogen sulphide".

The risk of co-locating generators has been ignored.

Shadow or flicker effects occur within 10 rotor diameters of a turbine, in an arc extending +/- 130 degrees of north. This is 900m for the proposed turbines, and the former MOD houses are within this. Around 0.5% of the population is epileptic and of these around 5% are photo-sensitive. The applicant has indicated that turbines could be shut down when shadow is formed. If permission is granted this should be included as a condition.

2. Visual Impact – The scoping opinion detailed the requirements for a landscape and visual assessment, which was to be in accordance with PPS22. The criteria do not however appear to have been followed, as the ES appears to concentrate on the landscape within 5km rather than 20km.

Standards have not been followed for photomontages. Some of the viewpoint images have foreground objects which distract the eye.

Photomontages may have been taken with the wrong type of lens.

The photomontages do not show the existing Boxer mast in the correct proportion to the landscape (it appears too small when viewed by eye from the camera position). Consequently the wind turbines appear smaller than they would be.

The proposal will dominate the landscape changing its character from its green rural nature to a large industrial complex. This will result in a loss of amenity to

walkers, cyclists and horse riders who regularly use the rights of way. The high plateau is the only area of its kind in East Northamptonshire and the tranquillity of the site will be adversely affected.

3. Cumulative Impact of Other Turbines –Reference is made to other sites/proposals which surround Chelveston at Burton Wold, Emberton, Brigstock, Bozeat, Ringstead, and Stow Longa, and the site at Poddington which was dismissed on appeal.

If all of these were to be approved then the parish would be surrounded by windfarms in all directions. This together with the existing approvals for the site would have a negative effect.

4. Noise –The noise assessments have not been carried out in accordance with the scoping opinion.

The Parish is concerned about the low frequency modulation “swish” noise in properties less than 1.5 KM from the turbines, especially given the proximity of the former MOD houses, which are within 700m.

The 4 turbines in Bedfordshire are aligned with the former railway track, which would have run parallel to the main runway, which would have been constructed in line with the prevailing wind. A study shows that for turbines in the wake of others power loss can be 20-30% on a separation distance of 7 rotor diameters. The Companion Guide to PPS22 para 17 indicates that turbines will be separated by 3-10 rotor diameters depending upon trade off of capital costs v energy loss. The application shows a separation of 435m between BB3 – BB4 ie only 4.8 rotor diameters. However not only do the downstream turbines suffer power loss, but also more fatigue loading and more downstream noise.

ETSU-R-97 criteria for noise is for a fixed limit of 43 dB (A) for night time. This is based upon a sleep disturbance criteria of 35 dB(A) with an allowance of 10 dB(A) for attenuation through an open window and 2 dB(A) subtracted to account for the use of L A90,10min rather than L Aeq, 10min, being 13 years old it is likely to be reviewed and there are recommendations to reduce the levels.

The standard (from the Institute of Acoustics Bulletin) that the applicant has used to measure noise is not the accepted standard. An appeal for 3 turbines at Poddington which used this standard was dismissed with the Inspector observing that “ the IoA Bulletin approach used by the appellant does not represent government policy and stipulated practice, and does not appear to be supported by further research.

5. Greenfield Site

Apart from the former MOD control room in the centre of the site the site is naturalised Greenfield Land. Reference is made to case law and also the definition in PPG3 now replaced by PPS3 which provided a definition of previously developed land, excluding:

- Any structure or activity has blended into the landscape in the process of time (to the extent that it can reasonably be considered as part of the natural surroundings)
- There is a clear reason that could outweigh the re-use of the site – such as its contribution to nature conservation

It is highlighted that the court case concluded that only one of these was required for land to be considered not to be previously developed.

Reference is then made to Annex C of PPS3 which defines “previously developed” and the exclusion of “the remains of any structure or activity have blended into the landscape in the process of time.”

Finally reference is made to Hansard written answers in relation to PPS3 and airfields. Whether airfields are previously developed is dependent upon local circumstances and it is for the Local Authority to decide. The Parish Council then refer to instances when ENC have confirmed that the land is Greenfield, including the reference within the Three Towns Plan: Preferred Options and the application for the bio-fuels plant and the AD plant.

The Parish then refer to saved policy 22 of the Bedfordshire County Structure Plan and Policy CP2 of the Bedford Core Strategy which give priority to Brownfield as opposed to Greenfield land and argue that as a naturalised Greenfield site it is protected by policy against unwarranted development.

6. Traffic _The proposed viewing car park is inadequate for the following reasons:

- The grass surface will be churned up in winter
- The view will be impeded by the harsh fencing
- No provision for litter collection
- The car park users will be competing with the 40 daily HGV movements to the AD plant and 2 daily HGV movements to the Bio-fuelled generators

Burton Wold underestimates the interest their turbines would generate and had to impose traffic management on the roads for a few months. The ES refers to the Delaborne Windfarm which received 60,000 visitors in its first year.

Although HGV traffic is subject to a routing agreement to avoid Chelveston, Caldecott and the former MOD housing staff service vehicles and visitor car park users are likely to be using the C59 to reach the B645. The Parish Council are concerned about the increased traffic on narrow roads, which have sharp corners.

The delivery of blades, cranes and other parts will require 45 abnormal loads to travel through Chelveston on the B645 to the northern site entrance unless major works are undertaken on the other route. (route B).

7. Wildlife The site is a haven for wildlife particularly rare birds (Red Kites, Golden Plovers, Buzzards and Larks). The site is also only 3.6 KM from the Upper Nene Valley Gravel Pits pSPA, which is internationally important for Golden Plover. However the applicant suggests the impact will be minimal.

Also, survey work has identified a potential bat roost next to turbine EN5.

The applicant has not followed accepted practice for survey work.

8. Flaws and Omissions Design and Access Statement

- Para 5.34 refers to 3 dwellings; one of which is the former MOD housing estate with 50 dwellings
- Para 5.41 admits the MOD housing as being affected by shadow flicker
- Para 6.7 again refers to few nearby dwellings, despite their being 50 properties (former MOD) between 700-900m away
- No mention is made of the visitor car park

9. Flaws and Omissions ES Non- Technical Summary

- P2 indicates 2 anemometry masts but para 2.61 of ES only indicates that there is a requirement for one
- P5 refers to few nearby dwellings, despite the 50 former MOD properties
- P8 states no reptiles on the site yet the study identified Great Crested Newts; a protected species.

They made the following additional observations in relation to the July Addendum:

- The swept path analysis for route B is incomplete
- The letter from CERC is noted however we were concerned that the turbulence could bring odour/pathogens down to ground level sooner than would occur through normal dissipation.
- The addendum report is premature in relation to bats
- Concerned that the proposed windfarm at Sudborough is not included in the cumulative assessment
- Have previously expressed concerns about the noise methodology being used.

They made the following observations in response to the first report of this Council's Landscape Consultant's report on the Landscape and Visual Assessment:

- Strong concerns about the conclusion that the site is likely to be appropriate given the amount of missing information.
- The finding that there is inconsistencies in the Landscape and Visual Assessment re-enforces our concerns about this conclusion
- ENC should ask the applicant to supply the missing information. Eg study radius of 35km, missing assessment within the 20km radius, missing impact on NCA 88 and 89, omission of assessment on 12 LCAs, the selection criteria of the viewpoints, study radius of 60km for cumulative effect
- The missing scoping study information should also be provided to LUC (Land Use Consultant's- the Council's advisor)

Chelveston- Cum Caldecott made the following response to the October Addendum:

Addendum to Chapter 8 – Air Quality:

All that has been done is to reproduce the original letter from CERC despite ENC's view that the letter was insufficient.

CERC has a strong reputation in the field of air flows and dispersion in the lower atmosphere. But the issues are not ones of current air quality, NO₂ or odour emissions or whether turbulent air flows reduce the concentration of materials. The issues are:

- a) will the turbulent air wakes bring any emissions down to ground level sooner than would have occurred had the turbines not been present (ie negating the protection provided by the stack heights)
- b) will the turbulent air wakes allow any emissions to travel further than would have occurred had the turbines not been present.

The possibility of accidental release was acknowledged by NCC in their Committee report for the Biomass plant.

CERC also recognise that there can be dispersion of materials from the Biomass plant (para 3.7). But CERC then go on, without adequate support for their argument, to their conclusion that any escaped material" is sufficiently small that when it is mixed by the atmospheric turbulence the resulting concentrations are well below health/nuisance thresholds." They ignore possible harmful escape of pathogens. But such escapes have been accepted by

NCC and CERC as a possibility. Their wider dispersal is a potential risk.

Para 3.8 of CERC's letter is naïve in dismissing the relevant issue on the grounds that "outside the wakes there will be little impact on pollutant concentrations". It is not a question of concentrations but of whether harmful pathogens in any concentration will be dispersed further by turbine movement.

Para 3.9 which states " the impact of the turbines on air quality is likely to be beneficial at higher wind speeds because of the increased mixing effect of the turbines" does not address the point. Any escape of harmful pathogens, spread more widely (even if at reduced concentration) entails severe potential risk. For the revised ES to dismiss such concerns is irresponsible. No one can be sure of the possible outcomes.

Turbine EN5 and the Live Fire Simulator

Northamptonshire Fire and Rescue issued a briefing document, in October 2010, outlining their proposal for a live fire simulator on the site. The service has confirmed that agreement has been reached with CRE on the use of a site immediately downwind of turbine EN5 and that this is being taken forward by NCC with a planning application anticipated in December 2010.

Whilst it will not emit harmful emissions, smoke might cause a nuisance to residents. It would be reasonable to apply a condition should the distance issues in relation to turbulence and emissions be unresolved.

The live fire simulator would only be used 100 days annually. A condition is therefore requested that when the wind direction is such that the live fire simulator is in the wake of a turbine, the turbine is stopped for the duration.

Addendum to Chapter 5 – Landscape and Visual:

The applicant has finally included other potential windfarm sites. There would be very few places within the district where a turbine would not be nearby. Given the low windspeed and 20% efficiency they are only justified if the renewable subsidy continues.

On the weekend of 30th/31st October a blimp was flown by Preserve. An image of this is provided, showing the view from the centre of the village.

The land to the east of the village rises up to a plateau so the height of the turbines on top of this means that they will dominate the street scene. When contrasted with the ES photomontage figure 5.24 (location 2) the superimposed turbines in the ES image appear minute in comparison. This Parish Council therefore has no confidence in the photomontages.

Whilst the blimp indicates the height the actual turbines would be rotating which would further draw the eye.

They may present an additional distraction to motorists on the B645 travelling east since they will emerge from the right of the image to turn towards the turbines before the blind corner to the left.

In relation to the additional ZTV submitted in December they comment:

- This shows 30 potential windfarms within 40km, 10 of which are within 20km(although the ones at Catshead Wood, Sudborough and Bicton have now been refused.
- The majority of the southern and middle parts of the district would be subjected to between 51-75 turbines whilst Wellingborough would be subjected to between 76-

100.

- It is difficult to imagine a greater change to the skyline. Due to the rotating blades they will be more apparent than telecom aerials and pylons.
- Travelling along the A14, A45 and A605 there would be multiple windfarms in site.
- Why worry? The issue is the impact that they would have on the observer. Residents might feel surrounded. The combined effect of windfarms may be vastly greater than the sum.
- The Chelston Rise properties (former USAF housing) are between 700-900m from turbine EN2. When the application at Poddington was turned down the Inspector determined that the presence of one family in a caravan 510-610m from the proposed turbines was sufficient to dismiss the appeal on the grounds of noise and visual amenity.

Missing Transport Route Information:

The Parish is concerned that there is missing information from the swept path analysis for route B.

The Parish wrote to the developer in relation to community benefits.

6.3 Hargrave Parish Council – object:

- Unacceptable visual impact and damage to landscape
 - Degradation of community amenity including rights of way
 - Health risks, including noise, vibration and shadow flicker
 - Impairment of listed buildings including Hargrave Church
 - Cumulative impact with other windfarms
 - Cumulative impact with waste plant and potential spread of emissions
 - Contrary to national local and regional planning policy, particularly concerning the protection of the countryside and landscape character
 - Rejection of information submitted with the application and in particular photomontages, wire frame drawings, descriptions of landscape character, claims for CO2 savings and operating efficiency
- Support the more detailed submissions of Chelveston Parish Council, Preserve and Hargrave Conservation Society.

6.4 Newton Bromswold Parish Meeting – object:

Health and Safety

- Noise monitoring has been minimal, over a limited time period and during a single season
- Background noise levels are particularly low – concerned that could result in a statutory nuisance
- Low frequency noise can be a problem resulting in pain or pressure on ears, sleep disturbance, irritation, body vibration, nausea, depression, and children's performance at school.
- Larger turbines can cause more noise
- Conditions should be imposed which limit noise levels to those of the proposed turbines rather than the ETSU-R-97 levels, which were developed for offshore turbines.
- The size of the turbines means that they will have to be kept running when wind levels are low and therefore wind will not always, as claimed, mask the sound
- No cumulative assessment of turbine noise only assessment of single turbines
- Noise section of the ES is based on modelling so there can be no guarantees(reference to scheme that EON dropped at Ferndale)

- Impact of construction traffic
- Shadow flicker is linked to health problems including depression.
- Potential risk of pathogens, bacteria and microorganisms – reference made to NCC committee report- from biomass plant. The combination of turbines and such a plant has not been tested anywhere in the UK.
- Turbines of this size have not previously been used in the UK and they are therefore untested.
- Collapse of turbines, blade shearing and fire risks. There have been 36 incidents over past 10 years where parts of turbines have dropped off. One blade was thrown 1300m. They are too tall for fire brigade to do anything about. They throw ice in winter.

Cumulative Impact

- No assessment of the cumulative impacts has been undertaken by LPAs.

Technical Viability

- The claims in the ES regarding how much energy will be produced are exaggerated. A “capacity factor” of 29% is assumed; locally all that has been achieved is 24% on the exceptionally windy year of 2008.

Loss of Amenities – Effect on Natural Landscape

- Aware that ENC have instructed consultants to carry out a landscape assessment
- Studies need to be carried out to demonstrate that County Wildlife Sites and SSSIs will not be adversely effected.
- Protected species (bats, red kite, buzzards, geese, migratory birds use the site, newts and badgers)
- Loss of large amount of countryside amenity and the quiet enjoyment of footpaths and bridleways. Concerned about loss of open space. If permission is granted there should be alternative provision.
- Impact exacerbated by proposals for other windfarms
- Photomontages are misleading and have been described as “verging on the fraudulent”
- The existing radio mast is visible for miles and the turbines will be higher
- Assume each tower will require night time lighting which will result in light pollution

Lack of Consultation by NCC on Bio-mass application

- The biomass and windfarm applications should have been considered as one application not two.

In relation to the October Addendum they advise:

- Your authority has granted permission for a waste processing plant on the site. The impact on the surrounding area will be immense. The smell and spores from the decaying vegetable and hospital waste will be unbearable for residents many of whom already suffer the effects of the Twinwoods plant and knock on health results.
- To permit turbines capable of transporting the smell and spores would be irresponsible
- Following the discharge of by products from Twinwoods last month, there have been a number of complaints. Many have suffered nausea and headaches from the smell and all windows and doors must be closed to prevent the smell entering cars and property. With no substantive research on the longer term impact of these new procedures and pollutants, the Council would be exposed by granting permission.

- No location in Europe has yet given consent to such sizeable turbines onshore and no existing site has accepted the obvious risks of blending turbine propulsion with the smells and spores from waste disposal plants.

6.5 – Stanwick Parish Council – Objected to the original submission on the following grounds:

- The efficiency of wind turbines is challenged- the norm is 25%-30%
- Will be unlikely to generate enough energy to balance their negative effects
- Impact on landscape; due to the height of the turbines they will overshadow dwellings
- Loss of character to rural setting
- The airfield is a Greenfield site. The airfield should be left this way in respect for the airmen who lost their lives
- Noise nuisance due to close proximity to dwellings
- Visitor car park demonstrates that there will be an increase in traffic. The rural roads are not suitable.
- Cumulative impact of windfarms. The Burton Wold windfarm is visible from most parts of the village. This one will also be highly visible. There are also other proposals in the District.
- Safety implications of siting turbine on top of an anaerobic digestion plant
- Will be a loss of amenity for residents as the opportunity for rural walks will be restricted.

They made the following further comments when consulted on the July Addendum:

- The requirements of PPS22 (i) are not met. Renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic and social impacts can be addressed satisfactorily.
- Will have a negative impact on the local SSSI (Upper Nene Gravel Pits) and Nature Reserve, part of Northamptonshire Vales National Character Area and Yardley-Whittleworth National Character Area.
- Danger to civilian and military aircraft
- Roads are unsuitable for the size of the vehicles required to transport the blades to the site.
- It is not clear if all of the required wildlife studies have been carried out
- CPRE have recently called for the sustainability of windfarms to be reviewed.
- Energy production is not consistent and therefore will not have a significant impact on the generation of energy by other methods.
- Without Government grants and subsidies windfarms would be uneconomic and unsustainable business ventures

In relation to the October Addendum they advised that their previous objections still stood and expressed concern that the document had not addressed the transportation of the blades to the site.

6.6 Raunds Town Council – support the objections put forward by Chelveston Parish Council.

6.7 Higham Ferrers Town Council - object

- Will dominate the landscape permanently changing its character. Cumulative impact is significant, with Burton Wold other wind farms and the waste processing plant.
- Risk of noxious substances from biomass plant being spread, especially by turbine EN3. The effect of cumulative noise from turbines does not appear to have been considered. Neither has the potential loss of TV reception.
- Loss of amenity. The site is Greenfield.
- The photomontages are misleading, appearing to have been taken by a lens which reduces the size of the item in the photograph. This is particularly noticeable when

viewing the existing mast.

6.8 Rushden Town Council – Object :

- Too close to existing homes. The turbines will have a damaging effect on residential amenity to all villages close to the site
- Loss of rural amenity – the proposed site will impact on rights of way and will have considerable impact on both footpaths and bridleways that cross the site. We note the comments of the British Horse Society and endorse their views on the inadequate re-routing of existing bridleways. The turbines would result in a loss of amenity for walkers and would also have an impact on wildlife.
- The development would have a considerable impact on visual amenity. The site at Burton Wold can already be seen for a huge radius and the development would have a similar effect resulting in the loss of an unspoilt, attractive area of Northamptonshire/Bedfordshire.
- Because of the close proximity to existing homes the turbines would cause considerable noise nuisance.
- Impact of turbines on TV reception.

They reiterated these comments when responding to the July Addendum to the ES.

6.9 Dean and Shelton Parish Council – Objected to the original submission on the following grounds:

- In Scotland the damaging effects of giant turbines has been recognised. Planning Policy SPP6 has established a 2Km separation distance for projects over 20MW. The village of Shelton has a number of homes within 2km of turbines.
- The area is enjoyed by local residents and visitors for its views and wildlife. The proposed development will impact horse riding, cycling, walking, observing wildlife and garden visiting. The application should be refused because it will cause loss of rural amenity.
- The proposal would create a wind farm landscape in an area of North Bedfordshire that is one of the few remaining quiet and attractive areas left in the country. The comments in the ES relating to the nature of the site ignore the fact that the site is in close proximity to villages with Conservation Areas and historic buildings set in an undulating and attractive landscape. The proposed development would create significant visual effect to residents of villages up to 6Km away. The application should be rejected due to its visual impact.
- The proximity to homes, the number of turbines and the density of turbines leads to a predicted maximum noise at the closest village communities close to statutory limits. The application should be rejected due to the probability of noise nuisance.

In addition, a survey was carried out and the results are summarised as:

- 71 % of those surveyed were of the view that inland windfarms are not an essential element of the nations energy mix
- 80% of those surveyed were of the view that wind farms should only be installed where local impacts are minimal and wind speeds suitable
- 83 % of those surveyed advised that with the current information available they opposed the Chelveston wind farm (and also other wind farm proposals).

In responding to the July Addendum they confirmed that their views were unchanged. That the scale of the proposal would dominate and be inappropriate in an area of rolling countryside landscape. They further advise that the benefits do not outweigh the harm. The requirements of PPS5 do not materially alter the situation they observe.

In responding to the October Addendum they advise that their previous objections remain

unchanged. They also make the following observations:

- They respond to the letter from the applicant to Bedford Borough Council and question the use of the word “remote”. The landscape is not “grand scale” or “open” as the applicant suggests except when viewed from the airfield. Elsewhere from the low lying villages it is small scale and intimate. The maximum rise and fall of the land does not exceed 40m and any structure over 125m cannot but dominate the area for miles around.
- The claim that the old airfield site dominates the surroundings and is despoiled is risible. Apart from the boxer mast virtually nothing remains.
- It is undeniable that the present environment is valued by residents and visitors. Properties in the area attract a premium price despite lack of amenities. Visitor numbers are increasing and the re-opening of the paths across the airfield have contributed towards this.
- The statements made regarding generating capacity installed for each county is irrelevant. The application needs to be treated on its own merits. It is clear now more than ever that the Government wants decisions to be taken on a local basis and relate to local issues. What needs to be considered are the local financial implications due to the low and variable wind speed.
- The statement that turbines are “temporary” is questioned. Will a Government grant be available for decommissioning or removal by condition? Furthermore when the average life expectancy is less than 80 years it seems unrealistic to view 25 year turbine life as “temporary”.
- The claim that as the turbines are on a site with a biofuel plant that this produces an “integrated” park is misplaced. There is no specific advantage as they are all connected to the national grid and wind power will always require additional back up.
- PPS22 paragraph 22 gives the right to Local Planning Authorities to define a minimum set back distance. This states “...Plans may include criteria that set out the minimum separation distances between different types of renewable energy projects and existing developments. Advice in Scotland calls for a 2 Km set back. A Bill has also had its first reading in the House of Lords which requires this.
- Communities Minister has stated that “generally planning should be a local matter, with planning decisions made at local level wherever possible.

In responding to the additional ZTV submitted in December they reiterate their previous comments. They believe that the alleged benefits of the proposed development do not outweigh the harm that it would cause to the natural and historic environment of the area. They ask the Committee to consider the refusal of the Bicton windfarm for this same reason.

6.10 Podington Parish Council – Objects on the following grounds:

- Stanwick Lakes is a popular recreational venue for residents of Podington and for many people in the surrounding area. The quality of the space would be adversely effected by the proximity of the turbines due to their size and location within the landscape.
- The area currently supports diverse wildlife and with its proximity to Podington any disruption could effect the local wildlife especially birds such as red kites and bats,

6.11 Melchbourne and Yelden Parish Council – object on the following grounds:

1. Health and Safety – concerned about risks associated with proposal especially noise and vibration, audible noise levels (existing background noise levels are particularly low), noise impact assessment, construction noise, flicker and strobing effects and potential release of pathogens, bacteria and other micro-organisms and the need for more detailed investigation into this, plant disintegration.

The Parish makes the following comments in response to the October Addendum, and in particular the letter from the applicant to Bedford Borough Council:

- The applicant continually denigrates the local landscape. The local countryside is attractive and typical of many English shire counties south of a line through the Humber
- The claim that the turbines would not be unduly evident is untrue
- The applicant quotes selectively from PPS22 but fails to point out that this planning guidance requires planners to take account of potential damage to the landscape and local countryside
- Whilst we agree that the former airfield and the land immediately surrounding it is relatively peaceful and tranquil, the applicant's suggestion that these characteristics extend to the wider area is not so
- The applicant tries to argue that the relative remoteness of the site justifies the turbines. This view is rejected and does not reflect the enormity of the structures
- The applicants use of the word "accommodate" taken from LUCs report is misinterpreted. All the consultants say is that the site could accommodate the turbines. The LUC report does not suggest that the location would not impair the landscape or damage community amenity.
- The Ashby Magna appeal is not relevant as the site lies adjacent to the M1 and is surrounded by evidence of human activity and structures unlike Chelveston. It is also 60m higher.
- The letter makes no reference to cumulative impact and the fact that there are a further 7 build planned or proposed wind turbine clusters within a 10 mile radius. Such a proliferation of turbines would alter the character of the area.
- The applicants view that the local area is on "the grand scale" and so can easily absorb the visual effects of the turbines is absurd. The area has a number of villages which lie in folds and shallow valleys in a way that merges effortlessly into the local landscape, displaying an intimate and low key quality. The positioning of the turbines on a local highpoint would blight the area.
- The attitude to heritage and the impact on listed buildings is disturbing. The applicant seeks to diminish the value of local heritage and suggest that because most villages in the area have a splendid church any detraction should be ignored.
- The area is within the lowest wind zone in the UK and the turbines will only operate at 25%. Also most of the output goes to waste as it is not needed at the time of production. Wind energy cannot be relied upon.
- We do not accept the output figures quoted by the applicant which show that a load factor in excess of 30% can be achieved. We request the applicant provide an estimate of what proportion of generated electricity will actually be used and delivered to consumers.
- Wind energy is more expensive than other forms and receives huge subsidies. It is therefore of little benefit.
- The applicant refers to Bedfordshire's performance against the arbitrary targets imposed at Kyoto but fails to point out that these targets are not accepted or achievable. They take no account of the real issues with wind production. Turbines are more effective offshore.
- The previously produced photomontages are unrepresentative. The balloon that was recently flown could be seen for miles. It is obvious that turbines reaching to this height would completely overcome the local landscape and degrade the countryside.
- The application remains unacceptable for many reasons, including the above and others connected with traffic impact, noise, general health, the pollutant risk from integration with the AD plant, harm to rights of way etc.

2. Technical Viability – output claims will not be met

3. Destruction of the Landscape – including its resident wildlife, amenities, footpaths and bridleways – need to be satisfied that there will not be an impact on County Wildlife Sites and SSSIs. Bats, birds, newts and badgers, which are protected use the site. Concerned about impact on quiet enjoyment of footpaths. The photomontages are misleading. The boxer

mast is visible for miles and the turbines are taller and will dominate the villages and their immediate vicinity.

4. Proximity to existing dwellings – does not protect the countryside
5. Cumulative Effect – of multiple wind farms in this area
6. Impact on local archaeological sites and listed buildings – The proposal is located close to St Mary's Church, Yelden (grade I), to the Castle and numerous listed buildings. Selton Church is Grade I. Melchbourne House and the listed church if viewed from Lady Wood and Coppice Wood would have a significant backdrop of the tops of the proposed towers.
7. Lack of consultation by the developer
8. Additional concerns and recommendations - noise and vibration measures should be taken throughout the surrounding area; the safety record of turbines must be assessed; should be one application not 2; precedent has been set by the turning down of the Poddington application; a full survey of local roads is required.

6.12 Civil Aviation Authority – The CAA were consulted prior to the submission of the application and advised the developer of the potential for the Chelveston turbines to impact upon operations associated with both Cranfield Airport and a local privately operated aerodrome, Sackville. As the safeguarding rests with the relevant aerodromes we recommended that the developer consult them. The ES suggests that consultation was carried out but that the concerns that were expressed were dismissed by the developer. ENC should consult the aerodromes. The views of NATS and the MOD will also need to be sought. All parties should be aware of these following general comments:

- There might be a need to install aviation obstruction lighting on some of the turbines (depending upon what the aerodromes or MOD say)
- Rotor blades, nacelle and upper 2/3 of the supporting mast of turbines that are deemed to be an aviation obstruction are required to be painted white
- There have been numerous pre-application queries related to windfarms generally and it is possible that a proliferation of turbines in any particular area might potentially result in difficulties for aviation where a single proposal would not
- There is a requirement for all structures over 300ft to be charted on civil aviation maps
- It would also be sensible to establish the related viewpoint of local emergency air support units (the ES does not appear to address this issue)

6.13 Highways Agency – Initially directed that planning permission should not be granted. An “abnormal loading route” and a “swept path vehicle analyses” of any areas which effect the highway network. This information was included in the July Addendum and the Highways Agency have advised that they have no objection.

6.14 Local Highway Authority – There are two routes which can be used to access the site. Route A (B645) and Route B(C11/C59). It is noted that it is proposed to use route B. The off-site carriageway works that were proposed under the application for the Biomass plant have not been put in place yet as this permission has not been implemented. A condition should therefore be imposed if permission is granted for the wind farm requiring the implementation of these works. However, I am not able to confirm that route B is the best route for turbine delivery. “Swept path” analysis is required to demonstrate this. Any damage to verges etc during delivery would be the responsibility of the applicant. The applicant may therefore wish to consider the use of Route A for turbine delivery.

I note that the accident data only goes up to March 2009, although the ES is dated January 2010. It needs to be updated.

In commenting on the July Addendum (which included swept path information) the Highway

Authority advised that the submitted details demonstrated that route A can be used for windturbines and associated large components and that all other construction traffic and staff could be accommodated by using route B. They further advise that the off-site works agreed for the biomass plant should be implemented prior to the commencement of the windfarm development. They therefore raise no objection subject to a number of conditions in relation to hardsurfacing and highway improvement works, visibility splays, HGV direction signs, restriction of route A to turbine and large component delivery only, logging of HGV movements during construction, if such number exceed 80 2 way trips a management plan for additional movements will need to be agreed.

6.15 Natural England – climate change represents a serious threat to the environment and therefore the principle of renewable and clean energy in appropriate locations is supported. Natural England's comments relate to the whole proposals.

There is currently insufficient baseline information to inform a robust assessment of the ecological impacts of the proposed development. In summary:

- Insufficient survey work has been undertaken to assess the impact on birds. ENC cannot carry out the required assessment of the impact on the pSPA. Planning permission cannot therefore be granted.
- Insufficient survey work has been undertaken to assess the impact on bats.
- Insufficient information has been provided regarding the impacts to terrestrial great crested newt habitat.

Designated Sites – the pSPA is classified in part for internationally important numbers of golden plovers. The need to carry out sufficient wintering surveys was highlighted in our scoping response in 2006. No more recent advice was sought.

The ES states that wintering bird surveys consisted of 3 transect surveys in the winter of 2005/06 and that vantage point (VP) surveys were unnecessary. Natural England's recent guidance Technical Information Note TIN069: Assessing the effects of onshore wind farms on birds recommends the use of VPs. Also, the ES itself recognises that where target species are likely to be present, VP surveys should be used.

Section 12.5 of the ES identifies that wintering golden plover, a specific feature of the pSPA, was recorded on site in 2006, but section 12.7 states that the development will have no likely significant effect on the pSPA.

Natural England's View – based on the limited information available, the proposed development is likely to have a significant effect on the pSPA, either alone or in combination with other plans and projects. ENC must therefore carry out the required assessment. However the lack of up to date information means that this is not possible. The application cannot therefore be approved. Updated wintering birds survey work is required which includes data from standard VP surveys.

Birds (wider countryside) – While the wintering (2006) and breeding (2006 and 2009) surveys provide an indication of site usage by wider bird species standard VP surveys should have been undertaken, (at least 36 hours for breeding season (Mid-March to August) and 36 hours (Sept- mid March). While the wintering VPs are essential to provide data on the golden plover, VPs undertaken across both the breeding and non-breeding period would also provide useful information on a number of other species recorded at the site, including raptors (breeding buzzard, red kite, peregrine, hobby, sparrow hawk, kestrel) and wintering/breeding lapwing.

Bats- the assessment of activity at the site is minimal-only 3 transect surveys were undertaken in a narrow window (end of June to early July). For a medium scale wind farm (even in low risk habitat area), Natural England would expect to see a minimum of 3 transect

surveys in conjunction with remote detector surveys, across the active season.

Para 12.2.15 identifies that emergence surveys were undertaken at the tree identified with bat potential located close to turbine 2, however no results are provided.

Para 12.3.8 identifies the presence of a number of old bunkers within a narrow woodland band located on the northern site boundary. No discussions of the suitability of these for roosting bats is provided.

Even based on the surveys undertaken, the activity results map shows that several turbines (P2 and P8) are located within areas of moderate bat activity. In Para 12.7.15 the ES states that in order to mitigate impacts on bats “the majority of wind turbines will accord with latest guidance provided by...Natural England’s Interim Guidance Note TIN051”. Natural England would expect all turbines to meet our recommended minimum requirements unless there was a robust justification (based upon adequate survey work) as to why this was not necessary.

It is unfortunate that the scope of survey work was not discussed. There are a number of recent published articles which provide suitable methodology. Natural England would be happy to discuss the scope of any revised survey work.

Great Crested Newts – the ES identifies that a medium breeding population of great crested newts is present in ponds adjacent to the proposed development. It suggests that these ponds are well separated from construction areas, and therefore only proposes pre-cautionary destructive searches of terrestrial habitat. Further information is required about the distances to these areas of terrestrial habitat. Enhancement to retained terrestrial habitat may be required.

Habitats, Badgers, Reptiles, Water Voles – satisfied with the assessment of impacts. Support the requirement for updated badger surveys and required mitigation to be detailed as part of an Environmental Management Plan.

Enhancements – the potential for the development to provide nature conservation enhancements should be separated from mitigation measures.

Post-construction Monitoring – this is required in relation to bats and birds, both to validate the predictions and to contribute towards our understanding of the impact of wind farms.

In relation to the July Addendum Natural England advised that sufficient information had been provided in relation to newts and breeding and wintering birds and that they would comment in full upon receipt of the final survey work.

Following receipt of the October Addendum Natural England advised that they had no objection. They made the following detailed comments:

Designated Sites/Birds

Wintering birds:

The Addendum identifies that additional surveys for wintering and breeding birds were undertaken during 2009/10. This did not include Vantage Point (VP) surveys, which Natural England previously advised would be required. However the Addendum sets out the rationale for not carrying out VP surveys (no target species present in significant numbers and VP survey not feasible. Natural England accepts this rationale.

Natural England previously raised concerns regarding the impacts to wintering Golden Plover associated with the Upper Nene Gravel Pits SPA. The Addendum shows that during 2009/10 only a single fly over of a small flock of Golden Plover was recorded, reaffirming conclusions from the 2006 survey that use of the site is sporadic and low level and therefore any impacts

are highly unlikely to be significant. Natural England is satisfied that there will be no significant impact on the SPA.

In addition the Addendum shows that numbers of wintering lapwings using the site during 2009/10 were lower than in 2006, again reaffirming previous conclusions that no significant impacts are predicted.

It will however be necessary to validate the assessments through undertaking post-construction monitoring and it is encouraging to see that this is referred to.

Breeding birds:

The Addendum identifies that no Annex 1 or Schedule 1 birds have been confirmed breeding on site or are present during the breeding season in significant numbers. However several Annex/Schedule 1 raptors have been recorded at the site- most notably Red Kite, but also Hobby and Peregrine Falcon. Breeding Buzzard is also present. Natural England is however satisfied that the proposals are unlikely to have a significant impact on local raptor populations. Post construction monitoring will however be necessary.

Protected Species

Great Crested Newts:

Based on our site visit during May 2010 and the additional information provided in the Addendum, Natural England is now satisfied that, given the quality and area of terrestrial habitat likely to be affected during construction works, impacts to great crested newts are unlikely to be significant. However enhancements to terrestrial habitat within other areas of the site (in addition to the proposed pond enhancements) would be appropriate.

Bats:

During the site visit in May 2010 Natural England agreed in outline a programme of additional surveys that would be required to sufficiently inform the assessment of impacts to bats resulting from the proposed scheme. In addition, an inspection of the “bunkers” described in the original ES was made and it was agreed that these were unlikely to be suitable for roosting bats.

The Addendum provides details of previous surveys undertaken in 2009(including confirmation over the results of emergence surveys of potential tree roosts) and a more comprehensive programme of monitoring undertaken in 2010, including repeat transect surveys as well as remote surveys of paired features(boundary and in-field turbine locations) across the active bat season and including a detector positioned at height. Natural England welcomes the submission of this additional information.

We note that the remote detectors did pick up low levels of noctule(a high risk species) at turbine locations (but not from the detector placed at height on the existing mast) and that several registrations of barbastelle were recorded at the site periphery, away from turbine locations. We also note that periods of rain coincided with remote detector use at the proposed turbine location EN8 in July and September, which may have influenced the low level of bat activity recorded and consider that caution should be exercised in dismissing the greater level of activity (albeit virtually all pipistrelle) recorded in this area in June.

However generally we are now satisfied that a sufficiently robust assessment of the potential impacts of the proposals on bats has been undertaken. Based on the overall results of the monitoring (low levels of activity across the site, with the majority of activity associated with boundary features) and the fact that all turbines will now accord with our recommended 50m buffer of boundary features, Natural England accepts the conclusion that there are unlikely to be any significant impacts to local bat population as a result of the development.

Given that moderate levels of pipistrelle activity have been recorded at individual turbine locations, and that high risk (noctule) and rare (babastrelle) species are also present within or around the site, Natural England considers post construction monitoring would be valuable.

Enhancements and Monitoring

The ES identifies that post-construction monitoring will be undertaken for both birds and bats, and will include corpse searching. Natural England considers post-construction monitoring is an essential tool for validating the predictions of the ES.

The ES also identifies a number of proposed enhancements measures including management provisions for breeding lapwings which are present on the site. Natural England welcomes this in addition to the enhancements described in the original ES.

Full details of the monitoring programme and enhancement measures can be agreed by condition. Provided these details follow the outline commitments described Natural England has no objection.

6.16 Wildlife Trust – Makes the following comments:

Contributions to a Green Infrastructure Network – by constructing a wind farm in the proposed location, the potential for Green Infrastructure (GI) delivery will be a significant opportunity.

Increasing connectivity of habitats should be a priority. The application site lies between two local Green Infrastructure corridors; one lying to the north and one to the south of the site.

Although the ES does make some reference to Green Infrastructure it does not then deliver Green Infrastructure. The application should be required to set out, in some degree of detail, the ways in which its proposed biodiversity enhancements and future sympathetic conservation management of habitats will both strengthen, support and also complement the existing Local GI corridors routes.

Mitigation, Enhancements and Future Management – All of the ecologists recommendations in section 12.7 of Volume 1 of the ES must be fully implemented. However also of critical importance will be the requirement for an ecological management plan. These matters should be addressed through either planning conditions or a S106 Agreement.

Additional Comment – wind farm proposals can raise potential areas of significance in relation to bats and birds. The advice and opinion of all statutory and non statutory consultees should be sought.

In relation to the July Addendum they make the following comments:

- Advise that you seek views for statutory and non statutory consultees in relation to protected species
- Disappointed that the applicant has not addressed our previous comments made in relation to Green Infrastructure provision and the preparation of an Ecological Management Plan.

In relation to the October Addendum they make the following comments:

- It is noted that the Addendum deals particularly with protected species. The Wildlife Trust advises ENC to consult the relevant experts and also notes that the bat group has objected.
- We are concerned that the applicant has not responded to any of the points made by the Wildlife Trust. Especially the matters of Green Infrastructure provision and the preparation of an Ecological Management Plan.

6.17 Northants Bat Group – Object. A full bat survey is required. Natural England have produced a guidance note on carrying out bat surveys at potential windfarm sites. In this it mentions that guidance on surveys is available in BCT's "Bat Surveys- Good Practice Guidelines", and suggests that surveyors should follow them.

1. Desk study – this only considers a radius of 2 Km of site which is woefully inadequate

2. Methodology – active surveys

- Surveyors - a site of this size requires 8 trained surveyors it seems a smaller number were used.
- Transect routes – the routes used are not the best for surveying the site. The centre of the site was not surveyed, and those area that were surveyed were only visited briefly.
- Transect Surveys timing- no surveys were carried out in spring or in the important autumn period when most bats move around. The Natural England guidance indicates that surveys should be carried out throughout the year, with survey efforts focused in periods likely to have the highest concentration of bats (April-October).
- Transect survey effort – no extra effort was made to record movements in Autumn
- Height Survey – no attempt was made to survey bats at height. The spinning blades pose the risk to bats so surveys should have been carried out near hub height. The electronic detectors used to detect bats at ground level are unable to hear most bat species flying at height. The mast that is already on site could have been used.
- Quiet bats – bats that are difficult to detect on electronic detectors have been ignored. The relatively common brown long-eared bat is almost certainly on site but was not recorded. The much rarer Natterer's bat was also not detected. Another survey method should have been used to detect the presence of these quieter bats.
- Automatic bat recorders- these should have been set at proposed turbine locations to determine activity over long periods.
- Equipment – no mention is made of recording bat calls for later analysis by sonograms.
- A myotis species – was detected but no effort was made to identify the species. The three most likely species have different behaviours and therefore different mitigation requirements.
- Noctule bats were detected – but no information about the heights these bats crossed the site, their flight direction or number. This species is one at greatest risk with turbine blades due to its regular high flight.

3. Methodology – roosts

- A fundamental part of the bat survey should have been locating bat roosts at or near the site.
- No effort was made to locate bat roosts. Some trees were highlighted as having potential but no further work was done other than to include them in the transect survey (but they may have emerged long before this was done). The potential trees at the south west corner of the site appear not to have been visited by the transect.
- The surveyors were informed of bat roosts in Chelveston but did not carry out further survey work to determine flight lines or numbers from these roosts. Chelveston Crescent Caldecott abuts the site and plenty of bat activity has been noted in this areas but again no attempt was made to locate roosts and determine flight lines. The nearby farm complexes are likely roosts but these were also not surveyed.
- surveyors have made no attempt to locate any noctule roosts in the larger area. They are not as widespread as the ES suggests. The Northants Bat Group have a record of one tree roost within 4 km and these bats can travel over 10kms.

4. Interpretation and Suggested Mitigation

- the limited survey work does not give a true reflection of the impact on bats. The applicant sees no reason to mitigate
- the survey seemed to be designed around an apparent lack of what the surveyors deem to be suitable foraging areas. Their inexperience of bat behaviour is apparent as they seem unaware that bats will regularly fly over open areas.
- Flight lines and movements of bats across the site have not been determined or recorded, and no flight lines of bats are shown. The surveyors seem able to highlight certain areas with most bat activity yet can give no indication about how the bats arrived there or the direction they left in.
- It is not possible to know if the access tracks will impact on bat tree roosts as the surveyors did not look at them.
- One of the 2 trees determined to have “bat potential” is at the site of turbine 4 and there is no suggestion of relocating the turbine
- Paragraph 2.7.15 of the ES states “the positioning of the majority of the wind turbines will accord with the latest guidance provided by Eurobats and Natural England. What about the minority? Some of the masts do not accord with suggested guidance (and Eurobats suggests 200m from woodlands which means that all are wrongly placed).

If permission is granted a condition should be imposed requiring the turbines to be switched off at night.

They also made a number of detailed comments in relation to the July Addendum. They suggested that their application should be withdrawn until the further bat survey work was complete.

In relation to the October Addendum they make the following comments:

1. At what height was the remote detector fitted? It would make sense if was at the height of the turbines.

2. Question the quality of the survey work. Concerned about the ref on page 148 to “sunny but overcast and humid with light showers”. Most of us wait until dusk to survey. Showers are also likely to effect bat activity and surveys should therefore have been rescheduled. On 6th October the temperature was noted at 6-15 degrees C. 6 degrees is too cold and the survey should have been rescheduled. This late in Autumn has also missed most of the Autumn bat movements in the UK.

3. There were rain showers when the remote detector was on the mast and therefore hardly surprising that few bats were recorded. More recording should have been done. Early September would have also been a better time than the end of the month when bat activity in the UK is coming to an end.

4. The Barbastelle species has been noted and requires special survey work to determine true numbers as it is a difficult species to detect and is often overlooked. It requires ecologists experienced in this species to determine its status on the site. The ecologists lack of experience is demonstrated by the comment “...the small number of registrations does not suggest the presence of an important population..” Small numbers of registrations are typical around most barbastelle roosting sites. Low numbers are also to be expected as it is a rare species. This species is given extra protection in the UK and Europe over and above many other bat species due to its rare and declining status.

5. The comparative data which shows more activity around the edge of the site is misleading. There are bat roosts in or close to the edge of the site and so one would expect plenty of bat activity to be recorded as bats emerge and disperse to foraging areas. They are likely to be recording roost not foraging activity. Unfortunately against all survey guidelines the ecologists did not locate the roosts and investigate further. The recordings of bats at turbine

locations should be viewed and judged in their own right and not compared to sites with roosts.

6. The cumulative impact needs to be considered. How bats at this site will be affected by other turbine proposals needs to be assessed, as does the impact of these turbines on bats present at other sites. In particular barbastelles have been found at the proposed Barnwell Manor windfarm and Nun Wood near Bozeat.

7. Noctules were recorded more during the latest surveys. However no suitable mitigation has been designed or their flight lines across the site determined. This is a species recognised at great risk from blade collision so needs more mitigation than is suggested. Again it is normal to record only small numbers of noctules – they are far from common in this area.

8. Competent ecologists must carry out survey work. The ecologists who have done the work for the Nun Wood proposal also submitted a cumulative impact assessment. When looking at the Chelveston ES they commented “inadequate survey effort and therefore may have missed some species and key seasons”. They therefore struggled to compare the results with their own to assess any cumulative impact.

The Bat Group conclude by emphasising that their previous objections made in April and August still hold and that they feel even more strongly that far more detailed bat surveys need carrying out (especially with barbastelles) before suitable mitigation can be employed on the siting, number or design of the turbines.

6.18 Badger Group – No comments to make

6.19 English Heritage – In their initial comments they advised:

There are several highly graded listed churches of outstanding historic and architectural interest in the area surrounding the site, many of which have prominent towers and spires which serve as visual landmarks and make an important contribution to the landscape. The setting of these church spires includes their intervisibility with other nearby church spires. The proposal will have a impact upon the setting and visual dominance of the church spires.

English Heritage advice that their advice is provided in line with PPS5, The Historic Environment Planning Practice Guide (English Heritage) in particular Policy HE10 and English Heritage Conservation Principles (2008) and Wind Energy and the Historic Environment (English Heritage October 2005).

Wind Energy and the Historic Environment states that “Wind turbines are far greater in vertical scale than most historic features, but where an historic feature such as a church spire is the most vertically dominant feature in the surrounding landscape, adjacent construction of turbines may be inappropriate”. The ES acknowledges that “church spires are important focal points, punctuation marks in the landscape.”

The ES refers to a landscape character strategy to conserve the open rural landscape and to enhance the elements of the landscape that are declining. Relevant guidelines suggested to achieve this include “conserving the views of the stone churches, including the character of the rural roads and prevent development that could dilute the focal images of the village churches.

Therefore our main concern relates to the impact on the setting of several Grade I listed churches, their intervisibility and their relationship to the landscape to which they form an integral part. In Northamptonshire these are Church of St Mary Higham Ferrers , Church of St Peter, Irthlingborough, Church of St Peter Newton Bromswold, Church of St Peter, Raunds, Church of St Mary, Rushden, Church of St Lawrence, Stanwick. In Bedfordshire, Church of St Mary, Yelden.

Grade I listing places these churches in the top 2% of buildings listed in this country for their exceptional architectural and historic interest. The spires of these churches form important vertical reference points within the landscape and the visual connections between them produce a scene that is strongly locally distinctive. Northamptonshire is known (as referred to in Pevsner) as the county of "squires and spires". This character is of particularly high historic significance and should be preserved.

Setting is referred to in appendix 2 PPS5 and Historic Environment Planning Practice Guide paragraph 113 as "the surroundings in which a heritage asset is experienced" It is our view that the definition of setting goes beyond immediate and static viewpoints and considering that turbines of the scale proposed can have a zone of visual influence greater than 10 km which can effect the wider landscape setting of heritage assets (see Wind Energy and the Historic Environment) the potential impact on the historic environment is very significant.

In our view the application does not adequately demonstrate how the proposed windfarm would impact upon the views between the church towers and the scheduled ancient monument at Yelden.

In Bedfordshire we have concerns about the impact on the Church of St Mary the Virgin in Yelden and Yelden castle. The church dates from the 14th century and the castle consists of a medieval castle mound and baileys with banked and ditched enclosures. Both the church and castle are seen in views from the south east from the main road to the village from Swineshead. The church lies on rising ground on the other side of the valley with the castle in the foreground. The church was designed to be a prominent building in the landscape and the tower serves as a visual landmark. This spire and those of the churches in neighbouring parishes form vertical reference points in the landscape. The turbines would erode this visual dominance. See photomontage 7.

Harm to the visual amenity and appreciation of the Church of St Mary, Yelden can be demonstrated in views from the south (V11) the main road in Newton Bromswold. In this area there are expansive views across fields and the number of turbines and layout will significantly overshadow the church.

Photomontage 4 shows the view directly south from the B663 towards the wind farm. However when approaching Raunds from Hargrave to the south east, the spire of the Church of St Peter is particularly prominent. V4 looks south therefore not showing the view of the Church of St Peter. A similar case of detracting from visual dominance is the case with view 12 where the drive towards Irthlingborough has significant views of St Peters Church. The windfarm will be prominent in views to the south east and therefore compete with the prominence of the church.

The ES claims that the introduction of modern features would be compatible with the former use as an airfield and with modern agriculture. However, previous use should not constitute justification for a new development which does not preserve the character and appearance of the historic environment.

Recommend that the scale, number, density and position of the turbines is reconsidered. With regard to the impact on the Church of St Mary in Yelden the 2 turbines nearest the church should be removed or relocated.

In commenting on the July Addendum to the ES they again refer to the intervisibility of the churches and the impact on Yelden Church. They comment that the visual dominance of the spires and their intervisibility makes an important contribution to their historic and aesthetic value. The town and village churches were designed to be prominent with their spires serving as visual landmarks. When considering the impact on the highly graded heritage assets individually the effect is not substantially harmful yet collectively the windfarm would have a noticeable effect. They do however advise that they do not feel that this impact is

sufficiently harmful to warrant an objection in itself but urge the Council to consider it amongst other environmental considerations. A judgement needs to be made between the wider public benefits of the scheme against the harm caused to the setting of highly-graded heritage assets.

In commenting on the October Addendum to the ES they repeat their concern that the intervisibility of churches has not been considered. They advise that they have previously highlighted the historical and aesthetic value of the church spires and the contribution they make to the wider landscape as visual landmarks. They do however confirm that they do not object to the principle of a windfarm in the proposed location, they acknowledge that there would be a degree of harm caused to the contribution the highly graded historical assets make to the landscape. They confirm that their view remains that the affect on the understanding and appreciation of the highly graded churches in the wider landscape should be considered and the degree of harm to the Grade I and II* listed heritage assets should be balanced in-line with PPS5, policies HE1.3, 9.4 and 10.1.

6.20 Ancient Monument Society – advise in relation to the July Addendum that they are content to defer to the views of English Heritage

6.21 Environment Agency - comment

In relation to flood risk it is recommended that planning permission should only be granted for the proposed development if the following planning condition is imposed

“Prior to the commencement of any development, a scheme for the provision, implementation, ownership and maintenance of the surface water drainage shall be submitted and agreed in writing with the Local Planning Authority. The works/scheme shall be constructed and completed in accordance with the approved plans/specification at such time(s) as may be specified in the approved scheme.

Reason: To prevent flooding by ensuring the satisfactory storage of/disposal of surface water from the site. “

In relation to ecology it is advised that Natural England should be consulted regarding the conclusion that there are no likely significant effects on the Upper Nene Valley Gravel Pits pSPA, and the protected species issues.

Turbine P2 is placed in an area of moderate bat activity, adjacent to an area of plantation and a tree with potential to support a bat roost. Considering the bat activity in the area, and the lack of other potential bat roosts nearby, this turbine should be sited elsewhere, with the blade tip at least 50m from the nearest tree or hedge, in accordance with published guidance (Natural England, TIN051, and Eurobats 2008).

Ecological enhancements are proposed in the report, though no map showing these is provided. A detailed ecological enhancement plan should be agreed with the Local Authority prior to construction. This should include, as outlined in the ecological impact assessment:

- creation of areas of species rich grassland
- creation of new woodland areas
- pond enhancements
- enhancement of hedgerows surrounding the site

Planting should comprise appropriate native species only, preferably locally sourced. Species to benefit wildlife including badgers should be incorporated, eg. crab apple, wild cherry.

Consideration should be given to monitoring impacts of the turbines on birds and bats once the site is operational. This would contribute to the limited evidence base, and provide information to help assess the risks to birds and bats of future wind farm proposals.

6.22 Northamptonshire Police – No formal objection or comment

6.23 NATS – No safeguarding objection. However you should consult all other appropriate consultees. We are only responsible for the management of en-route air traffic.

6.24 MOD – No objection. The MOD requests that the turbines (and met mast if installed before the turbines) are fitted with aviation lighting. All turbines should be fitted with 25 Candela omni-directional red lighting at the highest practicable point. The principal safeguarding concern of the MOD in relation to wind farms is their potential to create physical obstruction to air traffic movements and cause interference to Air Traffic Control and Air Defence radar installations. The MOD refer to guidance in paragraph 25 of PPS22. If planning permission is granted you must tell us:

- The date construction starts and ends
- The maximum height of construction equipment
- The latitude and longitude of every turbine

This information is vital as it is plotted on flying charts to make sure military aircraft avoid the area. If the application is altered even slightly you must consult us again.

6.25 Cranfield Airport – I am writing to confirm that there is a definite prospect of a Search Radar on the airfield for both area control and surveillance approaches, the radar aerial will be sited on top of a gantry situated on the airfield and the plan is for the radar aerial to be around 15m above airfield elevation. The published height for Cranfield is 358 feet AOD.

We will need to see a drawing of a side elevation with the rise and fall of the ground between Cranfield and the proposed site, with a straight line drawn between the top of the radar aerial at Cranfield and the top of the highest turbine. If it can be shown that the rise of the land between Cranfield and the windfarm effectively shields the proposed radar head from Doppler Interference from the moving blades I will consider the application accordingly. If it shows that the top of any blade is with direct sight of the radar head then it is clear what my opinion will be.

6.26 BT – No objection. The windfarm should not cause interference to BTs current and presently planned radio networks.

6.27 NCC Archaeology – The ES includes a summary of the archaeological information currently held within the Historic Environment Record (HER). It concludes that although the area did have potential for the Prehistoric and Roman periods subsequent development within the area has reduced the potential to negligible levels. However the ES recognises that there is the potential for unknown buried archaeology and suggests that this can be dealt with by a watching brief.

I appreciate that the area has been subject to disturbance, however bearing in mind the number of crop marks sites adjacent to the application area I would have not been so quick to suggest that archaeological survival would be negligible. Desk based study only provides information as to the presence of known deposits not unknown. The one area of known archaeology, a potential Iron Age site, HER 2145 was to be impacted on by turbine EN7 however the proposed turbine layout appears to exclude this turbine. However turbines EN4, EN5 and EN7 are next to areas which could potentially contain evidence of archaeological activity.

The ES notes that there is uncertainty as to the significance of the impacts during construction which could range from negligible to moderate. It is unfortunate that the applicant did not consider undertaking some intrusive field work to reduce this uncertainty within the turbine areas.

In the light of the archaeological potential and the archaeological assessment it would be more appropriate to undertake more varied archaeological mitigation. This would involve more intensive investigation in areas adjacent to known archaeological activity and leave the

watching brief to less sensitive areas. The precise details of the work required can be detailed within an archaeological brief.

In conclusion, the proposed development will have a detrimental impact upon any archaeological deposits present. This does not however provide an over-riding constraint to the development provided that adequate provision is made for the investigation and recording of any remains that are affected. To secure this attach a condition as per paragraph HE12.3 of PPS5.

In relation to the July Addendum which includes reference to PPS5, she confirms that her opinion is unchanged and recommends the imposition of a condition.

6.28 NHS Bedfordshire, Public Health Directorate – The previous planning permissions for the biomass plant and bio fuelled engine generators are referred to. It is also noted that human health is not considered explicitly in the ES. They advise that, from a health perspective, and within the main topics listed in the ES, the most relevant to the PCT are noise, shadow flicker and the impact of improved environmental sustainability on health.

Noise – the effects of excessive noise on health are well documented and negative. There is potential for cumulative noise impacts from the 3 electricity generators that already have planning permission.

Noise is regulated by the LPA and it is recommended that these bodies need to be satisfied that the Noise Assessment is robust. In particular ENC should be satisfied about the cumulative impact of noise. The need for noise monitoring when the plant is in operation should also be considered.

Shadow Flicker – The ES identifies that the worst effected property would be Manor Farm with 22 hours per year of shadow flicker. Mitigation of this is possible by turning off the relevant turbines when flicker is most likely.

Contribution to Sustainable Development – On a global scale Climate Change is now recognised as the biggest threat to global health. Modelling has shown that there are health benefits on a global scale from using more sustainable methods of energy production. However, it is not possible to quantify any benefit to the health of the local population.

6.29 Health Protection Agency – made the following comment in relation to the July and October Addendums:

- Comments should be sought from Environmental Health regarding the impact of noise on human health

6.30 ENC Environmental Health (Contamination) - Information from the applicant gives the history of the site as in the ownership of the Ministry of Defence (MOD) from the start of World War Two in 1939. During the war it was used as a bomber base by the United States Air Force and continued as such until the 1960s. From then on it was used by the MOD as a listening post. Much of the area occupied by the base has been naturalised and used predominantly for grazing. However, some of the infrastructure is still in place at ground level for example mast bases, roads and other concrete structures. Land used for military purposes can leave a significant legacy of contamination especially from fuel tanks, maintenance areas, unexploded ordnance and possibly radioactive sources.

Whilst each turbine has a relatively small individual footprint the excavations would be significant to establish the foundations for them. There would also be a considerable amount of ground disturbance for associated infrastructure such as cables and ducts. This could disturb and/or introduce new pathways for contamination to affect people working on the site, members of public, controlled waters, agricultural activity and the wider environment.

The applicant has provided an environmental study in support of this application but has declined to submit the data on which this report is based. The Council is aware the applicant does have the rights to this information but will not submit it in its entirety as they do not want it to be in the public domain, at this time. This is not ideal. The report although lacking in detail has identified elevated levels of contamination that may pose a risk to human health and controlled waters.

Furthermore, there are certain failings in the report in that the environmental consultant has not used appropriate assessment criteria and has referred to guidance that is not commensurate with UK human health and environmental risk assessment methodology. However, it does meet the basic requirements of PPS23.

Planning Policy Statement 23 (PPS23) states in section 2.25-

“In so far as it affects land use and developments, the quality of land is a material planning consideration in preparing development plans as well as in determination of planning applications.”

Furthermore, on a precautionary basis the possibility that contamination may be present should be assumed when dealing with planning applications on all land which has had previous industrial use. Table 2.1 of PPS23 refers to examples of potentially contaminative uses and this includes land used for military or defence activities. Where it is suspected that contamination may be present the applicant is required to provide sufficient information to determine the existence or otherwise of contamination. However, it must be remembered that the developer is responsible for ensuring that development is safe and suitable for use for the purpose for which it is intended.

Information required by the applicant should be sufficient to determine the presence or otherwise of contamination, its nature and the risks it may pose. In Section 2.43 of PPS23 it states the minimum requirement that should be provided by the applicant is a desk based study with walk-over survey. This minimum requirement has been met.

The site may require further investigation to fully assess the extent of contamination and risk assessments brought up to date within the UK context. The Environment Agency has been sent a copy of the report but to date no comments have been received. However, it is quite probable they will ask for further work to be done to assess any potential risk to controlled waters.

Therefore, should planning permission be granted conditions should be placed on it to investigate and remediate contamination as necessary.

6.31 Environmental Health

Noise – No objection subject to the imposition of conditions.

In reference to the above application we have examined the plans and the submitted information. Environmental Services has appointed external consultants, Temple Group Limited to evaluate the submitted Environmental Statement relating to noise. Following ongoing discussions with Temple we have evaluated the following reports from MAS Environmental who are acting on behalf of a third party.

- “Preliminary Analysis Report”, dated 23rd July 2010
- “Review of Background Noise Monitoring Locations”, dated 21st October 2010
- “Preliminary Analysis of Developers Raw Background and Weather Data”, dated 1st December 2010
- Addendum to this report dated 3rd December 2010 submitted by MAS Environmental, who have submitted comments on the application.

In addition Temple were further requested to consider the concerns raised regarding the dispersion of emissions from the approved bio digester located on the same site to this application. A full report was submitted by Temple on this issue dated 24th December 2010.

The application site is a former military airfield and radio communications site. The site is predominantly rural, is relatively flat and is currently used as grazing land with some rights of way across the site. The application site is not readily accessible other than by using the rights of way. The closest residential properties are Manor Farm, Top Cottage and Silcombe House which are within the District of Bedford Borough Council. Within the district of East Northants the former USAAF housing adjacent to the application site is the closest residential properties. The prevailing wind conditions are from the south west, away from the USAAF housing estate.

The application proposes the installation of nine, 125m high turbines with a 90m diameter rotor mounted on a tapered tubular steel tower with a 80m hub height. Five turbines are proposed to be located within the district of East Northamptonshire and the remaining four turbines to be located in the district of Bedford Borough Council. The proposed turbines have the individual capacity of 2.5MW and are designed to cut in at wind speeds of 4m/s and cut out at 25m/s. There are two 80m anemometer masts located in the southern area of the site to monitor wind conditions.

The materials needed for the development will be delivered to the site by road transport. It is envisaged that the turbines will be fabricated on site. This will be done in a portal framed structure. This building is consented for the planned anaerobic digestion plant operation. Once fabricated, the completed modules will be transported to the turbine locations and erected, thus avoiding the need to transport the modules to the site on public roads. It is estimated that fabrication of the turbines will take between six to eight months. Standard concrete foundations will be used, typical of existing wind farm sites.

The turbines will be erected using two cranes, which is common practice on most wind farm sites. The overall construction programme includes the siting of temporary site offices and on-site fabrication in addition to the erection of the turbines themselves. Access for all site traffic during the construction, operation and decommissioning phases of the proposed wind farm will be from the south of the site via Newton Road. Once operational the site will be managed and will have a number of maintenance visits.

The applicant approached Environmental Services in conjunction with Bedford Borough Council to discuss suitable locations for background noise monitoring in accordance with the guidance document, "The Assessment and Rating of Noise from Wind Farms, ETSU-R-97", more commonly referred to as ETSU. The most sensitive residential areas were identified and the locations for background monitoring were agreed in principle.

Several appeal decisions have evaluated the use of ETSU and the findings in the appeal APP/P1045/A/09/2108037 (Land belonging to Rushley Lodge Farm, off Wirestone Lane, Middle Moor/Matlock, Derbyshire - 22.04.10). the inspector states that "The Assessment and Rating of Noise from Wind Farms ETSU-R-97 is generally agreed to be the appropriate standard against which noise from turbines should be assessed. Despite the fact that the document is over 10 ten years old the methodologies are considered to be sufficiently robust. They have been endorsed in the companion guide to PPS22 and continue to be used by decision makers."

In addition to the ETSU guidance the applicant has had due regard to emerging methodologies for assessing the effects of wind shear from the larger, modern turbines, not commonly used at the time ETSU was developed. The methodology now utilised in addition to ETSU is the methodology advocated in the March/April publication of the IOA Acoustics Bulletin 2009. It is widely recognised that this model is consistent with ETSU methodologies.

Whilst the approach is a departure from ETSU, it appears to be a logical progression and development of the methodology in the light of more recent and relevant experience and advanced modelling relating to noise assessment. Past experience has shown this revised methodology has often resulted in more stringent standards and a reduction in the so called 'headroom' between the predicted noise levels and the noise limits. However, the opposite of this has also been observed under certain conditions.

ETSU defines wind shear as "the description of the increase in wind speed with height above ground level. Wind speeds measured at one height can be "corrected" to the value that would have been measured at another height" using the calculation specified. The use of the 10m height for measuring wind speed is detailed within ETSU. At the time this guidance was written the justification for using 10m high site wind speed was adopted because it was the height of readily available, portable anemometer masts that could be moved from site to site. Furthermore, this was the reference height used by turbine manufacturers when detailing a units technical specification. In the Planning Appeal Decision APP/Q1153/A/06/2017162 (Land to the south east of North Tawton and the south west of Bow - 11.12.09) the inspector stated that "there is no useful purpose to be served by slavishly following guidance if more robust processes are available and reliable. In my view 10m reference height is simply a means to an end - the end in this case being to relate the background noise measurements to the wind speed and hence the noise generated by the turbines."

In order to complete the necessary calculations regression analysis is used, this is defined as the use of regression to make quantitative predictions of one variable from the values of another. In that it has been used to convert the 30m, 50m and 70m wind speed measurements to the 10m height as required by ETSU. In order to predict noise emissions based on the turbine manufacturers specifications of 10m.

ETSU guidance involves three stages. First, is the assessment of background noise through obtaining background noise levels within the amenity areas of buildings at quiet times, excluding atypical noises for example rainfall, dawn chorus, etc. These measurements should then be correlated with wind speeds measured at the wind farm site at a height of 10m. The resulting best fit curve then establishes the prevailing background noise environment.

Second, appropriate noise limits should be determined for noise-sensitive properties by reference to threshold values and the prevailing background noise. ETSU sets threshold noise limits of 35dB(A) – 40 dB(A) or 5 dB(A) above background whichever is greater for day time and a night time limit of 43 dB(A) or 5 dB(A) above background whichever is greater. These limits can be increased up to 45 dB(A) if any affected houses have a financial interest in the development. As far as we are aware there are no residential properties financially associated with this development.

Third, a prediction should be made as to the levels of noise from the turbines at different wind speeds. They should then be compared with the applicable noise limits to determine whether or not there is compliance with ETSU.

A wind shear corrected background noise curve has been produced by correlating background noise data to the standardised 10 m height wind speed, calculated using the IOA methodology, instead of the actual measured 10 m height wind speed.

As a consequence of ecological or environmental considerations there is the possibility that turbines might be re-sited within micro-siting parameters. ETSU makes allowances for micro-siting of turbines within the modelling process. The conditions detailed below require that noise assessments must be taken from the finalised location in accordance with the agreed assessment criteria to ensure compliance with the noise levels stated in Table 9.6 of the Environmental Statement.

We have considered the existing background noise levels submitted by the applicant and the predicted noise levels at nearby residential properties as assessed using ETSU. We have concerns of limited headroom at Silcombe House and Manor Farm located in the district of Bedford Borough Council. Headroom is the name for a buffer zone between the measured background level at monitoring locations and the ETSU daytime and night time lower limits of 35dB(A)-40dB(A) and 43dB(A) respectively. The lower limits apply where existing background noise level is very low. Under other circumstances, ETSU dictates that noise from wind turbines should not be greater than 5dB above the background

Table 3.2 below as provided in the Temple Group report highlights the locations that have limited headroom, when assessed against the ETSU criteria.

Location	Night Time, dB	m/s	Day Time, dB	m/s
Hargrave Lodge (ENC)	9	7	7.5	6
Kemps Vineyard (ENC)	14	7	12	6
Lodge Farm (BBC)	6	7	4.5	6
Silcombe House (BBC)	2	6	1.5	6
Manor Farm (BBC)	1.5	6	1.5	6
5 Stanbrook Way, Yelden (BBC)	6.5	7	3	6
USAF Housing (ENC)	5	7	4	6
Ashbury, Caldecott (ENC)	7	7	5.5	6
7 Britton Close, Chelveston (ENC)	8	7	9	6

Table 3.2: Minimum night and day headroom noise levels based on associated wind speed at 10m

The data within table 3.2 has been shown as it represents the worst case scenario in respect of limited headroom. This occurs mainly at 6 and 7 m/s. The table shows that Silcombe House and Manor Farm, both located in the district of Bedford have limited headroom at day time and night time. Stanbrook Way has limited headroom in the daytime. All sites are still compliant with the ETSU guidance document.

Amplitude modulation is the term used for aerodynamic noise that is in addition to the normal blade swoosh as it cuts through the air. Complainants have described it as sounding like distant rain or a pile driving operation. Recent planning appeal decisions have acknowledged that amplitude modulation cannot be predicted at proposed sites as the causal effects are not fully understood. ETSU does take amplitude modulation into account as part of the calculations without any further corrections to be applied. The 2007 Salford report "Research into Aerodynamic Modulation of Wind Turbine Noise" found that amplitude modulation was not generally a factor in noise complaints.

A recent appeal decision APP/H0520/A/09/2119385, at Cotton Farm, Graveley St Neots dated 14th December 2010 stated that "In the unlikely event of a problem of excess Amplitude Modulation arising, the appellant suggests that it could be addressed by the local authority using statutory nuisance powers. Whilst I have some misgivings about this procedure because of the much higher threshold of harm that would inevitably apply, I see little option but to conclude that this is the best means currently available of resolving this issue." It is important to note that one of our recommended conditions details that the onus is on the operator of the wind farm to fully investigate and where necessary mitigate for any noise complaint received including those relating to amplitude modulation.

In conclusion, based on the submitted information and the review provided by Temple Group the applicant has demonstrated that the application complies with the ETSU guidance document. The recommended conditions should provide a reasonable level of protection against noise for nearby residents and therefore we cannot object to this application on the grounds of noise.

6.32 National Trust – Advise that the site is approximately 18 km from Lyveden New Bield, which is their nearest property. They advise that they support an increase in renewable energy generation in appropriate locations. They note that the location and design of all energy schemes should take account of the full range of environmental considerations at the site, including the protection of valued landscapes, biodiversity and the historic environment, and the need to safe guard peoples' well being. They do not object to the application having regard to the visual impact of the proposed development upon property that is owned and managed by the National Trust.

6.33 NCC Rights of Way – No objections provided the rights of way are handled in the correct manner.

- Bridleway MM17 links Chelveston village from the south through the proposed site to Yelden (in Bedfordshire). This is a cross border right of way connecting to one across the old airstrip into central Bedfordshire and is within 210m of turbine EN1 and 360m of turbine EN2. The awarded width of this is 4m and we would not want to see this reduced.
- BridelwayMM18 connects from Bridleway MM14 and the road to Newton Bromswold to the south west of the old airfield forming the landing strip and proposed development site. This is a cross border Bridleway connecting to one in central Bedfordshire. This has an awarded width of 7.5m and we would not want to see this reduced. As this track is to be used as the main access we would need to agree surfacing materials. Any damage to the surface during construction would need to be rectified by the developer.
- Footpath MM16 connects Chelveston village with the proposed development site via Footpath MM15 to Bridleway MM18 and running parallel to Bridleway MM17. This footpath has an awarded width of 2.5m and is within 170m of turbine EN2. This footpath would require temporary closure during construction.
- These rights of way, MM15, MM16, MM17 and MM18 are ideal to make a circular walk from Chelveston village to visit and see the turbines. Potentially there is an even longer route via Yelden. We would like to know what contributions the developer would make towards this increased right of way use. Under the Rights of Way Improvement Plan Policy (ROWIP) we would be seeking contributions to upgrade stiles to gates and/or kissing gates subject to owner's agreement. As part of these circular routes we would be agreeable to the implementation of interpretation for public education on wind turbines and energy in return for these general access improvements. We would welcome an on site meeting with the developer to provide a figure.
- It is a subjective point to make that it is a bleak featureless landscape but to support the point of viewing the turbines, we would ask that the fences are removed or lowered.
- Suggest use of post and rail fences 1.2m high
- Standard requirements are in place for work during construction
- No diversion orders are required as the turbines are just in excess of the minimum acceptable standards ; Bridleways (200m), Footpaths (150m)
- Is cycle parking proposed in visitor car park?

6.34 Ramblers – Surprised that ES describes site as “a poor and bleak landscape”. The site is an extraordinary expanse of grass unlike anything else in the area which has (or had until the fences were erected) a beauty all of its own. It is a Greenfield not a brownfield site. Ramblers are surprised that the applicant is of the opinion that there are hazards on the former airfield which justify exclusion of the public. The MOD safety report in the ES does not support this conclusion. The fencing is unnecessary. It restricts and channels the unique open views (as admitted in the ES page 232) and its height exceeds that allowable along rights of way (which are highways in law). Shadow flicker would not be expected to have an undue effect on walkers but it and moving turbine blades could spook horses. Reference is made to an appeal decision in relation to an application which was dismissed due to the impact of shadow flicker on horses using a minor road (ref 07/00758/FUL –single turbine,

Longbrook Farm, Thurning). Walkers have no desire to meet spooked horses. The situation at Chelveston is made worse by the fences which imprison and prevent escape. We object to this application because of the danger to walkers from spooked and frightened horses and this danger is made worse by the fences.

6.35 British Horse Society – Does not object to wind farms in principle, but the Council is reminded that the effect of development on a public right of way is a material consideration. Object to this application on the grounds that there is insufficient separation between the proposed 125 m turbines and the existing public bridleways.

The ES accepts that it is important that wind farms close to bridleways should be designed so as not to startle horses. However the proposal does not comply with the British Horse Society's current advice. PPS22 reflects the old guidance not the new. Formerly it was 200m now it is three times the height of a turbine ie 425m. I would contend that the intention of the PPS guide was to recommend that the advice of the British Horse Society should be regarded as desirable.

The BHS updated its guidance because turbine heights increased. The shadows thrown by the blades onto the ground will be further away from a taller turbine than a smaller one. The issue of moving shadows on the ground is one of the key concerns as it spooks horses.

In paragraph 5.54 (of the Design and Access Statement) it states that the BHS's stance is flawed as turbines are 3 dimensional not two. It suggests that the taller the turbine the further away the blade will be from horses and therefore they should have less effect. This argument fails to recognise the effect of shadow on the ground.

The ES includes details of where shadows will fall in 9.54. In winter the routes will be affected by shadows for much of the day, with a very limited opportunity to ride in the middle of the day. In the Spring, Summer and Autumn the ES shows there are several hours when shadows should not fall on routes, but this does not include early evening which is a popular time for riders who work to exercise their horses. I cannot concur with the conclusion that the impact is not significant.

In 5.54 of the Design and Access Statement the applicant refers to two precedents, to support the view that separation distances can be ignored. The decision from Cwm Lwyd predates the revised guidance from the society and the decision at Wadlow farm not only ignores the current advice but that in PPS22. In my view this was a flawed decision.

I note that the applicant intends to provide a soft surface permissive bridleway along the former runway, which might well be appreciated by local riders as softer going is often preferred to hard surfaces, but this does not mitigate the concerns about the proximity of the proposed turbines.

At one time there was a suggestion that a bridleway might be provided around the perimeter of the site. This might provide an alternative route and should be explored further. If you are minded to grant planning permission the provision of this should be conditioned, and be provided during construction and operation of the wind farm.

In commenting on the October Addendum the British Horse Society confirm that it does not change their views. They re-iterate that they object to the proposal due to the proximity of the turbines to the bridleways across the site, and refer to their previous objections. They also refer to their earlier discussions with the applicant's advisors where the possibility of providing an alternative bridleway route around the perimeter of the site was mooted. They express concern that this has not been followed up, and request that it is.

Attention is also directed to an appeal decision in 2009 (ref APP/C3105/A/09/2116152) at Willow Bank Farm, Bicester. This appeal was allowed subject to a condition requiring the provision of an alternative route for horse riders.

The applicant should seek sensitive exploitation of renewable energy sources in accordance with PPS22 and PPS7. The applicants should therefore mitigate the impact on horse riders by providing an alternative route.

6.36 Wellingborough BC – No objection subject to East Northamptonshire Council satisfying themselves that there would be no cumulative landscape and visual impacts when considering this proposal in connection with the proposed windfarm at Bozeat (ref WP/2008/0603/OEIA)

6.37 Kettering BC – No objection to the July or November Addendum subject to the comments made in their original response, concerning windfarm scoping opinions for 4 turbines on land to the north of Cranford and 4 turbines at Great Cransley.

6.38 Huntingdonshire DC – No objection, in principle, subject to compliance with relevant development plan policies and Government guidance. They provide a list of approved developments within their area.

6.39 CPRE – the Landscape and Visual Assessment is so poor and therefore it is not possible to assess the application. Despite the ES referring the various industry standards and best practise I do not believe that these have been followed. We therefore object to the application. I also draw your attention to some more recent industry standards:

- Visual Standards for Wind Energy Developments, The Highland Council Planning Service Jan 2010
- Landscape Institute Advice Note 01/09, Use of photography and photomontages in landscape and visual assessment
- Good Practice for Preparing Representations of Visual Impact, CPRE Northamptonshire 12/08/2008

The following are immediate areas of concern:

- The base photographs for the photomontages appear to have been taken with a wide angle lens and so substantially under-represent the impact of the development
- The study areas for the ZVT is only 20km and not 35km
- The study area for the cumulative ZVT is only 20KM not 60KM
- The cumulative ZVT study does not consider the large number of developments at various stages in the planning system
- The cumulative ZVT study only considers numbers of turbines visible and not the number of windfarms which is far more important when determining whether there is a windfarm landscape
- The viewpoints appear to have been chosen by the developer's consultant and not through consultation
- The viewpoints do not represent the normal range of either receptor types or viewing distances
- The viewpoints are not shown on a ZVT diagram (ideally a hum visibility ZVT)

Within the LVA there is much made of the historic use of the site, however in planning terms this is irrelevant and the photomontages are nothing more than a distraction. The 15 year visual assessment is so near the end of the permission of the wind farm that a predicted visual assessment at this stage is irrelevant.

Details are provided of windfarm proposals at Alderton, Bozeat, Brixworth, Burton Wold, Byfield/Upper Boddington, Crick, Gt Cransley, Harrington, Helmdon/Greatworth, Kelmarsh, Lilbourne, Ringstead, Rushton/Pipewell, Sudborough, Sulgrave, Watford Lodge, Winwick and Yelverton in Northamptonshire. In addition, reference is also made to the proposals outside Northamptonshire at Kimbolton, Swinford, Low Spinney, North Kilworth, Gartree and Tur Langton.

It is recommended that a Regulation 19 request be made for a replacement LVIA.

6.40 Preserve – Object on a number of grounds:

Policy

Preserve have provided ENC and Bedfordshire with different Policy Comments. Set out below is an amalgamation of the comments.

PPS1 Paragraph 20 (which advises on the protection of the countryside, landscape and wildlife):

- It is a good quality open space with a network of rights of way with extensive views over Nene and Til valleys
- It complements the wildlife habitat from Brampton to Grafham Water along the Nene Valley to the Ouse Valley
- The A6 Rushden-Higham Bypass represents a natural boundary between urban development and the rural environment. Turbines would destroy this.

PPS7 paragraph 15 which advises that the quality and character of the wider countryside is protected and where possible enhanced applies:

- The attractive and peaceful villages and landscapes of the Deans, Shelton, Yelden and Melchbourne, which are a recreational amenity. The gently rolling countryside has an open and rural feel, with its churches, rivers woodland and hedgerows.
- The plateau on which the airfield sits has open views in all directions and is a popular route for walkers.
- The North Bedfordshire Wolds are a rare resource in what is largely a flat county.

East Midlands Regional Plan:

- Para 2.4.37 – The sub-areas important environmental and cultural assets need to be protected and enhanced....Areas like the Nene Valley can also provide opportunities for sport and informal recreation..... Green Infrastructure....
- The site is an open and tranquil area with a large habitat for wildlife and widespread opportunity for outdoor pursuits. It is the only area of its kind in ENC. The proposal will dominate the surrounding landscape
- The Northamptonshire Character Assessment describes the Chelveston and Caldecott Claylands as containing remote areas with extensive views. Bedford described it recently as a “flat area valued for its open landscape. It is difficult to equate this with the applicant’s reference to “Brownfield”.

PPS22 Key Principles:

(i) (which advises that renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic and social impacts can be addressed satisfactorily):

- there is no bar on LPAs assessing whether economic(or environmental or social) impacts can be addressed satisfactorily)
- capacity likely to be achieved is below 30%. The LPA are not barred from judging that economic impacts cannot be addressed satisfactorily. (Reference is made to a report of Professor Michael Jefferson “The Relevance of Economic, Financial and technical issues to Planning Policy Guidance on Wind Energy Development”

(viii) (which advises that development proposals should demonstrate any environmental economic and social benefits)

- The environmental economic and social benefits are negative and the proposal is not sustainable.

PPS22 Other Considerations

Paragraph 19 (requires the use of objective descriptive material and analysis but also the need for professional judgement):

- A key point is the need for professional judgement
- The applicant has failed to provide the necessary objective evidence (see the report of Preserve's landscape consultant).
- The Council's landscape consultant's judgement that the site is suitable for a wind farm is unsound and unprofessional as, by their own admission, the submitted LVIA is insufficient and/or incorrect

Paragraph 5.20 (advises that photomontages and/or computer generated wireframe views should be prepared at an appropriate scale and resolution...the viewpoint location, camera type, lens focal length. Horizontal angle of view and appropriate viewing distance should be stated on each image).

- This has not been provided and the images are misleading

PPS22 Cumulative Impact

Paragraph 20 (advises that cumulative impact should be considered):

- No valid CLVA has been submitted

Paragraph 5.24 (advises that photomontages are required showing all existing and proposed turbines).

- This has not been done

East Midlands Regional Plan – reference is made to Policy 40 and the requirement to consider cumulative impact. A list is provided of other sites.

PPS23 (indicates that the precautionary principle should be invoked where a) there is good reason to believe that harmful effects may occur to human, animal or plant health or to the environment; b) the level of uncertainty about the consequences or likelihood of the risk is such that the best available scientific advice cannot assess the risk without sufficient confidence)

- A turbine is sited adjacent to the Anaerobic digestion plant. There are dangers arising from turbulence which may lead to the spread of airborne pathogens

PPS3 (provides definitions for Greenfield and brownfield land) :

- A detailed explanation is provided as to why it is not considered that the site is brownfield/previously developed.

The letter referred to a more detailed attached report. This reviewed PPS22 and other PPSs to justify that local planning authorities need to take such economic and technical issues as mean wind speed and likely capacity factors achievable into account.

Bedfordshire Policies are also referred to.

Landscape and Visual Impact Assessment - Initial Observations

We commissioned an independent Chartered Landscape Architect (GPP) to carry out a review. On the basis of this and our own conclusions, we strongly object to the presentation, methodology and in some cases misleading aspects of this section of the ES. These concerns can be summarised as:

- The submitted Landscape and Visual Impact Assessment is not in accordance with industry standard guidance and methodology, particularly in relation to:

a) the chosen representative viewpoints(their location, distance from the site and

geographical spread.)

b) the accurate representation of the views in the presented photographs and photomontages, which appear to be foreground and sky dominant, having the effect of reducing the scale of the proposed development in the view.

c) the results of the assessment determined by judgements made in relation to the sensitivity, magnitude of change and significance of impacts.

- The implementation of the submitted cumulative Landscape and Visual Impact Assessment is not in accordance with industry standard guidance and methodology.
- The number of inconsistencies identified sheds doubt on whether the methodology has been implemented in a clear, robust and consistent manner, and therefore raises questions about the reliability of the results of the assessment.

Landscape and Visual Impact Assessment - Response to First LUC Report

This response has been prepared by landscape consultants. It is suggested that the report by LUC identifies the same range of omissions previously identified by GPP. These are:

- No reference is made to national, regional or local planning policies within the LVIA
- No clear information on why selected viewpoints were chosen and what they are representative of
- Definitions of sensitivity, magnitude of change and significance are confusing and mix landscape and visual and in some cases may have been inappropriately assigned, even underestimated, for example in a view to the site from the village of Yelden.
- Lack of defined study area for the whole LVIA, and a study radius for some elements of only 20km, rather than the approved 35 km. The level of information required to correctly assess the impacts within the study area is missing.
- Assessment of the landscape character incomplete, not extending to the full study radius, considered in the LUC Review to be a major omissions
- Lack of complete Zone of Theoretical Visibility Analysis, with no figures illustrating visibility to hub height, and lack of coverage not extending to 35km from the site.
- Lack of up to date photographs for the assessment of viewpoints, with photographs taken in 2006 potentially misleading.
- Cumulative Landscape and Visual Impact Assessment not undertaken in line with good practice guidance.
- Lack of clear information setting out why each viewpoint has been selected, and the validity of the distance of views is questioned. There is a lack of viewpoints covering greater distances from the site. This is considered by the LUC Review to be a major omission.
- The logic of the LVIA is complicated and difficult to follow, with inaccuracies and errors in report, considered by the LUC Review to make it very difficult to have confidence in the LVIA as a whole.

LUCs comment that *“that the site is likely to be appropriate in landscape and visual terms for the proposed development”* should be treated with caution as without a comprehensive assessment in place, and the full range of information required, it is not possible for any professional to reach a valid conclusion about the extent to which the type of development would have an impact on the landscape and visual environment, and therefore be considered suitable.

Landscape and Visual Impact Assessment - Response to Addendum to Environmental Statement July 2010

It is stated that the viewpoints were agreed, however no clear justification has been provided

for the choice of viewpoints, and there is no response in the letter to the major limitations in the methodology applied, particularly in relation to longer distance viewpoints and cumulative impact.

LUC and GPP on behalf of Preserve have noted that the cumulative assessment is lacking. It is also noted that Bedford BC asked for a wider study area of up to 50km.

ENC should request that additional work is undertaken. Preserve would be happy to advise. Has the applicant seen the advice from LUC and GPP?

Landscape and Visual Impact Assessment- Review of Addendum to Environmental Statement October 2010

The following summary is provided:

- Whilst the Addendum goes a long way to addressing the issues raised by LUC further work is required. Particularly in relation to the extent of study area and cumulative impact.
- The Addendum does not address all of the issues raised by GPP (our consultants). The primary conclusions of GPP are still valid.
- The conclusions of the LVIA have not been updated.
- The study area has not been changed.
- Viewpoints have not been provided for the wider area despite LUC's request.
- The potential cumulative impacts are unclear. The following statement in the Addendum is highlighted:
"If all the proposed turbines within the 40km cumulative impact study area were to come forward there would be relatively few locations where no turbines would be visible and that there would be fairly continuous views of turbines sequentially on all the trunk roads and country lanes, depending on the extent of hedgerows"
- The proposed windfarms at Bicton, Brampton, Molesworth and Thurleigh have not been included.

This is supported by landscape consultants GP Planning Limited review which is summarised in tables, as set out below.

Table 1. Comparison of GPP and LUC review

Study area:

Both GPP and LUC suggested that instead of a 20 km radius study area, the study area should be extended to 35 Km. This has not been done. The Addendum has justified not increasing the study area on the basis that the landscape is of a different character to that of Scotland and that therefore the Scottish guidance does not apply. Other proposals in the vicinity have used the following study areas:

- Nun Wood – 25km
- Cotton Farm – 30km
- Winwick – 31 km

Furthermore records of the site meeting where the applicant states ENC and BBC agreed a 20 km study area are unavailable, and therefore it is not possible to understand the discussion that took place. In addition since 2006 the number of other proposed wind farms in the area has increased exponentially. In particular the extent of the study area for the cumulative assessment is effected by this.

Policy and Guidance and Methodology:

GPP and LUC identified that not all planning policy was referred to in the ES. There is no new policy analysis and this is required due to the changes that have happened with RSSs.

GPP recommended that a number of guidance documents should be referred to (LUC did not refer to these). These have not been referred to.

GPP referred to the need for a detailed review of criteria for cumulative landscape and visual assessment within PPS22. There is no mention of PPS22 in the Addendum although additional information and plans have been provided for the likely cumulative impacts.

Landscape:

GPP advised of the need for specific consideration of the National Character Area 92 – Yardley-Whittlewood Ridge. LUC asked for consideration of National Character Area 88 Bedfordshire and Cambridgeshire Claylands and 89 Northamptonshire Vales. The Addendum mentions National Character Areas 91, 88, 89 and 92. However the significance of the impact of the windfarm is only considered for NCA s 88, 89 and 92. NCA 91 is considered only in the ES itself. Thus there is still insufficient information.

GPP advised that the LVIA should include an assessment of the landscape components of the site. LUC made a comment in relation to the sensitivity of the site and character areas. The Addendum assesses landscape components and there is no change to sensitivity.

LUC expressed concern that only 6 Landscape Character Areas were considered in the ES. The Addendum considers the 31 Landscape Character Areas within the 20 km study area.

LUC commented that there was no assessment of sensitivity, change or significance of effect on landscape features. The Addendum considers these.

Visual:

GPP and LUC expressed concern that there was no justification provided for the viewpoints considered. The Addendum advises that representative viewpoints had previously been agreed with the LPAs and provides a justification for the choice of original viewpoints but not the additional ones.

GPP and LUC expressed concern that photomontages had been produced using images from 2006. The Addendum does not address this and new photographs have only been taken for the new viewpoints.

GPP advised that key sensitive receptors had been overlooked and commented that the LVIA focused the majority of its assessment within 5 km of the site with little consideration of the wider impact. LUC recommended 3 additional viewpoints. The Addendum includes additional viewpoints which were agreed with the case officer however the additional photomontages from these viewpoints were produced without visually verifying the model, and therefore a different methodology to that in the original ES. This makes comparison between the previous and new photomontages difficult. In addition, even with the new viewpoints the range and geographical spread of viewpoints within the study area is insufficient. New viewpoints in the Addendum vary from 5.5 km to 11.8 km from the site but do not extend to the full extent of the study area. In addition, one of the viewpoints requested by LUC is missing.

LUC mentioned that Visual/receptor sensitivity was confusing. There is no reference to this in the Addendum.

GPP suggested that as all viewpoints were within an area where all 9 turbines would be visible all viewpoints would have a high magnitude of change by virtue of the scale of the development and number of turbines visible. The Addendum does not mention this.

LUC expressed concern that a ZTV for the hub height had not been included. The Addendum provides ZTVs for hub height and blade tip of the proposed turbines only. However it is stated that they do not take account of the effect of settlements or woodland blocks on views and so demonstrate a worst case scenario. This approach is different to that taken in the original LVIA. Should the worst case scenario not also have been considered in the original LVIA?

GPP advised that a series of digital photographic images showing each camera position for each viewpoint appeared to be absent. The Addendum does not mention this.

GPP advised that Section 5.4 of the original LVIA listed the scope of the assessment without reference to visual amenity. The Addendum does not mention this

GPP advised that the comparative height of existing landscape features and their visual prominence could be more usefully explained. The Addendum does not mention this

GPP highlighted that little reference was made to impact on the skylines, effect of the introduction of high level movement in to the landscape and consideration of matters relating to scale and form of development. The Addendum does not mention this

Cumulative Effects:

LUC advise that a 60 Km study area should have been used. Although the study area for cumulative assessment has been extended, it is not clear why 40 Km has been chosen particularly when 50km was requested by BBC during scoping and LUC requested 60 km. Despite considering windfarms within 40 km of the proposal, the cumulative impacts have only been considered within 20km of each. This is considered insufficient to properly assess the impacts, particularly because within 40 km there are 6 existing, 4 consented and 20 wind farms in planning. Figure 5.64 has a 41 km study area to accommodate all of the Watford Lodge turbines. In addition, the presentation of the information in figures 5.65 and 5.66 is confusing and difficult to understand the likely cumulative impacts. It is noted that the Addendum states " If all the proposed turbines within the 40 km cumulative impact study area were to come forward and be developed there would be relatively few locations where no turbines would be visible."

GPP requested copies of correspondence confirming the list of considered developments. The Addendum does not mention this.

GPP requested photomontages to show the cumulative impact. The Addendum does not mention this

GPP advised that turbines at Burton Wold would be visible in succession. The magnitude of change for cumulative impact is stated as moderate without justification or definition. The cumulative impact of Burton Wold is considered fully within the ES.

GPP advised that definitions of sensitivity, magnitude and significance specific to the cumulative impact should be presented. The Addendum does not mention this.

GPP advised that routes through the landscape and the impact on the viewer travelling along these routes should be considered, to enable sequential visual impacts of multiple turbine developments to be assessed. Sequential cumulative impacts have been considered. Particularly routes along A1, A14, A6, A428, A509 and A43. The Addendum states "should all the proposed windfarms in the planning stage be approved and constructed there would be a fairly continuous view of turbines experienced sequentially along all the trunk roads and

country lanes, depending upon the extent of roadside hedges. Although the Addendum notes that if none of the other proposed wind farms were constructed there would be no further significant impact from the combination of the Chelveston Windfarm and those already constructed and consented. This does not however provide a suitable justification for why the Chelveston Windfarm should be consented and the others not.

Table 2 – Conclusions of LVIA and Addendum

GPP summarise the conclusions of the original LVIA included in the ES and comment that there is a lack of conclusions or revisions to conclusions in the Addendum. Therefore it is assumed that the Addendum continues to agree with the conclusions in the original LVIA.

Table 3 – Reasons for Viewpoints

GPP appear to make no comment on these.

Table 4 – Additional Viewpoints

GPP comment that according to the methodology in the original ES in Section 5.47 the impact of the proposed windfarm in these views is considered not to be of significance.

Table 5 – Additional Character Areas

GPP comment that according to the methodology in Section 5.47 the impact of the wind farm on these character areas is not considered to be significant.

Table 6 – Assessment of Landscape Site Features

GPP comment that according to the methodology in Section 5.47 of the ES the impact of windfarm on the landscape site features is considered not to be of significance.

Response to October Addendum – Photomontages/representations

- Despite our strong criticism of LUC's assessment of the applicant's photomontages nothing has changed.
- We flew a balloon and photographs were taken and are provided. A 50mm lens was used which shows the view observers will see, not a wide angled lens that developers use.
- 9 positions have been investigated and these are the critical ones. An Appendix is provided with details of these and they are. Above Yelden Village; Yelden Village from Newton Bromswold; Chelveston Church/Caldecott Road; Airfield Farm; Chelveston lay by; B645 lay by; Chelveston Rise; Shelton Road Lower Dean; Upper Dean.
- Other photographs have however also been submitted

Response to LUCs second report in relation to the October Addendum to the ES

The application has still not provided consistent information, nor submitted up to date photographs or rationale as to the viewpoints chosen. It is not therefore possible to make an informed decision.

1. Para 2.8 of the LUC Report suggests that the proposed windfarm at Molesworth should be included as part of the cumulative assessment. This site is only approximately 10Km to the north west , 8 turbines are proposed with a maximum height of 126 metres.

2. In their first report LUC identified the need for more distant viewpoints, however these have not been provided.

3. Para 2.19 of the LUC Report refers to the photographs used spanning a four-year period. LUC state that they consider that the photographs are adequate and that new photographs, whilst helpful would not change the overall conclusions of the LIVA. However, in their first report in paragraphs 2.97 and 4.2 they state that up to date photographs are omitted from the LVIA and that these are important information.

4. Other key points raised by LUC in their first report have not been addressed, particularly in relation to the presentation of information in the LVIA - 'ie the assessment is difficult to follow in a logical format and is not fully coherent in its layout'.

5. We refer to Para 3.14 of the first LUC, which states that 'photomontages ... always tend to diminish rather than exaggerate visual impact'. The photomontages do this.

The first LUC report, contradicted itself in the conclusions and the body of the report should be used.

LUC have not responded to submissions made by objectors, we trust the Councils will.

Response to Additional ZVT showing proposed windfarms received December 2010.

- Molesworth is missing
- The first LUC report suggested that in addition to visibility of blade tips ZTVs were required showing the visibility of the hub of proposed turbines. This is outstanding.
- The altitude maps submitted earlier show that Chelveston Airfield is almost at the highest point on the local landscape.
- From Bicton, one can clearly see the existing Boxer mast (except for the bottom 3 metres). Therefore all but 3metres would be seen of the turbine masts, including the whole of each turbine from Burton Wold, Bicton, Stow Longa, Catworth, Leighton Bromswold, Pertenhall and others, and more than half of the mast height and whole turbines would be seen from Tilbrook, Dean, Higham Ferrers, Stanwick and Raunds, along with others.
- The Burton Wold turbines are sited on lower ground and are largely screened from Stanwick Lakes. When the blimp was flown it was visible from the A45 and Stanwick Lakes. The turbines would therefore effect Stanwick Lakes and Higham Ferrers historical sites.
- The cumulative visibility if all of the proposed turbines are built on all of the sites will be all encompassing. It would not be possible to drive from Higham Ferrers to Bedford and thence to Huntingdon, Thrapston and back toward Wellingborough to Higham without seeing tall masts and moving turbines out of every window of your car.
- The landscape, which is not even punctuated with electricity pylons, would be dominated by these enormous machines with the horizon being blanked out by them and the features to which we currently relate, of tall trees, church steeples and an ever changing sky, would be changed for our lifetime.
- The turbines could not be screened from view by trees, there are not enough of sufficient size and there would be insufficient time for trees to grow.
- The nearer villages of Chelveston, Caldecott, Yelden, the Deans, Shelton, Melchbourne and Hargrave, would be totally dominated and disturbed by the turbines.

Historical and Cultural Heritage - Response to October Addendum to Environmental Statement

General Observations:

- Refer to PPS5 and the overarching aim that the historic environment and its heritage assets should be conserved.
- The proposal would have an overwhelming impact on the landscape and heritage and would not therefore conserve it. The scale of the turbines dwarfs everything. The applicant consistently downgrades landscape and cultural heritage.
- This is a rural and peaceful area with field patterns that are recorded back to the Enclosure Act. There are no electricity pylons and the landscape is dominated by ancient trees and church steeples.
- There are 200 houses within 2km of turbines. All would be adversely effected. Some are only 600m from the site.
- Site is rural but far from remote. There are closely connected villages and paths and bridleways cross the plateau.

ESA 1.2:

- Since the publication of PPS5 the applicant has broadened the definition of setting but has not changed the criteria. The applicant now regards setting as a problem. By claiming that cultural heritage is a “problem” the applicant has attempted to move the goal posts in and skew the judgement of the reader.
- All of the heritage assets encircle the site. The blimp flights have demonstrated how misleading the applicant’s assessment is.
- Conservation Areas affected are Risley, Swineshead, Kimbolton and Tilbrook.

ESA 1.20:

- Do not accept that the proposal would not have a deleterious cumulative effect. A distinction is made between “the setting” of a heritage asset (where turbines would be visible) and the “visual context” (where they wouldn’t). This is misleading. Therefore the conclusion in 1.21 that there is no effect on local setting and a minimal effect on wider setting is not valid.

Appendix 1.1 Assessment Tables 127-143:

- The applicant’s claim that a road abutting or a new extension to a listed building reduces its status is wrong.
- The applicant is disingenuous in stating that the visibility of the turbines is confined to the tips and tops of blades which will be glimpsed. The sky is dismissed as unimportant.
- The applicant continues to downgrade and underrate all aspects of the area.

PPS5:

- Policy HE9.1 in PPS5 is clear.
- The applicant in the Addendum has changed nothing.

Chapter 5 Landscape and Visual:

- The applicant fails to point out that the Chelveston Plateau is an area of elevated land. (see our Altitude maps).
- The applicant, wrongly, suggests that people looking at a view will not turn their heads.
- The impact on the B645 is not assessed.
- The applicant's response to cumulative effect is to hope that not all wind farms will be built.

Landscape Character Impacts:

- The conclusion that all impacts on the additional landscape character areas are of negligible magnitude is not possible for such large structures which would be seen 30 miles away.
- Referring to the visibility of "blade tips" seeks to conceal the full impact of the turbines

Landscape Features within the Site:

- The "flat, poor quality grazing land" has been adequate for the cows and sheep that have grazed it.
- Reference to fencing surrounding masts is misleading as only the bases remain.
- The boxer mast is not particularly intrusive-it is static. We would not be averse to its removal as it is no longer used.
- For the applicant to claim that "The proposals result in no loss or change of the landscape element, feature or component" is absurd and should be dismissed.

Related documentation submitted:

- Appendices 3a and 3b – provides detail in relation to Chelveston, Caldecott, Dean and Shelton
- "Setting the Story Straight" – brochure giving details of listed buildings
- Article in "Discover Bedfordshire" which referred to Yelden and Melchbourne as hidden gems
- The picture postcard villages leaflet showing the rural beauty of the villages
- The walking maps for the Chelveston Plateau produced by the Parish Councils, which shows the close links between the 9 villages, 7 churches and 5 public houses.

Appendix 3 – Chelveston and Caldecott:

- Have a rich heritage and recent association with US because of 305th Bombardment Group
- Recorded history since Anglo Saxon times.
- 1 Grade II*, 5 Grade II listed buildings including the church – Duchy Farm, Manor Farm, Manor Farm barn, Poplar farm, The Cottage. These warrant every effort being made to preserve them.
- Whilst the Chelveston Plateau is higher than the village it is small and any tall structure on the airfield will dominate the village because of unfettered views. Caldecott is on higher ground and has clear views across the open landscape to the Boxer Tower.

Appendix 3 – Deans and Shelton, Melchbourne and Yelden:

- Previously produced brochure "Setting the Story Straight" that challenges the negative portrayal of the quality of the landscape.
- The applicant undervalues and misrepresents the area and its surrounding villages

- The recent article in “Discover Bedfordshire” was a welcome and timely reminder that we are seeking to preserve:
 - Traditional villages which haven’t been swallowed up by modernity
 - Unspoilt panoramic views
 - “the quiet corner of North Bedfordshire” that is acknowledged in the articles conclusion
- The turbines would have a detrimental impact on the landscape
- Photographs of Upper Dean, Melchbourne, Yelden and Lower Dean are provided to demonstrate the misrepresentation
- The history of the settlements is emphasised
- The impact on local walks is highlighted. Reference is made to websites which contain walks within the area. These it is noted are published in partnership with “Enjoy England”. Reference is also made to the impact that the proposal would have on the Three Shires Way walk.

“Setting the Story Straight”- Dean and Shelton Parish

- The ES rides rough shod over the heritage assets of the Parish.
- The ES acknowledges there is no accepted methodology for assessing the impact on setting and that the claims in the ES are judgements not facts
- As owners our views are different
- Some churches are indeed small but it is precisely these small churches that set the scale of the landscape
- Throughout the assessment the ES plays down cultural and historic value
- 01- the ES contains an inaccurate assessment of the landscape character of the area. The assessment that Bedford BC did is correct.
- 02- Bedford BCs landscape strategy for the area is to conserve the open rural landscape and enhance the elements of the landscape that are declining.
- 03 – it is incorrect to claim that the area has relatively little historic interest. There is evidence of early settlement. Francis House, Upper Dean is the ancestral home of a prominent Bedfordshire family. Lower Dean is a key H E Bates village.
- 04- The medieval churches and Francis House are of considerable architectural interest and this is played down.
- 05- the greater part of the turbines would be visible. Hedgerow planting will do nothing to minimise impact.
- 06- the impact of blade movement is an issue
- 07- To dismiss other turbines because they are not in the same character area is preposterous.
- 08-the skylines and skylscapes of the local area are downplayed.
- 09 – the implication is that there are few visitors to the area. This is not correct. It is also incorrect to say that the area is not promoted.
- 10- the ES contains contradictory statements in relation to views and what effects the quality of listed buildings
- 11 – The distinction made between direct and indirect impacts in the ES is wrong. No such distinction is contained in PPS5. A setting is limited by only what an observer can see.
- 12- Listed buildings and Conservation Areas are to be considered in their setting. PPS5 includes a duty to promote a sense of place. It is a gentle and modest landscape and we should tread lightly. Even the applicant recognises that the villages are attractive. In relation to Conservation Areas there is a duty to consider scale, height massing and alignment. Dean and Shelton Churches are Grade I and the advice is that “ substantial harm to the setting of a Grade I listed building should be wholly exceptional, unless substantial public benefit outweighs that harm.” The public benefit is not substantial. Wind energy is expensive.

The document then goes through the claims made by the ES in relation to specific listed buildings and responds:

Noise – Initial Comments

1. Methodology - the method used by the applicant to determine noise levels has not been carried out to standard practice. It uses a method which predicts lower levels of noise than the standard method.

2. Cumulative effect of Noise Sources-It would seem the total of the maximum noise figures of both the turbines and the turbine/generator/AD plant is in some cases very close if not greater than the acceptable levels. The figures used are all predictions extrapolated from very limited empirical data. They all rely on mathematical models; these are likely to be three different models with different assumptions, tolerances and therefore accuracies. The base data from which the predictions are extrapolated are therefore crucial and must be obtained with great accuracy to avoid the propagation of small errors into gross ones by simple arithmetic extrapolation. The potential noise sources can have very different spectra. Some of that base data is in itself a collection of averages (from background surveys) and the compounding of many averages from some different and some same sites and with different collection methods stretched with model predictions is statistically more complex than just simple adding so-called maxima or worst cases. This makes the interpretation of the base data extremely important and confirms the importance of further work. The applicant needs to demonstrate by an approved methodology that these three noise source predictions can be overlaid in all circumstances and then that the noise limits are not infringed.

3. Frequency of noise testing - The adopted scoping opinion indicates that 'The background wind noise measurements must take place during at least two seasons where background noise may be at its lowest, with periods of not less than 14 days at each receptor site; your assessments should ideally take place over a full annual cycle,' The Opinion continues 'if this is not the case you should justify why you do not consider this to be necessary.' We find no mention of this in the application.

4. Sleep interruption/deprivation - Recent research has highlighted the importance of sleep deprivation and other health issues being caused by wind turbulence related effects. This can best be summarised by giving quotations from the works of recognised experts in this field.

- 'Noise induced sleep disturbance is well known to have adverse health effects and has been studied extensively although not with particular reference to wind farms.' (Dr Amanda Harry 2007)
- The wind turbulence gives rise to 'whooshing, swishing or thumping' sound which is described as particularly annoying'. 'there is no doubt of the occurrence of these noises and their audibility over long distances, up to 3-4 km in some reports' (Bowdler, 2008)
- Changes in sleep pattern led to a decline in school performance which recovered after exposure ceased. The report recommends a distance not less than 2km. (Pierpont report, 2009).
- The affect on persons living within about 2 miles from 'wind farms was such that all had similar complaints and health problems. ...The magnitude of the impact is far above anything I have seen before at such relatively low sound levels.'
'...the characteristics of the noise produced by wind turbines increases and alters at night. ...noise at night can be 15-18dB higher than during the day because of atmospheric changes (ref Fritz van den Berg) .
- Therefore when we are resting at night the noise from wind turbines can be at their loudest and most disturbing' (Dr Amanda Harry 2007)
- 'Sleep disturbance and impairment of the ability to sleep is not trivial....the resulting deprivation of sleep results in daytime fatigue and sleepiness, poor concentration and memory function. Accident risks increase. In the longer term, sleep deprivation is

linked to depression, weight gain, diabetes, high blood pressure and heart disease.'
Dr C Hanning 2009 based on Meerlo et al 2008, Harding and Feldman, 2008 and Hart et al 2008 for recent work on this subject.

The methodology of many aspects of the noise measurement and the extrapolation of those figures is queried. The frequency of collection of those figures does not conform to the Adopted Scoping Document. Finally, proposals to site turbines within a distance of 800m from inhabitants constitute a potential major health hazard affecting not only the sleep pattern of the inhabitants leading to further adverse health effects.

Preserve will want to respond in more detail when further reports become available. This is contained in the following reports:

Noise – Comments in relation to July Addendum to ES

The development is not designed to minimise noise impact contrary to PPS22

Impact of turbine proximity and linear arrays has not been assessed. Significant concerns arise in this case as there are effectively two linear arrays/rows in positions where wind will commonly flow down an alignment of several turbines.

There is a significant risk of Excess Amplitude Modulation which has not been adequately assessed.

Precise background noise monitoring locations were not agreed with the EHO; only general locations were agreed contrary to ETSU-R-97 (page 99). Those chosen are unsuitable.

The method of predicting turbine noise understates that true potential impact. The ES refers to the worst case levels but in fact states average levels. The ES accepts noise levels may be 2dB higher in reality but this still relates to average noise. A further uncertainty of 3dB may be added due to corrections in predicted levels allowed for in ISO9613.

Wind shear is inappropriately averaged and is then incorrectly used to adjust background noise levels. The method used to assess wind shear is not compliant with ETSU-R-97 and is not official Government policy.

The ES incorrectly states that the data shows correlation between wind speeds and background noise levels; this is patently not the case.

There is a lack of raw data and data analysis to validate claims in the ES. Analysis of the scatter graphs shows a particularly poor data set and identifies a need to undertake a more detailed analysis of what had led to such poor correlation. As presented no analysis can be made or informed judgement reached as to the true impact of the wind speed in this case.

The claim is made at paragraph 7.13 of the ES that the lower daytime limit is met “under all conditions at all residential locations”. This is patently has not been demonstrated. This is therefore a misleading statement in any event.

Preserve subsequently submitted a report prepared by a noise consultant. (dated 14/20 October 2010)

Noise- Review of Background Noise Monitoring Location by MAS

Summary:

This report concludes that the background noise monitoring locations chosen by the developer are not representative of the external amenity area. Consistent and substantial differences were found between monitoring locations within external amenity areas and those

exposed locations chosen by the developer. Derived background noise curves are expected to be lower as a result of this and turbine noise limits set unreasonably high.

Background Noise Monitoring Locations:

ETSU-R-97 requires the background noise surveys to be taken in the external area at the dwellings used by the residents for rest and relaxation.

Background noise surveys must truly reflect noise levels in areas used by residents, as these will be the areas where any turbine impact will be perceived. Turbine noise limits are set in relation to the derived background noise curves resulting from the background noise survey. If derived background noise levels are not representative, the limits set will be excessive and will allow some unreasonable noise before this becomes actionable. At some sites analysis already shows levels are close to or are expected to exceed ETSU-R-97 limits for significant periods. Any downward shift in the background noise levels changes the noise limits and predictions already leading to exceedances will be further exacerbated.

Background noise monitoring procedure:

The survey methodology is explained. The aim of the exercise was to compare the locations chosen for the background noise monitoring surveys by the developer with locations more representative of external amenity areas used by the properties.

Results – 5 Stanbrook Way:

The background noise survey was conducted from 7th -9th July 2010 Wednesday 14:00 – Friday 9:30. It is noted that on site prominent noise sources included bird noise, wind in trees and bushes, and at the far end of the garden some distant traffic/motor noise was audible. Photographs of monitoring locations are provided. No data was excluded from the analysis due to rainfall or other extraneous sources of noise.

Bar charts showing the variation in LA90 between the two locations are included in an Appendix.

Analysis shows that the background noise levels (LA90, 10min) in the external amenity area (garden) compared to the exposed location chosen by the developer was lower in total for 83% of the time. For 48% of periods measured, the difference was more than 2 dB and for 26% of the time there was a difference greater than 3dB.

Results – Silcombe House:

The background noise survey was conducted at this property from 9th-12th July 2010, Friday 11.10 to Monday 10.10. On site prominent noise sources included bird noise, wind in trees and bushes, motor noise from a nearby paddling pool pump and mechanical noise from the direction of a large farm outbuilding. Photographs of monitoring locations are provided. Some data was excluded due to jet washing of cars close to the garden noise meter and also for certain time periods effected by the paddling pool pump.

Bar charts showing the variation in LA90 between the two locations are included in an Appendix.

Analysis shows that the background noise levels (LA90, 10min) in the external amenity area (garden) compared to the exposed location chosen by the developer was lower in total for 90% of the time. For 79% of periods measured, the difference was more than 2 dB and for 68% of the time there was a difference greater than 3dB.

Results – Lodge Farm

The background noise survey was conducted from 1st-2nd September 2010, Wednesday 20.30 – Thursday 7:40. On site the main noise sources constituted occasional road traffic noise and distant farming machinery. Photographs of monitoring locations are provided. No data was excluded due to rainfall or other extraneous noise sources.

Bar charts showing the variation in LA90 between the two locations are included in an Appendix.

Analysis shows that the background noise levels (LA90, 10min) in the external amenity area (garden) compared to the exposed location chosen by the developer was lower in total for 48% of the time. For 31% of periods measured, the difference was more than 2 dB and for 21% of the time there was a difference greater than 3dB. The difference increases substantially if only the amenity period is considered.

The period of monitoring was short and windless. Further investigation of background noise levels is therefore to be sought.

Conclusion

It is clear from all 3 locations that the most suitable position for background noise level monitoring has not been chosen. The data is not representative and should not be relied upon to determine acceptability of the development or suitable noise limits.

It can be expected that derived background noise curves using the developer's data will regularly be at least 2dB higher than in more sheltered areas surrounding the dwellings. This may potentially increase over the full range of wind speeds and the data shows at times that the differential is much higher and in the order of 5-10dB(A) depending upon the location.

Although ETSU-R-97 suggests that measurements can be located at least 10m away from a dwelling façade it emphasises that background noise measurements should be taken in locations used most often for rest and relaxation and it includes areas within gardens such as patios that are used more often. The locations at Lodge farm, Silcombe House and 5 Stanbrook Way are not compliant with the requirements of ETSU-R-97.

It is acknowledged in the ES (paragraph 7.52 page 179) that in practice predicted turbine noise levels may be up to 2dB higher. Notwithstanding the 3dB error factor referenced in ISO9613 this will lead to exceedance of the limit at Silcombe House and potentially at 5 Stanbrook Way and Lodge Farm even using the applicant's methodology. That the results in the areas used for rest and relaxation lead to lower background noise levels means that unreasonable turbine noise limits will be set at the dwellings. The background noise surveys understate turbine impact on a number of residents. Accounting for prediction uncertainty, a more appropriate approach to wind shear assessment and representative background noise levels the certainty of breaches in turbine limits is substantially increased.

Noise - Preliminary Analysis of Developers Raw Background and Weather Data by MAS

Whilst raw wind speed data has been provided, the manipulation of that data to provide an average wind shear exponent at each integer wind speed has not been set out by the developer so it cannot be verified. What can however be compared is the actual 10m wind speed versus background noise level to see the impact of these apparent adjustments.

Wind speed range:

The wind direction and speed data shows the specific requirements of ETSU-R-97 for a wind speed range of 0-12m/s have not been met and there are few data points above 7m/s at

night. This prevents extrapolating a best fit curve over a reasonable range of 0-12 m/s as specifically required by ETSU-R-97. As a consequence correlation of the data is lost.

10m measured wind speed and HMP (Haynes Mackenzie Partnerships) Adjusted Average Wind Shear:

A graph is provided. This shows that the HMP approach allows more noise than ETSU-R-97.

The additional noise allowed by the ES method is actually far worse than indicated on this graph. This arises as wind shear is ignored when they assess turbine noise and effectively use a fixed low value wind shear exponent to give a "standardised" 10m wind speed. Thus they ignore the fact that higher turbine noise levels arise at lower wind speeds during periods of high wind shear. Applying ETSU-R-97 as written would not ignore this factor.

An further graph is provided as an example. A false picture is provided. The prediction used by HMP is only of average noise levels and not that arising under specific conditions. HMP ignore enhancement effects which ISO9613-2 recognises do arise and are supported by research. In other cases the levels are closer to the limits and any shift can change the potential exceedance risk.

Wind Shear Statistics:

The lack of explanation by HMP of their wind shear analysis is a concern.

It appears that HMP have averaged the wind shear effects over a period just in excess of 2 years and applied these averages as an adjustment to the wind speed data during the period of noise measurement in June 2009.

There is a substantial period of high and very high wind shear indicating that the site is at high risk of the likelihood of excess amplitude modulation.

It is sometimes argued that high wind shear typically occurs during periods of low wind speed and thus the risks of excess noise are reduced as the turbines are not operating at full noise output. This is not the case.

High Noise Prevalence During High Wind Shear:

Analysis of the data provided shows that for 76% of the time turbines are emitting maximum noise the wind speeds and the background noise near the ground will be noticeably affected by wind generated noise through trees and around buildings. The averaging HMP use hides the minority but substantial periods of low background noise which will be adversely affected.

Increased wind shear is a function of night time and evenings. Daytime periods when wind shear is low are excluded from an ETSU-R-97 assessment. It is however unclear how HMP have applied the wind shear data; whether they have related it to the periods considered by ETSU-R-97 or applied it through the working week daytime periods.

Using average data dilutes the effects experienced during minority periods. For example using the average data for 2006 and 2007 suggests that for about 73 days a year there will be maximum turbine noise. However it does not occur all day. Using a diversity of 50% of the time suggests 146 days will experience maximum noise. Of these for about 35 days there will be a high wind shear such that background noise levels are relatively low but turbine noise is near maximum. If more realistically a diversity of 25% is applied then the affected nights and evenings is doubled to 70 affected evenings/nights a year. A similar analysis for the 2008 data increases to 122 days affected.

In summary wind shear effects vary substantially from one period to another and to apply an average to the background noise levels in June 2009 when there is no knowledge of the

actual wind shear conditions during this period is wrong. The effect of wind shear on average turbine noise level can be considered using the data but the specific effect of average wind shear on the background noise level at a moment in time is wrong.

For a significant percentage of time, noise levels will be higher than indicated by the graphs in the ES because they only look at average wind shear effects. Also wind shear varies from year to year and season to season and cannot be relied upon to address wind shear effects during a noise survey in June 2009.

Background Noise Survey:

It is wrong to apply average wind shear based upon previous years. During June there are long days and lots of solar gain. This is likely to substantially increase wind shear.

The only method where these problems can be addressed is to use 10m measured wind data versus measured noise levels to generate the "prevailing background noise levels" in accordance with ETSU-R-97 and then factor the wind shear effects into the prediction of turbine noise level. This could be done using the available data.

The Government has repeatedly re-iterated their advise that ETSU-R-97 should be used.

Noise - Addendum to Preliminary Analysis of Developers Raw Background and Weather Data by MAS

A number of graphs are provided. These, it is argued, demonstrate that factoring wind shear into the background noise analysis where its effects are averaged provides no significant benefit at any location and dis-benefits at many.

The dis-benefits increase when wind shear is then factored into the turbine noise levels.

The report concludes that departure from ETSU-R-97 is not justified.

MAS Addendum to Review of Background Noise Monitoring Locations – Lodge Farm

This Addendum reviews monitoring information obtained on 14th and 15th January 2011 in relation to Lodge Farm Shelton.

No monitoring was undertaken at this location by the developer and a proxy location; a field 250 metres away was used. This is unlike the amenity area at Lodge Farm. It was an open exposed field adjacent to a wooded area with significant foliage. The meter had to be protected from Livestock. In contrast Lodge Farm has a shelter belt of trees and hedging which are set far enough back to avoid generating significant noise. The buildings at Lodge Farm are screened from local noise whilst the field location is not. The field location is exposed to different background noise levels.

The September 2010 measurements undertaken by MAS were during low wind. When this additional monitoring was carried out there was significant and variable wind from a south-westerly direction. The shelter belt was devoid of leaves reducing any foliage noise.

Noise measurements are not compared to wind speeds and the analysis is of comparative noise levels regardless of wind speed or direction.

Graphs are provided which show that:

- Evening – 74% of the time background noise levels were lower
- 39% of the evening time background noise levels were at least a decibel lower

- Night time – 58% of the time at night the levels were lower. 44% of the time the background noise was more than a decibel quieter. 23% of the time it was more than 2 dB quieter. Differences were up to 4.2 dB.
- The difference in decibel levels was greatest when windier. Due to the influence of foliage the difference could actually be greater.

It is concluded that the average background noise line will be lower by at least a decibel and that higher wind speeds this difference would be greater. However the full extent of the difference cannot be determined without a longitudinal study of wind speeds as required by ETSU.

The second graph shows ambient noise levels. For 75% of the time ambient noise levels were higher at the field location.

The effect will be to lower headroom/exceedances. The data that the applicant has provided is insufficient to set reliable limits within a planning consent.

MAS Response to Temple Report and Temple's Response to MAS's Reports

A summary is provided by MAS which considers the following:

Monitoring locations – Temple now accept that noise levels would be lower, however it would not appear that they have visited noise monitoring locations nor have they done their own work. MAS have been researching the subject and noise levels are lower at residential amenity areas which is where ETSU requires monitoring. Temple suggest a long term study. This indicates that the applicant's noise monitoring locations are not representative. At Lodge farm measurements were taken at a field 250 m away. The precise background noise monitoring locations were not agreed contrary to ETSU. It has been demonstrated therefore that none of the monitoring locations were representative.

Noise Level Headroom – Temple accept there would be limited headroom, without any adjustment for lower background noise levels. Low headroom has been grounds for refusal. In situations close to limits it has been accepted that there will be regular complaints.

The applicants 's consultant and temple acknowledge that levels could be 2dB higher and temple also acknowledge 3dB uncertainty using ISO9613-2. Also Temple acknowledge the potential for under prediction of noise levels. Even when this is ignored exceedances are predicted at Silcombe House and potentially at 5 Stanbrook way and Lodge Farm.

Can Conditions Address Worst Case Noise Impacts ?– the ES suggests it refers to worst case but it compares average. ETSU applies worst case. Temple suggest conditions can be used to control emissions. It is inappropriate to have average noise levels so close to the limit as there will be common exceedances. Windfarm conditions are complex and difficult to monitor and enforce and in practice they are not and that therefore there needs to be adequate headroom. It is recommended that legal advice be sought on the prospects of a legal challenge by Preserve in relation to any decision reliant on this element.

Correlation Analysis by Temple –the noise and windspeed data has been misaligned by an hour.

Excess Amplitude Modulation – independent analysis of the Salford data has revealed that the incidence of amplitude modulation is substantially higher. Statutory nuisance cannot be relied upon as a planning control.

More detailed comments elaborate on and repeat this. However it is also suggested that Temple, in particular, have made two errors:

- They have not realised that the noise measurements and wind data differ by an hour

- The daytime analysis shows night-time hours along the axis and appears to have the same 8 hour scale at night time.

Noise -Response to October Addendum to ES

The ES noise section does not follow Government Guidance and PPS22. No valid reasons are provided for this. Also the interpretation derived from this approach indicates noise limits are exceeded at residential locations.

- The method of predicting turbine noise understates levels. The ES refers to worst case levels but in fact states average levels. The ES accepts that noise levels may be 2 dB higher in reality but this still relates to average noise. A further uncertainty of 3 dB may be added due to corrections in predicted levels allowed for in ISO9613.
- Wind shear is inappropriately averaged and is then incorrectly used to adjust background noise levels. The method used to assess wind shear is not compliant with ETSU-R-97 and is not official Government Policy.
- The ES incorrectly states that the data shows correlation between wind speed and background noise level; this is not the case
- There is a lack of raw data and data analysis to validate claims in the ES. Analysis of the scatter graphs shows a particularly poor data set and identifies a need to undertake a more detailed analysis of what has led to such poor correlation. No analysis or informed judgement can be made.

Reference is made to the reports submitted previously by MAS.

Set Back Distances

Considerable money and time can be saved if Council's specify a set-back distance between turbines and residential properties.

PPS22 in paragraph 22 states:

“Renewable technologies may generate small increases in noise levels (whether from machinery such as aerodynamic noise from wind turbines, or from associated sources- for example traffic). Local planning authorities should ensure that renewable energy developments have been located and designed in such a way to minimise increases in ambient noise levels. Plans may include criteria that set out the minimum separation distance between different types of renewable energy projects and existing development....”

The House of Lords is currently discussing the “Wind Turbines (Minimum Distance from Residential Properties Bill) where a minimum distance from any residential dwelling for each turbine generator for the height proposed at Chelveston is 2 Km. Lincolnshire County Council is already putting in place a Planning Protocol for a 2 Km set back from large turbines and South Northamptonshire are actively considering a 2 KM limit.

The ex USAF housing is 750m from the nearest turbine (EN2). Lodge Farm, Manor Farm and Silcombe House are 5-600m from BB4 and BB6.

A plan is provided showing how having a 2 Km set back would effect the area.

Economic Benefits -Basic Data

In assessing the balance of environmental, economic and social contributions and their respective relevance basic factors such as potential capacity and wind speeds should be known. Recent national and regional figures are provided. The developer's figures to support their statement that the site is subject to high average annual wind speeds is awaited (5.6 in Design and Access Statement).

“The energy produced by a wind turbine depends on the strength of the wind to which it is exposed. The simplest indicator of the wind resource available at a given location is the annual mean wind speed at the site (usually given at the hub height of the turbine). A machine located on a site which has an annual mean wind speed of 6 m/s will typically produce only half as much energy as the same machine on a site where the annual wind speed is 8 m/s.” A Companion Guide to PPS 22 p164 refers.

Wind speeds are therefore an integral part of the benefit contribution.

Renewable Energy, formally British Wind Energy Association, constantly refer to a 30% capacity figure, ‘a level which a wind farm will typically generate as standard ‘ and extrapolate from this the amount of renewable energy produced. However, the recent performance data for England’s on shore wind energy developments was a mean capacity figure of 21.5%, exaggerating therefore the accrued benefits.

Onshore wind energy developments in Eastern England and the East Midlands, taken from Ofgem data, provided by the developers themselves, showed in the year 2007 a mean capacity factor of under 23%. This rose to 26% in the windy year of 2008 before falling back again to 21.5% in 2009. Burton Wold for example was 19%.

Ofgem have reported: “The subsidy generates returns for investors that are greatly in excess of the economic cost of generation it helps to finance. The achievements cost business and domestic consumers much more than other carbon abatement measures. Report Ref. 11/07, page 8.

We conclude therefore that sites with higher wind speeds will generate more electricity and at less cost to the domestic user.

Economic, Financial and Technical Issues

There is no sound basis for the idea that economic financial or technical issues can have no bearing upon assessment of wind energy developments.

PPS22 has 8 key principles:

- Key Principle 1 (i) – states “Renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic and social impacts can be addressed satisfactorily.” Preserve argue therefore that there is no bar on LPAs assessing that economic factors are not addressed satisfactorily. For example where there is clear evidence that capacity figures are below the 30% claimed as typical.
- Key Principle (ii) states that LPAs should recognize the full range of renewable energy sources, their differing characteristics, locational requirements and the potential for exploiting them subject to environmental safeguards. Preserve argues that this allows LPAs to assess whether mean wind speeds and capacity factors are realistic.
- Key Principle (iii) states that the wider environmental and economic benefits of all proposals are material considerations which must be given significant weight. Preserve argue that where wind speeds are low and capacity below the typical 30% this should be given significant weight. They also refer to the recognized supply chain difficulties.
- Key Principle (v) states that planning bodies should not make assumptions about the technical and commercial feasibility of renewable energy projects, and identify generalized locations for development, as technology can change. Preserve argue that this shows that it is appropriate for LPAs to oppose wind farm developments where wind speed is low, but should not make this a permanent exclusion.
- Key Principle (vi) – states that LPAs should seek to promote knowledge and a greater acceptance by the public of renewable energy developments that are

appropriately located. Preserve argue that this shows that where wind speeds are low or developers capacity unrealistic LPAs may consider that a development is not appropriately located.

- Key Principle (vii) – states that developments should demonstrate any environmental, economic and social benefits and how these impacts can be minimized through careful considerations of location, scale design and other measures. Preserve argue that when not all economic information has been provided by developers and opponents have provided it and it is well founded then this should be included as part of the demonstration required under this principle.

The PPS also requires LPAs to focus on key criteria. The above are clearly key together with landscape and visual effects.

PPS1 also provides advice. In paragraph 3 it provides a definition of sustainable development. It is questionable whether if wind speeds and capacity factors are low development could be regarded as sustainable. Without subsidy they would never be sustainable.

The fourth paragraph of PPS1 refers to four aims of sustainable development.

- Recognising the needs of everyone
- Effective protection of the environment
- The prudent use of natural resources
- Maintenance of high and stable levels of employment

Preserve argue that putting windfarms where wind speeds and capacity factors are low do not meet these. They also argue that the 5 aims set out in paragraph 5 are not met. Nor are the requirements for an efficient planning system, as set out in paragraph 7 met. Suggestions are then made for when public subsidy should be provided.

Preserve further argue that placing turbines in area of low wind speeds and capacity factors are incompatible with social inclusion, the essential requirements of integrating sustainable development into development plans, the prudent use of resources, the need to choose suitable locations, and other criteria.

The supplement to PPS1 on Planning and Climate Change places an emphasis on the need to meet the UKs emissions targets. Putting turbines in locations with low wind speeds and low capacity factors will not help meet these targets.

These are the two most relevant PPSs, although others are also of some relevance.

Renewable Energy Benefits -Response to October Addendum to ES

Three points need further scrutiny:

1. An output efficiency of 30% is challenged. The equivalent figure for Burton Wold was 19%. A comparative figure of 25% has been chosen as it is at the upper end of capacity for all onshore windfarms (20-25%). This would reduce the number of households that could be supplied from 12,580 to 10,483.
2. The alignment and proximity of the turbines to each other will reduce output efficiency by a further 22 %. Only 38,435 MWhrs per annum would be generated and only 8,180 households would be served.
3. Sustainability and Economic Viability – reference is made to the paper submitted earlier (summarised above).

Response to October Addendum – Air Quality

- Insufficient information has been submitted to address this. Refer to the paper submitted by Dr J Casey, submitted by Hargrave Conservation Society. (Preserve have more recently confirmed that Dr Casey does not represent the views of Preserve).

6.41 Hargrave Conservation Society - Object on a number of grounds, and have sent in a number of objections related to specific topics.

The Non-Technical Summary

Public participation in the compilation of ES's is a cornerstone of the ES process. The Non-Technical Summary is key in providing a summarised and easy to understand reference to the full ES. As such it should act as the principle document in providing lay members of the public with an understanding of the environmental impact of a proposal. The document is poorly produced, partial and fails to properly inform the public. The document is riddled with subjective one sided comments that are often misleading. The impact of the development on the local community is frequently played down. The wider impact on the surrounding countryside is virtually ignored. Both the nature and scale of contribution of the power that would be produced is presented in a biased and fractional way that fails to honestly inform the reader in a balanced and candid manner. There is a failure to cross reference the statement to the full ES, effectively preventing the layman from easily seeking further detail, evidence and clarity. The report is consistently dismissive of the local landscape in a slanted and disdainful fashion. It is requested that the applicant be told to withdraw the report.

Detailed comments are provided paragraph by paragraph on the Non-Technical Summary.

WU1 – The airfield is not flat and featureless

WU2 – Only a negligible proportion of the airfield remains

WU3- the applicant already has benefit of 2 years of readings from an anemometry mast but has refused to provide them

WU4 – it is untrue to say that the whole airfield was built on

WU5 – It is only the applicant's contention that the site is brownfield. Over 90% of the site is free from structures

WU6 – reference to "extensive consultations" is misleading. Details of these consultations should be made available to objectors.

WU7 – The exhibition referred to was held at very short notice and attracted only limited attendees. There are no records of attendees available for inspection. An alternative exhibition outside the hall showed that 98% of attendees objected to the proposal. Extensive public consultation has not taken place.

WU8 – Concerns have not been taken on board – Concerns/objections consistently raised include, economic viability, cost of public subsidies, environmental degradation, cumulative impact, shadow flicker, vibration, general health risks, hazards, nuisance, loss of amenity and additional traffic

WU9 – the turbine is the tallest that is currently available and to suggest that this has been influenced by public concern is untrue

WU10 – The changes do not deflect the visual impact concerns or address the other concerns

WU11 and 12 – Generation of power figures (59,000 MWh per annum; ability to supply 12,500 households) are disputed. A factor of 30.25% has been used. 25% would be the maximum attained at this site. It is also misleading to imply there will be a constant supply. It will be intermittent and variable and at periods of low demand.

WU13 – It is not sustainable. A minimal amount of electricity would be produced for the costs to the environment. It also relies on public subsidies £114 million over 25 years.

WU14 – current noise levels for the site are infinitesimal at night and low at other times.

WU15 – building the turbines on site would represent substantial manufacturing on an open

rural site near several villages. There is no noise assessment of this.

WU16 – it is not mentioned that the components will be large and will have to be transported by road

WU17 – There should be an analysis of the labour and skills required to support the claim that it will provide local employment

WU18 – The foundations for the turbines and access roads will require 4000 M3 of concrete which will require 675 lorry loads. Concrete is responsible for 7% of global carbon emissions and one tonne of concrete uses one tonne of carbon; amongst the highest emitter of CO2. The applicant should provide a full analysis of the amount of concrete and CO2 emissions relevant to its manufacture, supply and use.

WU19 – There are no details, workplan or timescales for the temporary site offices and on-site fabrication.

WU20 – Access to the site should be considered as part of the planning application. The access from the B645 is between 2 bends and partially hidden by trees. The Highway Authority should comment

WU21 – grazing will be impaired whilst the wind farm is being constructed.

WU22 – It is not established that alternative sites were considered. The applicant bought the site with the intention of using it for power generation.

WU23 – the proposal is opportunistic as the site came up for sale. The site is not brownfield.

WU24 – it is misleading to imply that the MOD promoted the use

WU25 – the statement that the site is “suitable” requires clarification. It is one of the lowest wind areas in the country.

WU26 – The site is not viable without subsidies and the CO2 savings are negligible

WU27 – Impossible to verify the statement made in relation to data from the existing masts as this has not been released. Burton Wold is less than 20% efficient

WU28 – the statement that the site is of a “scale large enough to accommodate such development” is subjective

WU29 – The presence of the former MOD housing is ignored

WU30 – Rushden and Higham Ferrers are less than 4 miles from the site with a population of 35,000

WU31- the size of the site cannot fundamentally minimise the visual impact

WU32 – the suggestion that the ES was influenced by the communities response is wrong. The view of the local community is that there should be no wind farm.

WU33 – the comment in relation to Climate Change is wholly subjective and aspirational

WU34 – The proposal is not sustainable. It will release carbon, the area has low wind speed and the turbines will not be efficient. It will be at great cost to the environment and is only being proposed due to the high Government subsidy and for no altruistic motive

WU35 – as per 34

WU36 – It is widely accepted that the Government targets are grossly ambitious and will not be met. Merely quoting these does not deal with the detailed planning issues

WU37 – as per 34 and 36

WU38 – The inefficiency of wind energy should be noted in relation to the contribution that this method of generation can make to targets

WU39 – The Renewables Obligation is now out of date. The Government has announced a nuclear programme which signifies a substantial change in policy.

WU40 – The requirements of the planning documents is not addressed

WU41 – Wind turbines are inefficient, and this is an area of low wind speed. The reliability of the output figures are questioned.

WU42 – Policy guidance also protects the countryside, the environment, community amenity and to eliminate health risks

WU43 – Reference is made again to the inefficiency of wind farms and it is suggested that they should be sited out at sea.

WU44 – The application does not deliver sustainability due to poor performance, landscape degradation, environmental damage, health risks, poor use of resources etc

WU45 – the applicant brushed over the material considerations of landscape, economy and wildlife

WU46 – The methodology of the landscape assessment is questioned. Reference is made to visual impact mapping, photomontages and the radius of visual impact assessment.

WU47 – the reference to the Countryside Agency’s identification of the area is suggested to be subjective and from a chosen source and does not provide a proper analysis of the site. The reference to masts is not relevant as it refers to the former MOD masts that were removed in 2003.

WU48 – local people consider the landscape pleasant. The sparsely populated and undeveloped nature is attractive and relatively unique in this region. The immediate locality is mainly devoid of man made structures and industrialisation.

WU49 – reference is made to the temporary removal of grazing animals. This contradicts an earlier statement. The definition of “low impact” is not given in the document. The construction works will clearly have a high impact.

WU50 – disagree that the proposal would have low landscape impact

WU51 – the proposed planting is cosmetic

WU52 – The 22 radio masts were miniscule in comparison. The radio masts were very slim and their guy ropes not visible from over 150m. The turbines are around x20 the masts. The blades are also turning which draws attention. The claim “ low to medium adverse impact” is subjective.

WU53 – there is no evidence based comment to justify that the site is suitable for turbines

WU54 – Disagree that the landscape impact will be acceptable; the undulating character of the landscape is unsuitable

WU55 – the boxer mast is over 55m shorter than the top of the arc of the turbines and over 15m lower than the hub. This mast is clearly visible and it has a lattice construction unlike the turbines which will be solid

WU56 – this will be the most major construction project in the area and the eye will be drawn to it.

WU57 – unless the onlooker is standing a few feet away existing vegetation will not frame views.

WU58 – the proposed planting will be ineffective. At the maximum proposed height of 8m it equates to 6.4% of the turbine heights

WU59 – the application should provide a detailed schedule of vehicle loadings and associated components. There is no detailed evidence of the claimed number of loads and no detail of the type of vehicle and trailer to be utilised.

WU60 – the applicant should provide detailed work and manning schedules together with anticipated daily traffic movements by type and reason.

WU61 – statement incapable of verification as above

WU62 – as above

WU63 – as above. It cannot be stated that HGV vehicles will not be required to access the site. Transport companies will use whatever vehicle they want even if it is a very small component

WU64 – the applicant should provide maximum component sizes so that the vehicle types required can be verified

WU65 – no information is provided about vibration. It is now accepted that this is the main danger to health.

WU66 – reference to the “urban environment” is fatuous. This is a particularly quiet rural area.

WU67 – no comment assigned to this number

WU68 – this area has no human noise and therefore the relative difference caused by the construction of these turbines is the relevant measure

WU69 – the statement that noise levels would be below the required limits is disputed. Also need to compare levels to existing. There is currently an exceptionally low level of noise

WU70 – the statement in relation to dust is questioned. There is no definitive measure of the amount of dust that could be created during construction. After purchase of the site rights of way were fenced off, due it was claimed to the presence of contamination. Information is required in relation to the types and amounts of contamination. It is suggested that clay is not prone to dust but this depends upon the friability of soil and its dryness

WU71 – There is no definitive information in relation to vehicle movements and therefore it is not possible to estimate how much pollution, including CO2 would be produced. The application does not deal with the deterioration in local air quality. Local communities wish to keep the purity of their air and not increase pollution

WU72 – Independent analysis of emissions is required. Hargrave lies directly in the path of the prevailing wind and the effects on this village require separate assessment. The application completely ignores the effects of the turbine operation on emissions from the AD plant. This is unacceptable and requires authoritative analysis.

WU73- the figure of 250,000 CO2 saving is disputed and depends upon a contested load factor of 30.25 %. The quantities of CO2 emitted in the manufacture, construction, operation and servicing of the turbines has been ignored.

WU74 – as above. Data is required to support this statement

WU75 – Information in relation to the hazards which has led to the exclusion of the public should be provided. If the public are required to be separated from the site there must be a high probability of continuing contamination, which may be aggravated and distributed further by the turbines and the vortex created in their wake.

WU76- the fences are high metal and ugly. Local people think that they were erected not to protect the public but to degrade the appearance of the site so as to assist the application. At the appeal hearing for the generator the Inspector proposed that these fences should be removed.

WU77- dispute the statement regarding views for the rights of way.

WU78 – all of the turbines will be fully visible from all of the rights of way and will overwhelm and degrade their use.

WU79- the suggestion that the proposed screening will mitigate the proposal is nonsensical

WU80- a further subjective comment. Horses will be startled presenting a safety hazard.

WU81- appears to suggest that steel columns and moving blades will enhance the appearance of an area of rural countryside. This demonstrates the lack of sensitivity.

WU82- the capacity figures are disputed. The BWEA is a trade organisation funded by the wind energy developers. There should be independent analysis. It is wrong to state that wind produced energy displaces other energy production. Large power stations cannot respond hour by hour. Carbon free nuclear power is ignored.

WU83- dispute the figures included in relation to energy consumption during manufacture and construction of turbines. Reference to subsidy again and intermittency of wind.

WU84 – in relation to cultural heritage it is not made clear what the desk top analysis was

WU85- the site has been free of the temporary military use for 40 years.

WU86- the applicant in one sentence dismisses all of the historically valuable buildings within an area of many miles.

WU87 – The fact that the proposal only has a lifespan of only 25 years does not mean that it can be ignored.

WU88 – the claim that the turbines will not impact on the conservation areas is not credible. The vegetation will have little effect.

WU89 –unclear what the applicant means by “low value”, habitats are improving and will continue to improve.

WU90 – to argue that the additional planting will improve ecological value appears to be a throw away comment

WU91- unclear why it is concluded that badgers will not be effected

WU92 – there is no evidence to suggest that the site would not support invertebrate species

WU93 – the statement that the proposal would only result in the permanent loss of a relatively small area of semi-improved landscape fails to address the overall degradation of the complete site and surrounding landscape.

WU94 – the amenity of the SSSIs referred to will be debased. The use of the term desk top study requires further clarification.

WU95 – there is no accredited source provided for the statement that the use of the site by “Golden Plovers” is of low importance.

WU96 –Bats and owls have been seen adjacent to the site. It is inconceivable that these species would not utilise the application site.

WU97 – the quietness and lack of development of this site encourages its use by birds and mammals, an effect that will be marginalised or destroyed by the proposal

WU98-what is of concern is the impairment of 50 acres of sky spread over 250 acres of land. Implausible that birds will not be effected. The applicant makes no attempt to define which area of the site is used by Golden Plovers. The character of the site will change to one that is alien and confusing to wildlife.

WU99 – It appears to be suggested that it is acceptable to kill wildlife provided they are not protected species. However the variety and overall numbers of birds using the site is important to its ecology. The concept that birds would fly between the turbines is without substance.

WU100 – inconceivable given the scale of the proposal that there would not be major disruption to wildlife. The use of the phrase “ minor consequence” gives the impression that the applicant has no care or concern for wildlife.

WU101 – this statement cannot be taken at face value as it is unsupported

WU102 – the applicant should make available proper survey results and predictions of water flow and containment of the site

WU103 – the applicant should provide details of anticipated water usage during manufacture, construction, and erection on site as well as that required to support the ongoing operation and maintenance of the turbines. This statement that the only requirement is water for domestic needs is inconsistent with the claim that site activities will lead to meaningful levels of local employment.

WU104 – The comment made about a watching brief in relation to contamination is inconsistent with the earlier comment that construction work would not lead to an increased risk or airborne contaminants.

WU105 – Unclear where the additional work will come from as the applicant already has a workshop at Wymington. The applicant has already stated that vehicle movements will be limited; a claim that is at odds with stimulation of the local economy.

WU106 – There is no evidence that the proposal would increase tourism. Evidence that they would have no detrimental impact on tourism should be provided.

WU107 – the contribution that this wind farm would make to energy generation is virtually immeasurable, after losses due to inefficiency and intermittence are taken into account

WU108 – the section on shadow flicker is dismissive. Evidence should be provided of the effect on vehicles using the B645.

WU109 – the statement that “no impact from shadow flicker is likely” is unrealistic and is in conflict by the next paragraph in the summary

WU110 – the applicant should supply exact schedules of times when shadow flicker is likely every hour throughout the year, where it falls on individual properties and the B645 and the measures to eliminate its effects when amenity and road safety are compromised.

WU111 – it is noted that the statement that no members of the public have been hurt by wind turbines during “normal operation”.

WU112 – turbines have been known to throw blades considerable distances during malfunction have caught alight and have thrown lumps of ice considerable distances

WU113 – the suggestion that drivers would not be distracted is subjective. The B645 is characterised by a number of bad bends, changing directions and slopes through Chelveston and for a mile past the site. As a single carriageway road any distraction caused will be in the context of a high accident risk on a stretch of road that is high risk. Vegetation will be of variable height and cannot be relied upon to mask the effect.

WU114 – the applicant should be able to provide evidence that the turbines and grazing can coexist.

WU115 – the farmer should be asked to provide his views regarding whether the proposal can be regarded as diversification

WU116 – a project plan is required to demonstrate how the proposal will impact on farming

WU117 – the applicant continually downplays the extent of the disturbance that would be caused by this huge project. The use of terms such as “negligible impact” must be supported by information and analysis.

WU118 – proposals for groundworks should be examined in some detail for their potential nuisance and hazard effects

WU119 – independent analysis is required to support the statement that there would be “little interference”.

WU120 – even on the applicant’s own admission there is clearly likely to be disruption to the viewing and therefore the amenity of a number of residents. The evidence should be properly analysed. The digital programme timings are by no means certain.

WU121 – any level of service deterioration is a blight. It is not right to say that an unacceptable effect would be one that significantly disrupts a level of service.

WU122 – there is now no certainty that the analogue service will be switched off or the timing of the switch to digital. An adequate assessment is required.

WU123 – the walkover survey was fairly superficial and a further archaeological survey is therefore required.

WU124 – most likely that archaeological remains still exist – the majority of the old airfield was completely free of structures

WU125 – the applicant should demonstrate that an archaeological expert would be present at all times during significant groundwork.

WU126 – is the statement “the potential for unknown archaeology assessed as low” robust?

WU127 – the statement that the development would make a significant contribution to meeting the energy requirements of the country is nonsensical (for reasons set out in earlier comments)

WU128 – the development would be huge and out of scale. The proposed planting would have virtually no effect on this impact. The planting could be carried out at anytime with little cost and does not require the turbines

WU129 –traffic movements would be significant and disruptive. To suggest that air quality would benefit from the presence of turbines around a processing plant is not plausible

WU130 – the risks to TV signals has not been adequately assessed. The amenity of up to 120 residents has been set aside by the applicant.

WU131 – as above

WU132 – the ecological impacts are dismissed

WU133 – the character of the site is dismissed. It is the applicant who will get the substantial benefit. The opinions and views of local residents should receive far more support.

WU134 – there is no evidence that the proposal would contribute to the local economy and it could have the opposite effect as it will degrade asset values in the surrounding countryside. The energy produced is negligible and intermittent

WU135 – CO2 saving would be minute (for the reasons in previous comments).

Landscape and Visual Impact - Initial letter submitted

1. The turbines would be 125 m high which is equivalent to a 35 plus storey building; the blades would be 90 m in diameter larger than a jumbo jet with the top of the sweep 28% higher than Big Ben and 12% higher than St Paul’s Cathedral.

2. These are turbines originally designed for offshore use, but supported by the subsidy system are now being proposed for inland areas of low wind resource. The result is a structure hugely out of scale with the local countryside. The area swept by the moving blades of each turbine is 1.57 acres (6362 sq m). This is 65% greater than the turbines at Burton Latimer. The visible area swept by the moving blades is 14.2 acres. The equivalent of movement covering a rectangle in the sky of 1 km long and 16 storeys high.

3. The segment of skyline that will be effected when seen full on at the widest point will be 57 acres. The density of the impairment will be increased by the AD plant.

4. These industrial towers will be amongst the largest moving structures ever built in UK. Each is a high as Northamptonshire’s tallest structure, the Express Lift Tower in Northamptonshire.

5. The nearest turbine is 1200 m from the nearest house in Chelveston; 1175 from Caldecott and 2125 m from Hargrave.

6. The villages of Chelveston, Caldecott and Yeldon would be overwhelmed by the visual impact. The turbines would be on higher ground at 90m, which would exaggerate their impact. Chelveston (height 60m) would look out on structures reaching up to 155m; Stanwick 154m and Stanwick Lakes up to 175 m.

7. An initial analysis of the CRE photomontages show them to be misleading; having used incorrect focal lengths and an unsatisfactory choice of locations. This results in photomontages that under-represent to a marked degree the size and scale of actual structures in the landscape.

8. Photomontages cannot reflect the movement of the blades which have an impact far greater than a static object. The area swept by the moving blades on the turbines totals 57,758 sq metres (14.2 acres). All of which is in the skyline in a 90 metres deep zone starting at 35 metres. (i.e. starting higher than many rural church spires). The photomontages do not show the increased visual impact that would be caused by the addition of the AD Plant reception building, tanks and chimney.

9. The limited hedgerow growth and trees surrounding the airfield will ensure that the turbines will dominate the skyline from all directions, including the busy B645 road which is situated only 540M from the nearest turbine. The landscaping proposals will have no significant effect for many years and then only from immediately adjacent to the onlooker.

10. The environmental impact of the application is out of proportion and excessive relative to the energy produced. Even on the developer's potentially exaggerated estimate of gross production the scheme's consumption of 250 acres of land on this elevated site represents a negligible output of only 0.65 MWh per acre. This is a wasteful use of landscape resource relative to the visual degradation that would be caused.

11. The gently undulating and shallow landscape of this area of Northamptonshire could not cope with the scale of these structures and their placement in this location would impair and degrade views from many miles around. The immediate and surrounding landscape would be transformed from a quiet rural location of mainly grassland, grazing animals and arable farming into one of a starkly industrialised and man-made appearance.

12. Draft photomontages drawn up on earlier sites three years ago to reflect the positions in the original CRE proposal together with altitude profiles demonstrate that:

- the visual impact on the villages of Yelden, Chelveston and Caldecott and ROWs criss-crossing the airfield and for up to 1km will be overwhelming.
- The villages of Newton Bromswold, Stanwick, Shelton, Hargrave together with large areas of Rushden and Raunds and countryside up to 5 km distant will have views dominated by the turbines.
- All the settlements and countryside in the 3 – 8 km range will see the turbines as at least prominent.

13. The character of the landscape in the area, particularly the small scale woodlands, the gently undulating countryside surrounding the proposed site, the protected Nene Valley Landscape, the Til Valley and the skylines for many miles distant will be seriously, adversely affected by the introduction of intrusive, standardised, vertical and moving industrial structures.

14. The amenity and enjoyment of the countryside for the estimated 120,000 plus residents within a 12-kilometer radius where the effect of the turbines is overwhelming, dominant or prominent will be materially and adversely affected.

15. CRE have arbitrarily contended that the area is "brownfield" and have sought to exaggerate the extent and visual effects of the previous airfield infrastructure, which was almost totally removed in 1977. The area has been used for grazing animals for many decades. CRE have degraded the appearance of the airfield by erecting high metal fencing along both sides of all rights of way and have sought to denigrate the area by repeating highly subjective comments that the site is "featureless". They have claimed that the MoD supports the use of the site for an airfield by extrapolating sale particulars when the site was purchased in 2005, but no positive support was given or would be relevant to this application.

With the obvious exception of the specific area now being turned over to the AD Plant the site is self-evidently Greenfield and the vast majority of the area was only ever used for small scale, scattered, low height structures such as shelters and drainage ponds.

16. The material adverse environmental impact, arising because of the scale and size and extent of the turbines, is not capable of being minimised or avoided.

17. The cumulative impact of the proposal, when considered with the Waste Processing buildings and chimney (sharing the same site), the Burton Latimer turbine cluster now being increased to 17 units (11.5 km), The Ringstead application for 5 turbines (5 km) and the Kimbolton application for 4 turbines (9.5 km) would lead to an unacceptable and fundamental change in the appearance of the local countryside to one of a man made, industrialised character. These sites are all on locally high ground and will be seen clearly from any one to the others.

18. The proposal is not in accordance with national, regional or local planning policies on renewable energy. The proposal conflicts with local planning policies which seek to protect the open countryside and skylines which contribute to the character of the local landscape.

Landscape and Visual Impact - Further comments submitted in July

We had originally intended to submit a detailed assessment but do not consider this necessary, but make the following comments:

The local landscape – the countryside is gently undulating and partly wooded, notable for its lack of any significant manmade structures, urban development and industrial sites. In this respect it is unusual in relation to surrounding areas. It is a quiet landscape, uncluttered and undisturbed by any intense human activity. The topography is pleasant but small in scale.

The proposed site is on locally high ground, significantly higher than surrounding villages. This would exaggerate the size of the turbines. It also means that the turbines would be dominant for 2-4 miles and intrusive for over 80% of landscape for 10 miles. There would be an overwhelming change to the landscape. An Altitude Map is provided.

The application makes much of the fact that the site was a WWII airbase. This was however a temporary facility needed at a time of war. Most of the remains of the airfield was cleared more than 30 years ago. The applicant has erected 2m high fences adjacent to ROW, presumably in an attempt to industrialise its appearance. The existing boxer mast is not used and could be taken down. The application repeatedly deprecates the landscape quality of the area in an attempt to devalue it.

The proposed structures – the turbines are the largest to be sited inland to capture more wind in this low average wind area. The capacity figures are disputed. The development would impair 51 acres of skyline and the moving rotor blades alone would take up over 14 acres. The Burton Wold turbines can be clearly seen creating a cumulative impact. There are other proposals for turbines.

The local landscape would be massively degraded for little useful electricity, limited CO2 saving and huge subsidies.

Foreign and Intrusive Nature – most people would suggest that modern wind turbines are an intrusive, unfamiliar and disturbing element to introduce to the landscape. Nothing exists that would mitigate their impact. They would stand alone, draw the eye and subjugate views of the countryside. Unlike electricity pylons turbines move which exaggerates their presence. They would be overpowering and prevailing.

There is nothing to mask the collision between such a development and the still unassuming uncluttered landscape.

Movement – the area around Chelveston is remarkable for its quietness and lack of organised work activity. Outside peak hours the B645 reverts to a quiet country road.

The turbines would transform the landscape. The disturbance would be dominant.

The proposed planting would have little effect

Landscape and Visual Impact - Comments on first LUC Report

The report should have dealt with the matter of visualisation in more detail. See our detailed comments in relation to photomontages and wire frame drawings. We also refer you to our suggested alternative viewpoints.

Do not understand the conclusions in 4.1 and 4.7. There is no supporting evidence or logic.

Our group has substantial up to date knowledge of the area. A fleeting visit to the site followed by the writing of a report is inadequate.

The 20 Km ZTV whilst inadequate shows that most of the turbines would be visible from 80% of the area.

Landscape and Visual Impact- Photomontages, viewpoints and cross section drawings

These are a selection of concerns, which require the ES to be revised:

- We have compared the ES information against advice and especially with the SNH report entitled '*Visual Representation of Windfarms - Good Practice Guidance - 29 March 2006*'.
- The camera viewpoints are inadequate, partial and fail to properly expose the visual impact of the turbines. Contrary to the SNH good practice guidance, the ES text implies that the viewpoints chosen do not correlate with the ZTV, possibly due to a lack of experience in handling the applied software or some other reason.
- The default height of 1.7M chosen for the photography does not accord with the SNH recommendations of 2.0M.
- Detail concerning the construction of the DTM (Digital Terrain Model) needs to be supplied. In particular, known discrepancies between the DTM and the actual landform should be noted in the ES. Does the level of accuracy fall within acceptable limits? It is insufficient to describe the software used as; '*an Auto CAD Model*'. Precise details of the software and methodologies used for all processes should be provided with the ES.
- No information is provided as to what proportion of the horizontal field of view is likely to be occupied by the visible part of the proposed turbine cluster (the 'horizontal array angle'). This is especially important given the scale of the proposed structures relative to the local topography.
- SNH good practice guidance requires that ZTV's should be provided at a 35km radius in addition to 20km for total blade tip heights of 125M
- The specific data relating to the production of the ZTV's is inadequate compared to SNH guidelines and should be expanded. Digital versions of the mapping should have been provided to councils in addition to the printed versions to enable a more detailed analysis of chosen zones to be undertaken.
- The SNH good practice guidance recommends that ZTV's should be shown imposed on a 1:50000 scale, whereas the ZTV's included with this ES are at a much larger scale of 1:150000. This provides insufficient detail especially at local level. In general, the ES information provided on ZTV's should accord with the *Table 5: Good Practice Summary* of the SNH guidance.
- The viewpoints chosen are considered as arbitrary and not representative of the more sensitive locations. It is suggested that the applicant is required to provide an

analysis of the viewpoints chosen against the SNH good practice report, 'Table 6: Uses and limitations of viewpoints' and 'Table 7: Views and viewers to be represented through choice of viewpoints'. Finally, we suggest that the information provided is finally compared with the SNH, 'Table 9: Good Practice Guidance Summary'.

- The methodology described in the ES does not appear to conform with SNH best practise guidance. Images taken in 2006 are now 4 years out of date and should be replaced with up to date pictures. A wide-angle lens has been used and then manipulated by substitution of a 50mm lens, rather than creating a panorama with the correct specification lens from the start. In the later photographs, the Olympus E410 DSLR was used with a zoom lens, claimed to be fixed at a focal length of 25mm and then effectively doubled to a 50mm focal length. Zoom lenses and wide angles should not be used and the process described does not conform to SNH standards. It is suggested that this has had the effect of diminishing the visual impact of the turbines in the landscape.
- The recommended viewing distances of the printed photo montages is not correlated with the photo montages and it is therefore impossible to replicate the "real" view except by accident.
- The montages understate the visual impact. A number of distracting features are set in the foreground of the photo montages, such as metal gates, deep tree shadows, field fencing, sections of rising roadway, a bridge balcony, bold road markings, trees, low white fence panels etc that detract from the turbine visualisations and are again contrary to SNH guidance. Most photographs are taken with a road or track in the foreground rather than from the opposite side of the road, which has a distinct diminishing effect on the turbine rendering in the distance.
- The montages do not reflect the visual impacts in varying atmospheric conditions. No information seems to be available regarding the position and brightness of the sun or the exact atmospheric conditions of those montages photographs that have been taken. Views from just above Chelveston of the Burton Latimer turbines illustrate that atmospheric conditions have an enormous effect upon the visual impact and perceived "closeness" of the turbines.
- In some cases, the photo montages do not appear to be accurately aligned with the terrain.
- The rendered turbines do not provide a realistic representation of the turbines in the landscape. In accordance with SNH best practice guidance details need to be given of the type and degree of clarification that has been undertaken in order to adequately clarify the effect of the turbines on the landscape. Details require to be provided.
- The ES supplies a number of cross-sections but, contrary to SNH good practise guidance, does not appear to provide Wirelines. To quote, SNH good practise guidelines, '*These are computer generated line drawings, based on a digital terrain model (DTM), that indicate the three-dimensional shape of the landscape in combination with additional elements. They are a valuable tool in the windfarm VIA process as they allow the assessor to compare the position and scale of the turbines within the wireline to the existing view of a landscape.*'
- The cross-section sight lines for the 15-year views are considered to be highly optimistic, taking no account of slow growing rates, failures or loss of screening in winter months. The data base of the wireframes does not appear to be given and no data is available regarding the DTM model used or process undertaken. Colour should have been used to highlight the turbines.
- The turbine positions in both wireframes and montages should be shown as in the prevailing south east wind, which is by far the most common in this area.
- As an adjunct to the above, we evaluate that the degrees of significance of the visual and landscape effects proposed in the ES are for the most part substantially understated and designed to moderate the effect of the turbines. Despite the long explanations given in the ES regarding this aspect, the ratings are considered subjective and inaccurate.

Whilst photomontages are incredibly important it is well known that even the most honest and meticulously produced montages tend to under represent the impact. In reality, constructed

turbines are likely to be far larger and more visible to the naked eye than they appear in any photomontages and the visual perception of the human eye is far more acute than a static photomontage or photographic image.

Recent studies establish that photomontages have their limitations and that even current best practice guidelines for the preparation of the visualisations is (unintentionally) misleading.

Varying atmospheric conditions have been ignored in the ES.

In addition, the movement of the wind turbines are not recorded by the photomontages (in the absence of video montages being provided) and yet this will be a highly visible element of the wind turbines. The movement of the turbines when seen in the field will also be detected by the peripheral vision of the human eye and therefore be far more noticeable in the field compared to a static photomontage. These movements will vary.

The human eye records more detail in the field than is reflected by current guidance and best practice advocates the use of a Single Lens Reflex (SLR) camera using a 35mm film and a 50mm focal length lens that is supposedly representative of what the human eye sees. However, studies have found that a more accurate impression of the perceived view is recorded using a 70 or 80mm focal length lens, even further removed from the wider angle lens used in the application photo montages.

The absence of wirelines is a major omission.

A list of thirty suggested camera viewpoints are provided and it is suggested that any new photographs taken should be free from distracting objects in the foregrounds and, when taken from roads, the camera should be positioned on the side nearest to the turbine locations. In addition a detailed procedure is provided for these replacement photomontages.

- A revised set of ZTV's should be produced that accord with the SNH recommendations.
- The list of camera viewpoints should be used, in addition to reproducing those already taken from the airfield Rights of Way. The exact camera position should be agreed to avoid distracting objects in the foreground.
- The developer should agree the process of producing the montages in detail together with identifying the exact equipment to be used along with the camera lenses and focal lengths.
- The photographer should then be accompanied to the proposed camera viewpoints to ensure that a clear view is achieved and that the camera is used as specified.
- An immediate digital record of the photograph data should be automatically recorded in sequence and reconciled with the photographs taken.
- The new set of photographs should be produced and processed in the laboratory under supervised conditions. Different atmospheric conditions should be represented.
- The software setup should be verified and the Digital terrain data, the turbine locations and their geometry loaded in to the software. Under supervision and once the information is loaded, a virtual "wireline" representation of the wind farm can be viewed and verified.
- A check should then be made to ensure that the photograph is aligned with the terrain. To do this the viewer's pitch angle and the rotational angle of the photograph must be adjusted until the wireline terrain matches the terrain in the photograph. It is important to note that the digital terrain data does not include vegetation, so the adjustments should be made to fit the terrain and not the hedge or tree tops.
- Finally, once the photograph is correctly aligned, the final stage must be to render the turbines. This takes the 3D wind turbine geometry and creates a "real world" representation on the photograph. At this stage the angle of the rotor, the location and strength of the sun and the turbine's colour is set to ensure a realistic representation. To do this, the rendered turbines are checked against photographs of existing

operational wind farms. This is an important process and should be conducted under strict supervision.

- A full set of wirelines should be produced from all chosen viewing points and submitted with the Application.

Landscape and Visual Impact - Objection to Council's use of LUC

- Refer to their previous comments regarding the report of LUC, and the conclusion of the report unsupported by evidence.
- Also refer to their criticism of the photomontages and their suggestion of alternative viewpoints
- Highlight that LUC were extensively commissioned by the previous Government, which was anxious to be seen to meeting the arbitrary targets under the Kyoto Protocol, and refused to recognise the consistently poor performance of inland turbines and played down the damaging effects on the rural landscape. Suggest therefore that LUC is predisposed to support wind energy developments.
- Visualisation is a primary issue of consideration. We are unhappy therefore by the use of an organisation that may be committed to following an ill conceived policy. There is now every indication that the coalition Government will be more sensitive. We ask that you question the lack of attention given to visualisation.

Landscape and Visual Impact – Response to October Addendum to ES

- The radii covered by the ZTVs are too small. The suggestion that this is because the area is different to Scotland is unjustifiable. If anything turbines would be more visible due to the lowland nature of the terrain. Other turbine proposals have used wider study areas.
- This would capture additional character areas which would need to be assessed.
- The new photomontages are not properly formulated and do not provide a realistic visualisation of the turbines
- Both the new photomontages and viewpoints submitted with the original ES and the Addendum have not been adequately reviewed for veracity and completeness and were not considered in any depth by LUC.
- The applicant's list of turbine clusters is incomplete. Molesworth, Brampton and Thurleigh are excluded.
- The visual impacts and effects relative to cumulative impact have not been analysed in sufficient depth. Concern is expressed in particular about the lack of consideration of proposed turbines.
- The Addendum persistently under-estimates the extent of the visual impact of the turbines in their landscape assessments, which are filled with subjective and unsupported opinions.
- The review of national and regional character areas is not evidence based and no realistic logic is provided for the assessments made
- The mitigating effects of vegetation and landscape topography are generally unspecific and are consistently exaggerated
- The extent of the impact of the sequential siting of turbines by walkers, riders and drivers is not adequately considered.
- The visual impact and disturbance to the eye of the spinning and yawing movement of the turbine rotors is ignored.
- No supporting rationale is provided for the choice of viewpoints
- The assessment ignores the degradation of local beauty and leisure spots, especially along the Nene between Higham Ferrers and Thrapston. These should receive separate assessment.

Landscape and Visual Impact - The Blimp/Balloon

Suggest that the boxer mast does not provide the best visual reference point as it is over 1000m from the centre of the proposed turbines and is less than 70 m compared to 125m. Hargrave Conservation Society and Preserve have offered to fly a blimp on the day of the proposed Member site visit.

Landscape and Visual Impact - Altitude Maps

Two altitude maps have been provided showing the height of the turbines in relation to surrounding land levels.

Landscape and Visual Impact – Response to LUCs second report.

The report consists mainly of opinion, subjective comment and conjecture. Very little of the content appears to be evidence based and there is no indication of any in depth knowledge of the local landscape. The reports are incomplete and not founded on evidence or rationale argument..

HCA are concerned that LUCs instruction was too limited and request sight of the instruction.

Some points that HCA raised previously have not been answered and we want to know whether LUC have seen our previous comments.

The advice should be set aside and new landscape consultants instructed.

Extent of Study Area- LUC provide no rationale or justification for their conclusion that a smaller study area is acceptable.

Cumulative Assessment - The cumulative impacts are a key factor in assessing the potential effects upon the local landscape character. The second LUC Report repeats some of the commentary contained in the earlier report, but makes no new observations.

- Point 2.5 of the report concedes that, “There are no specific cumulative viewpoints identified in the Addendum”
- point 2.6 of the report admits that, “if all proposed schemes were to come forward and be developed there would be relatively few locations where no turbines would be visible, although there is no detailed cumulative assessment of any of the proposed windfarms from the surrounding landscape”. This would appear to accept that the ES contains a substantial omission on this critical aspect of the application, but no further comment is made.
- Point 2.7 sets out in some detail the current SNH Guidance (Scottish National Heritage Cumulative Effect on Windfarms 2005). This states that, “pre-application proposals could be regarded as a material consideration, especially where the proposals are already in the public domain as a result of developer publicity or a formal request for a scoping opinion, and where they are well articulated in terms of location and scale”. This guidance however is then ignored.
- The conclusion in 2.10 is subjective and confusing. Further clarification should be required as to how this opinion was reached and why the cumulative impact relevant to proposed schemes is, “...not considered a significant issue”.

Choice of Viewpoints - LUC have provided no analysis as to the suitability or completeness of the chosen viewpoints. They do not appear to have applied any local knowledge of the area. The additional information provided for the viewpoints merely sets out certain of the physical

characteristics of the chosen locations and is not helpful or informative. HCS previously provided a list of alternative viewpoints.

Landscape Character Impact - LUC do not comment on the assessment provided of the impact on the additional character areas and this is inadequate.

Zones of Theoretical Visibility - HCS have previously set out their concerns and objections to the approach taken by the applicant to ZTV's. These remain unanswered. The conclusion of the LUC report (2.17) is meaningless and adds no new information.

Additional Viewpoints – Photo Montages - Neither of the LUC Reports investigate the accuracy or methodology of the photo montages. This is unacceptable.

- Point 2.19 of the LUC report points out the shortcomings in the photo montages supplied, but then, with no rationale, suggests that they are adequate and would not change the conclusions of the LVIA.
- Point 2.20 of the report suggests that, “... *as these additional viewpoints have been agreed with the council they are considered appropriate for this assessment*”. Independent comment should have been provided.
- The conclusion in 2.21 has no rationale.

Landscape Features within the Site – LUC's conclusion under 2.23 cannot be relied upon as its basis is not explained.

Rights of Way chapter – Landscape and Visual information

- *Point 2.24 is entirely set within the submission of CRE and provides no new information.*
- Point 2.25 concludes, “We consider the rights of way and views chosen are appropriate”. There is no validation for this statement and no evidence is referenced.
- Point 2.26 results in the same confusion with the unreferenced statement be taken at face value and does not require further support. , “The magnitude of change with the combined effect of these windfarms is not considered to result in a significant change that would affect the outcome of the original assessment.” Again, LUC seem to be asserting that the opinion of the writer should be taken at face value and does not require further support.
- The conclusion under 2.27 provides no reasoned support.

Conclusions - LUC conclusions do not provide any independent assessment of the applicant's contentions. As with the original report there is no independent review, analysis or assessment.

- The conclusion under 3.3 that, “the site as a whole is considered to be an appropriate location in landscape and visual terms for wind energy development of the proposed site and scale” appears to be based purely on opinion and is not supported by evidence or relevant reasoning. Furthermore, neither the scope nor purpose of these comments is clear. The report does not suggest what type of locations would not be

suitable for such a development and it is therefore impossible to assess the appropriateness of the proposed site relative to any other location.

Landscape and Visual Impact- ZTV received December 2010

This indicates that a number of local areas, including Hargrave, will have sight of 51 to 75 turbines and in some areas surrounding Irthlingborough, 76 to 100 turbines. This would amount to a substantial change in the character of the landscape and impairment to the enjoyment of the countryside by residents and visitors. Areas of the Nene Valley will have visibility of 26 to 50 turbines.

Sustainability

A detailed paper has been submitted which considers the sustainability of the proposal. The conclusions of this are:

1. Government targets for renewable energy are unrealistic and driven by political posturing and tokenism rather than a proper analysis of what can be achieved.
2. Wind power is inhibited by natural drawbacks, including variability, intermittency, and unpredictability.
3. the local wind resource in this part of Northamptonshire and Bedfordshire is a very low average and is prone to significant periods of becalming
4. The Chelveston site has not been chosen because it is an effective location for wind generated electricity. It was available at a 1/3 of the price of agricultural land.
5. Placing turbines at Chelveston will deny the placement of resources in more efficient locations for wind generation
6. Load factors taken from other turbine sites indicate that both the electricity output and carbon savings are exaggerated
7. Generation from wind cannot be effectively synchronised with demand and standby power is required in order to avoid electricity shortfalls, which is wasteful and expensive.
8. Wind power is not economically viable without support from substantial and ongoing subsidies
9. the present system of subsidies are hugely generous and turn an unreliable and wasteful source of power into one that is highly profitable for developers
10. subsidies paid by the electricity consumer drive private equity participation in wind projects that generate rapid and substantial profits primarily distributed to a few major equity holders.
11. the subsidy and planning systems do not provide a balanced scorecard of support for wind farm turbines against loss of landscape and amenity
12. Nuclear is a viable alternative to wind and has been chosen as a major power source by the UK Government
13. Wind power is more expensive than other sources of electricity generation
14. Wind power will never provide more than a small fraction of our power needs and then in a manner that is not coordinated with demand.

Sustainability - Load Capacity Figures

The latest load capacity data indicates that YTD April was 15.7 per cent for Burton Wold (computed from actual OFGEM data of RoC claims) and, YTD July, an estimated 14.9 for Bedford and the 64 Inland Turbine sites used in the analysis. The latter two being taken from MET office wind speed data and computed using a shear factor of 1.25x.

The claimed average 30 per cent load factor used in the CRE application continues to look seriously defective in the light of this latest data and CRE should be required to produce the anemometer readings from the Chelveston site in order that their claims for electricity production and CO2 savings can be adequately verified.

Greenfield Status of the Land

A detailed paper has been submitted which argues that the site is Greenfield for the following reasons:

- Site has never been designated as Brownfield and was not purchased as such
- ENC have previously confirmed that the site is Greenfield and the Inspector who conducted the appeal for the Bio fuel plant concluded that only the very limited areas of remaining infrastructure were Brownfield
- Reference is made to policy within Bedfordshire which accords development priority to Brownfield sites and it is suggested that it follows that the site being Greenfield precludes it from development.
- Excluded from Brownfield land is lands that “ can be reasonably considered as part of the natural surroundings.
- Under PPG3 the site would not be considered as qualifying for total development. Reference is made to a Parliamentary answer in relation to PPS3 which indicated that PPS3 did not change the status of airfields. PPS3 further distinguishes sites, which are only occupied by a small proportion of buildings in a similar manner.
- The site has been used for the grazing of cattle for over 3 decades. The vast majority of infrastructure was removed in 1977. There is clear evidence that the site has reverted to its naturalised state.
- The continuing evolution of the site goes on increasing its significance to wildlife conservation and biodiversity, further endorsing its rural use, physical and visual Greenfield character.

Comments in relation to revision to application and Addendum to Environmental Statement July 2010

1. Amendment – makes no material change and our earlier objections remain.
2. Highways – we remain of the view that the local roads are unsuitable to transport the turbines. The swept path analysis does not deal with the situation where the driver takes an incorrect line into a bend or roundabout. The work has not adequately dealt with the more minor roads such as B663 and B645 where the risk of an incident or accident is higher.
3. Ecology – Inadequate survey work has been carried out. Vantage Point surveys should be undertaken. We await the bat survey. Subjective statements are made in relation to bat populations. The presence of great crested newts has been confirmed and further observation is required. An independent ecological survey should be commissioned.
4. Noise – we do not accept the methodology and refer you to the draft report from MAS submitted by Preserve. The applicant now admits that the relevant charts accounting for wind shear calculations were omitted from the original ES. The applicant has not provided anemometry data of wind speeds, which are required to check the calculations now being used. There also does not appear to be any account taken of the specific topography of the local landscape.

The cumulative noise levels of the AD plant, the Generators and the turbines should be combined as the measure against properly established base levels. They are essentially a joint project. We believe the ETSU-R-97 guideline limits are unrepresentative of this locality, which is well known for its lack of commercial activity and relative lack of noise. It is a location that does not conform to an averaging approach such as that of ETSU-R-97 which is, in any case, much criticised.

5. Cultural Heritage – PS5 stressed the need to preserve the context of listed buildings and recognises the potential damaging influence of plant designed to generate energy. We refer in particular to policies HE3.3, HE3.4 and HE6.1. Refer to our paper on sustainability when considering the sustainability merits of the application relative to the guidance set out in PPS5.

We have already set out our objections in relation to visual impact. These impacts will be overwhelming and will significantly adjust the context in which these historic buildings will be seen.

The issue of cultural heritage is being considered in detail by Preserve and we intend to join with them.

6. Boxer mast – note that data has been provided regarding its size. The turbines would reach over 55m above the height of the mast. Also each turbine would have 45m moving blades, which could each face at a different angle to a given line of sight. The area taken up by the turbines would be 250 acres and the area swept by the blades 14.2m. The size and impact of this proposal are impossible to replicate and visitors to the site attempting to visualise the impact must be encouraged to keep in mind the overall extent of the application.
7. Construction of Towers – the assembly on site of the turbines would be a manufacturing process for which the buildings were not designed and for which no planning permission exists. A quiet rural location is totally unsuitable. No details have been submitted of the processes involved nor a noise assessment. It is not acceptable that the applicant can assume that such assembly work would be acceptable and should be struck out.
8. Landscape and Visual Impacts- It is noted that further work is to be carried out. We have previously suggested alternative viewpoints and raised issue with the photomontages and wire frame drawings. We have also criticised LUCs report. We would ask that our concerns are fully taken into account when requesting further work. We would like to see the request before it is finalised so that we can submit comments and suggestions.
9. Air Quality Effects – the submitted letter is inadequate and a more detailed assessment is required.

Comments in relation to the covering letter to the November Addendum to the ES

The applicants again demonstrate that they have little or no respect for the local countryside. The ZVI demonstrates that the proposal would have a wide impact on a varied area.

The letter attempts to make a case for the relative remoteness of the former airfield being a justification for the turbines, presumably because the Ashby Magna Appeal refers to this issue. Only the former airfield and its immediate environment can be regarded as remote.

The suggestion is then made that the landscape may be considered as being on “the grand scale” and so minimising the effect of turbines. This is not a landscape like the Lake District or Highlands or Yorkshire Moors where sweeping views, folding hills and peaks provides some level of scale. The local landscape is currently untouched by industrial structures. The turbines would dominate and be prominent.

There are cumulative concerns. An AD plant is to be constructed and there is already a windfarm at Burton Wold and proposals at Bicton, Ringstead, Hinwick and Molesworth.

The letter admits that the turbines would be on a local high point, but does not clarify that this is because the area has low wind speeds.

PPS22 is quoted selectively in an attempt to infer that consideration for impacts on the landscape and environment together with loss of amenity can be swept aside for a marginal and expensive scheme.

The applicant continues to attempt to portray the landscape as despoiled due to it being a former airfield.

Reference by LUC to the site being able to “accommodate” a windfarm is misinterpreted.

The Ashby Magna site is not comparable.

- It is at a higher level with higher wind speeds.
- The M1 clearly had an impact on this site
- On the other hand Chelveston is remarkable for its lack of human activity with an intimate character
- There were only 4 turbines not 9 as proposed for Chelveston
- The situation regarding cumulative impact is different

The letter is misleading in that it infers that the assessment of impact on cultural heritage is somehow reflective of the Wadlow Enquiry or that the Headland Archaeology Report should be taken as being definitive on the subject.

The Wadlow Appeal decision is questioned as the Inspector found that the applicant did not have to exhaust sequentially all other better locations.

It is implied that the (currently) planned 25 year life of the turbines should be a reason why consideration of the negative effects upon cultural heritage should be suspended. This is questioned.

We consider that the viewpoints chosen by the applicants are inadequate and do not accurately reflect the visual impact of the turbines. Reference is made to previous comments made in relation to the quality of the photomontages and the list of alternative viewpoints that were recommended.

The economic value of windfarms is questioned. Wind power is intermittent, variable and unpredictable. Reference is made to the load value.

The letter attempts to exert pressure by referring to national and county targets for renewable energy but fails to point out that they are arbitrary and were never established in a logical manner.

Change to Government Policy

The Communities minister Bob Neil has said that “ generally, planning should be a local matter, with planning decisions being made at local level wherever possible. We will ensure that national planning policies support local decision making.” National planning policy is also to be consolidated and simplified.

Response to Temple Report about cumulative impact of windfarm and Biomass Plant

This report consists mainly of the repeating of generic information and has no specific data relative to the Chelveston site and the proposed AD Plant. A detailed investigation of the likely emissions from the AD Plant coupled with a modelling of the dispersal from the wind turbines at various wind speeds from varying directions and atmospheric conditions, as they affect local communities within, say, a 5km radius would be the basis for a more definitive approach. It is therefore of little or no relevance to the unique conditions that will be produced at Chelveston if the wind turbines and the AD Plant are built. We therefore object

to the findings of the report which we consider are unspecific and not related to tested data for the Chelveston site.

Hargrave Conservation Society refer to a letter submitted by Dr Casey which states:

1. In the reports and ES emissions are described as “odours from storage vessels” or “combustion gases from chimneys”. I am concerned about emissions of droplets contained potentially pathogenic living bacteria released under pressure from the decomposing waste part of the process. This needs to be referred to and commented upon in any response regarding safety and air quality.
2. A significant proportion of the report and ES address the effects of the turbines when they are not rotating. Presumably this is when wind speeds and distribution of any emission will be minimal anyway and is irrelevant.
3. When the turbines are moving the report suggests that the rotating turbines will help dispersion by mixing any airborne particles in the air stream. An analogy is made to a boat propeller causing turbulence and mixing of water. This is not a good analogy because a propeller is powered. A powered turbine would act as a fan and help disperse airborne particles. However wind turbines extract energy and so reduce air flow causing dead pools and a reduction in particle dispersion. Much like a water mill wheel turns a fast stream into a quieter pool. The turbines will reduce dispersion and therefore concentrate any potentially pathogenic airborne particles.
4. Modelling alone is insufficient. It is only the first stage in testing the impact for example of new drugs on human health.
5. Are there other sites anywhere in the world where this combination of Bioreactor and turbines exists? If there are we need to see epidemiology data of any unusual occurrence of disease. If no such sites exist then Chelveston is setting a new precedent and great care should be taken.

6.42 Preserve and Hargrave Conservation Society Joint Objections :

Health and Safety – Initial Comments

Hargrave Conservation Society subsequently confirmed their support for initial comments made by Preserve.

The waste treatment plant produces bacteria and micro-organisms which can be of a very potent and damaging nature. The plant is designed to capture and destroy these in pressured anaerobic vessels, and although many of these are reduced by high temperatures, some such as BSE, B. cereus and Clostridium botulinum are not. The release of some of these pathogens, particularly air-borne micro-organisms produced in such a large plant is inevitable over time. This was acknowledged in the report prepared by the NCC Development Control recommending approval of the 48,000 tonnes pa waste treatment plant. It stated there in 9.161 that ‘*The AD process has potential to generate fugitive bio-aerosol emissions.*’. It went on to say that ‘*the remote site location resulted in these impacts being insignificant*’

The introduction of 9 large turbines on the site and particularly EN 3 which is adjacent to the waste treatment plant has added a further potential risk. The additional air turbulence may well affect the level and pattern of distribution of these harmful materials.

The ENC Environmental Manager noted in not supporting the application *the applicant has not fully evaluated odour related to delivery vehicles and the unloading of the storage tanks*

Whilst this refers to odour, it would seem to us to apply equally to potentially harmful air-borne materials of which odour bearing organisms are just a part.

The Environmental Agency and Highways Agency have raised relevant concerns in their comments of guidance on other wind farm applications. When commenting on the New Albion Wind Farm (Rushton and Pipewell) the Environment Agency expressed concerns that the turbulence caused by the windfarm could increase the spread odours from the adjacent waste disposal site. The Highways Agency note (Spatial Planning Advice Note SP 04/07) considers the wake or turbulence caused by turbines.

The potential health risks to inhabitants of neighbouring communities therefore requires a detailed risk assessment to be carried out because;-

- The siting of a 125m high turbine with a swept area of 1.5 acres effectively on top of a large (48,00tpa) waste treatment plant will give rise to an increase in air turbulence with the potential to affect the pattern of distribution of pathogens
- The previous risk assessment did not consider *airborne pathogens* such as bacteria, spores and viruses. (J Casey's submission re: PGale,2002)

Health and Safety – Further Joint Comments

Detailed comments have been provided in relation to this concern. The executive summary is included below.

“1. Dangers and hazards arising from the siting of wind turbines in close proximity to a major waste processing facility (AD Plant) and generators. This substantial complex includes a 900M3 above ground biogas storage tank, containing highly flammable methane, a further 10 (total capacity 26,300M3) above ground storage tanks (13-14M high) and a 2,975M2 Reception Building. Turbine EN3 is immediately adjacent to the plant and other turbines are in close proximity. Turbine malfunction would place the plant in danger from fire and falling debris that would endanger employees, other plant users, any members of the public in the vicinity and cause high environmental risk to the wider area.

1. Risks to walkers and horse riders using any of the adjacent RoW. The proposed separation distances do not reflect current views that debris and ice from turbines can be thrown hundreds of metres. The high metal chain link fencing lining both sides of the RoWs restricts the escape routes for walkers, riders and horses.
2. Accident risks and nuisance caused to users of the B645, which is a “red route” and less than 600M from the nearest turbine. The stretch from Chelveston village towards Hargrave reaches the same height as the turbine site. The twists and turns in this stretch would place drivers in full view of the turbine cluster and the known hazards caused by general distraction and loss of attention together with shadow flicker.
3. Dangers to the nearby public, road users and local communities caused by major turbine malfunction causing a number of different hazards as set out in the attached report.”

It is suggested that ENC should commission a thorough and independent analysis to study the risk profile of all the types of hazards set out in the objector's report.

- Accident and death data is provided dating back to the 1970s. 731 accidents are recorded with 61 fatal accidents. Fire it is noted is the second most common accident.

The following hazards are considered in detail:

Fire – it is advised that a fire at the hub or nacelle of a turbine is too high to be handled effectively by the fire brigade and that it would probably be left to burn itself out. Fire can, it is advised, scatter debris over a wide area.

Ice Throw – whilst this is most common there is little data as most turbines are located in remote areas and there is little evidence left when ice thaws. For 125m turbines the ice throw distance is 680 metres. Ice blocks vary in size and even moderate ones can penetrate buildings and vehicles. Whilst there are automatic systems designed to prevent ice throw these are unreliable as they detect imbalances in the blades when they rotate. Blades can be stationary however or ice can form evenly. The only reliable mitigation is to stop turbines and display warning signs but this would not be practicable.

Throw of Turbine Parts – any parts can fail. When blades or part blades are thrown they can travel further than ice blocks as they are aerodynamic. The type of failure is most common when blades are turning at their maximum speed. The risk of failure is recorded at 1 in 10,000 per turbine per year, however it is likely that this is an underestimate.

Tower Collapse – flaws and fatigue can cause this. The turbine tends to fall in an area not much larger than the height of the turbine but if blades are spinning they will scatter debris. There is an increased risk of failure as parts have to be transported by road and the diameter of the turbine has to be reduced for this. The standard safety zone should be between 137.5m to 175m, however this would not contain all blade fragments.

Brake -Failure/Catastrophic Failure – if the brakes fail it is not possible to control the speed of a turbine. In high winds this can allow the turbine to spin so fast that it will disintegrate. The prevention of other risks also relies on stopping the turbines.

Lightening Strikes – As turbines are higher than their surroundings and are connected to the grid they act as lightening conductors. When lightening strikes a blade it can explode and scatter fragments. When lightening strikes the nacelle it can cause a turbine fire and disable the control circuitry.

Turbulence – turbulence has been noted as a danger to non-motorised road users within 3 rotor diameters (270m). This applies equally to cyclists and horse riders on the RoWs.

Movement, Shadow, Flicker and Glinting – horses can be spooked by shadow and light flickers. This is not only a danger to horses and their riders but also to other users of the rights of ways.

An exclusion zone around turbines is recommended. A 500 metre exclusion zone has been imposed around any turbines in France. The report suggests that if planning permission is granted the Council could be considered to implicitly accept that the development is not a risk to the public. In this case however they would be setting aside general safety recommendations and so could be seen as having acted in a way which has introduced unacceptable risks to the public and so be liable in case of accident.

6.43 Mobile phone operators – this will have no effect on our networks

6.44 Arquiva (the communications infrastructure and media services company) does not appear to have any microwave radio links in the vicinity.

6.45 BT – will not cause interference

6.46 – Eon – No objection

7 EVALUATION

7.1 The application is considered to raise the following key issues:

- Background to Policy for Renewable Energy and Sustainable Development
- Landscape and Visual Effects (Natural Environment)
- Landscape and Visual Effects (Built Environment/Cultural Heritage)
- Archaeology
- Ecology
- Aviation and Radar
- Noise
- Shadow Flicker
- The impact on Health from Turbines in conjunction with the Biomass Plant
- Other safety issues
- Economic and Socio Economic Considerations
- Highways
- Leisure and Rights of Way
- Social and Economic Factors
- Electromagnetic Interference
- Hydrology

Before looking at these it is essential for Members to note that the guidance in relation to EIA assessment is that additional information should only be requested using Regulation 19, that are necessary to complete the ES and thus enable proper consideration of the likely environmental effects of the proposed development rather than for matters of clarification.

7.2 BACKGROUND TO POLICY FOR RENEWABLE ENERGY AND SUSTAINABLE DEVELOPMENT

This section considers the general policies which are relevant to windfarm development. Specific policies relevant to particular impacts are considered under each individual section of this report.

National Context

7.2.1 Tackling climate change is a key government priority for the planning system. PPS1 (Delivering Sustainable Development) sets out key principles for the planning system including the need to ensure that development plans contribute to global sustainability by addressing the causes and potential impacts of climate change through policies which reduce energy use, reduce emissions and promotion of renewable energy resources

7.2.2 The Supplement to PPS1 " Planning and Climate Change" sets out how planning should contribute to reducing emissions and stabilizing climate change. Paragraph 9 sets out key planning objectives for the preparation and delivery of spatial strategies to deliver sustainable development. Paragraph 10 advises on decision making principles about spatial strategies. Paragraph 20 of this supplement specifically advises planning authorities against requiring applicants for energy development to demonstrate either the overall need for renewable energy and its distribution, nor question the energy justification for why a proposal for such development must be sited in a particular location. Furthermore this paragraph also advises that the local approach to protecting landscape and townscape should be consistent with the advice in PPS22 "and does not preclude the supply of any type of renewable energy other than in the most exceptional of circumstances." Paragraph 40 of this supplement advises that applicants for proposals that will contribute to delivery of Key Planning Objectives set out in the PPS should expect expeditious and sympathetic handling of planning applications.

7.2.3 PPS 22 Specifically deals with the issue of renewable development. It is accompanied by a companion guide. PPS22 in paragraph 1 includes eight key principles to guide planning for renewable energy. These are:

(i) Renewable energy developments should be capable of being accommodated throughout England in locations where the technology is viable and environmental, economic and social impacts can be addressed satisfactorily.

(ii) Regional spatial strategies and local development documents should contain policies designed to promote and encourage rather than restrict development of renewable energy sources.

(iii) Planning Authorities should set out the criteria that will be applied in assessing applications for planning permission for renewable energy projects. Planning policies that rule out or place constraints on the development of all or specific types of renewable energy technologies should not be included in Regional Spatial Strategies or local development documents without sufficient reasoned justification.

(iv) The wider environmental and economic benefits of all proposals for renewable energy projects, whatever their scale, are material considerations that should be given significant weight in determining whether proposals should be granted planning permission.

(v) Regional planning bodies and local planning authorities should not make assumptions about the technical and commercial feasibility of renewable energy projects. (eg identifying generalised locations for development based upon mean wind speeds). Technological change can mean that sites currently excluded as locations for particular types of renewable energy development may in future be suitable.

(vi) Small- scale projects can provide a limited but valuable contribution to overall outputs of renewable energy and to meeting needs both locally and nationally. Planning Authorities should not therefore reject planning applications simply because the level of output is small.

(vii) Local planning authorities, regional stakeholders and Local Strategic Partnerships should foster community involvement in renewable energy projects and seek to promote knowledge and greater acceptance by the public. Developers should engage in active consultation and discussion with local communities at an early stage in the planning process and before any planning application is formally submitted.

(viii) Development proposals should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through the careful consideration of location, scale design and other measures.

7.2.4 Paragraphs 2-5 of PPS22 provide advice on regional targets for renewable energy

7.2.5 Further advice is given in paragraphs 9 - 10 on locational considerations.

International Designated Sites – These include the following which are relevant to the determination of this application; Special Protection Areas and RAMSAR sites. It is advised that planning permission should only be granted once an assessment has shown that the integrity of the site would not be adversely effected. Permission is only to be granted if a proposal would have an adverse impact if there is no alternative and there are imperative reasons of overriding public interest.

National Designation – These include the following which are relevant to the determination of this application; SSSIs, National Nature Reserves, Scheduled Monuments Conservation Areas, Listed buildings, Registered Historic Battlefields and Registered Parks and Gardens. Permission should only be granted where it can be demonstrated that the objectives of designation of the area will not be compromised by the development, and any significant adverse effects on the qualities for which the area has been designated are clearly outweighed by the environmental, social and economic benefits.

Green Belts – Not relevant for the consideration of this application

Buffer Zones –these are not to be created around designated sites. However the impact on such sites is a material consideration.

Local Designations –Local landscape and local nature conservation designations should not be used to refuse planning permission for renewable energy developments. Applications should be assessed against criteria based policies.

Other Locational Considerations –As most renewable energy resources can be developed where the resource exists and where economically viable a sequential approach should not be used (for example by giving priority to Brownfield development) However in preparing development plan documents some previously developed sites may offer the opportunity for renewable energy projects.

Paragraphs 20-21 of PPS22 recognise that wind turbine developments are likely to have the greatest visual and landscape effects. In assessing applications it should be recognised that the impact of turbines on the landscape will vary according to their size and number of turbines and the type of landscape involved, and that these impacts may be temporary if conditions are attached requiring decommissioning of turbines. The cumulative impact of wind generation projects is also to be considered at the planning application stage.

Paragraph 22 of PPS22 advises on the need to ensure developments are designed to minimise increase in ambient noise levels using the 1997 ETSU report for assessing noise from wind energy development.

Paragraph 25 of PPS22 advises the avoidance of policies that relate to impact of wind farm developments on airport operation, radar and aircraft. Nor should policies include relationship to separation distances between power lines, roads and railways as it is the responsibility of the developers to consult with relevant organisations such as MOD, CAA etc at an early stage to ensure the development addresses their separation requirements before submitting the application.

7.2.6 Section 8 of the Technical Annex in the Companion guide to PPS22 specifically deals with wind turbine development and provides guidance on relevant issues raised by such development.

The Development Plan

7.2.7 Councils are required to determine applications in accordance with the provisions of the development plan unless material considerations indicate otherwise. It is therefore necessary to consider the proposal against relevant policies in the development plan. In this case the development plan comprises the East Midlands Regional Plan (adopted in March 2009 – the current legal position on the status of Regional Strategies is summarised in paragraph 4.2 above) and policies in the North Northamptonshire Core Spatial Strategy and any relevant policies in the Local Plan which were saved by direction of the Secretary of State under para 1(3) of Schedule 8 of the Planning and Compulsory Purchase Act 2004

7.2.8 The East Midlands Regional Plan sets out strategic policies for the region. Policy 1 (Regional Core Objectives) sets out core objectives, which include reducing the causes of climate change (i) and reducing the impacts of climate change (j). These core objectives also address other issues including the promotion of economic prosperity, increasing biodiversity and protection and enhancement of the environment.

7.2.9 Policy 40 (Regional Priorities for Low Carbon Energy Generation) deals specifically with the low carbon energy generation. With respect to onshore wind energy production this policy requires Local Planning Authorities to establish criteria for such proposals with particular regard to :

- landscape and visual impact, informed by Local Landscape Character Assessments;
- effect on natural and cultural environment (including bio diversity...historic assets and their settings)
- effect on built environment (including noise)
- no. and size of turbines
- cumulative impact of wind projects including inter visibility
- contribution to renewable targets
- contribution to national and international environmental objectives on climate change

Appendix 5 contains indicative renewable energy targets.

7.2.10 Other policies within the RSS also apply to development in general and may be relevant to this application include; Policy 1 (Regional Core Objectives); Policy 2 (Promoting Better Design); Policy 3 (Distribution of new development) ; Policy 26 (Protecting the Region's Natural and Cultural Heritage); Policy 27 (Regional Priorities for the Historic Environment); Policy 29 (Priorities for Enhancing the Regions Biodiversity) ; Policy 31 (Priorities for the Management and Enhancement of the Region's Landscape); Policy 39 (Regional Priorities for Energy Reduction and Efficiency); Policy 40 (Regional Priorities for Low Carbon Energy Generation).

7.2.11 The North Northamptonshire Core Spatial Strategy sets out strategic policies for North

Northamptonshire. The relevant policies which apply to this proposal are Policy 13: General Sustainable Principles and Policy 14: Energy Efficiency and Sustainable Construction. Policy 13 provides a checklist of the key issues that need to be considered in delivering the quality of development. Policy 14 identifies minimum targets for the provision of energy, aimed at reducing carbon emissions in respect of new development.

7.2.12 It is clear from the policy framework that there is national, regional and more local support for the provision of renewable energy development as part of a national commitment to reducing carbon emissions and tackling the causes of climate change. However each application has to be assessed on its individual merits and involves as consideration of economic, environmental and social benefits and also environmental and social impacts.

7.2.13 The proposal will contribute to meeting the regional targets. It should be noted that regional targets are regarded as a minimal, furthermore PPS22 specifically advises that the 'fact a target has been reached should not be used in itself as a reason for refusing planning permission for further renewable energy projects.' (Para 3 PPS22).

7.2.14 Concerns regarding efficiency of onshore wind production is also not a valid reason of refusal. PPS22 makes it clear that planning authorities should not reject applications simply because the level of output is small. (para 1 (vi), PPS22). In addition PPS22 warns Local Authorities against the use of a sequential approach when considering renewable energy projects. Para 20 of the Supplement to PPS1 makes it clear that applicants will no longer be required to demonstrate the overall need for renewable energy or for their particular proposal to be sited in a particular location. It is therefore advised that this application must be determined on its individual merits

7.3 LANDSCAPE AND VISUAL EFFECTS (NATURAL ENVIRONMENT)

Introduction

7.3.1 Chapter 5 in the ES (as amended by the Addendums), together with supporting information in the appendices, deals with the impact that the proposal would have on the landscape. The assessment of the landscape and visual impact of wind farms is fairly technical and a suitably qualified consultant (LUC) was therefore appointed to provide expert advice to the Council.

7.3.2 Landscape Assessment involves the consideration of such matters as landscape character areas (both national and local), the sensitivity of receptors and the landscape to change, the magnitude of change that would be experienced and thus the significance of effects. Maps showing Zones of Visual Influence are used together with photographs, cross sections and photomontages.

7.3.2 The site lies within the following National Landscape Character area:

Yardley – Whittlewood Ridge

7.3.4 The site lies within the Chelveston and Caldecott Claylands and the Bedford application lies within the Risley Clay Farmland. These are identified as having the following characteristics:

Chelveston and Caldecott Claylands

- Predominance of arable cereals with fields of arable horticulture and occasional areas of improved pasture and grassland
- Pastoral fields are often found around the edge of settlements
- Whilst the arable fields are in general large and medium to large and pastoral fields are small to medium, fields closer to settlements are smaller in size resulting in a more intimate character
- Woodland cover is sparse, restricted to occasional broadleaved copses often geometric in shape and a single coniferous plantation near Hargrave
- An open character prevails across the largely flat and expansive landscape
- Scattered hedgerows provide the only other tree cover
- The majority of settlements have a linear character except for Chelveston and Ringstead
- Beyond the settlements lies a rural landscape of scattered farms and dwellings, located both at the end of long straight tracks running at right angles to the road and adjacent to roads.
- On the south east boundary a telecoms station with several transmitters is prominent on the skyline along with a radio mast at Hare Spinney.
- In this lowland landscape, church spires often provide important focal points, with notable examples at Raunds, Stanwick and Newton Bromswold.
- Recreational opportunities are limited and although there are a number of rights of way there are no national trails.

- Heritage features are limited, with only scattered fields of ridge and furrow.

Risley Clay Farmland

- A rural, peaceful area with a remote feel, dominated by arable farmland with some scattered woodlands and smaller horse paddocks near to settlements.
- Varied field pattern with small to medium fields around villages plus open areas of larger geometric fields bounded by hedgerows, fences and ditches.
- Scattered woods give variety to the distant views, and include some ancient woodlands of high biodiversity interest including Swineshead Wood SSSI, with a few isolated areas of neutral unimproved grassland retain national importance for their biodiversity notably Yelden Meadows.
- The historic parks at Melchbourne include ancient woodland, parkland trees and medieval earthworks.
- Disused World War II airfields are a feature of the higher plateaux. The absence of field boundaries emphasises the 'empty' character of these areas.
- Consistent network of footpaths, bridleways and green lanes with the Three Shires Way crossing the north west of the area.

The sensitivity of the landscape is identified by Bedford Borough Council as moderate to high. The overall landscape strategy is to conserve the open rural landscape with its scattered small scale settlements and farmsteads, historic earthworks, parks and ancient woodlands and grasslands of high biodiversity value. The importance of enhancing the elements of the landscape which are in declining condition or detract from the rural character, in particular the hedgerows and hedgerow and field trees, and the margins of the A6 is identified.

Any previous local designations that the area may have had are not relevant to the consideration of this application. Members will be aware that the site is neither in the Greenbelt nor an AONB as some objectors suggest.

Conclusions of the Environmental Statement in relation to Visual and Landscape Impact

7.3.5 To determine the visual and landscape impact of the proposal the ES considers the sensitivity of the landscape and various viewpoints. It then looks at the magnitude of the effect of the proposed development. By doing this it identifies overall significance. Appendix 1 includes a summary table (with information extracted from Appendix 5.2 the ES) which summarises the conclusions of the ES in relation to viewpoints. (Whilst the ES also includes a similar summary in respect of views from individual properties due to the conclusions reached in relation to the views from the nearest properties).

Sensitivity

7.3.6 The ES suggests that the sensitivity of the following character areas is:

Risley Clay Farmlands – Medium to Low Sensitivity
Chelveston and Caldecott Claylands – Medium to Low Sensitivity

7.3.7 The ES identifies the following sensitivity for viewpoints:

Distant views – 3 categories; low; medium-low; medium high. The views with low

sensitivity are from vehicles on roads. Those with medium-high sensitivity are from leisure routes or residential properties.

Local Views – 3 categories; medium-low; medium-high and high. Roads are assumed to have a medium-low sensitivity and footpaths and bridleways a medium-high sensitivity.

Magnitude of Effect

7.3.8 The ES identifies the following effects in paragraph 5.44:

High – the proposals form a dominant, significant and prominent part of the scene/view.

Moderate – the proposal forms an immediately apparent and recognisable new element within the overall scene.

Slight – the proposal forms one of several elements

Negligible – a small part of the proposal is barely discernible.

Whether the effect would be an improvement, neutral or adverse is also considered.

Significance

7.3.9 The ES then uses these 2 elements to identify significance and the likely effects of the proposal during construction, for the operational periods of 1 year and 15 years and for decommissioning. The following table, from the ES, is used to identify the effects which are considered to be significant.

	High sensitivity	Medium – high sensitivity	Medium – low sensitivity	Low sensitivity
High magnitude of change	Severe significance	High - Medium significance	Medium significance	Medium – Low significance
Moderate magnitude of change	High – medium significance	Medium significance	Medium – low significance	Low significance
Slight magnitude of change	Medium Significance	Medium – low significance	Low significance	Barely perceivable
Negligible magnitude of change	Low significance	Barely perceivable	Barely perceivable	Barely perceivable

Impact during Construction

7.3.10 The ES identifies that the main impact during construction would be from the erection of cranes and the build up of turbines. It identifies the following impacts:

- Long distance views – there would be a slight or negligible magnitude of effect.
- local views – the magnitude of effect would be *Moderate* as the construction works would form an immediately apparent and recognisable new element. However the impact on the view represented by VVM5 (west of Hargrave, Kimbolton Road) would be *High*. Views from the footpaths close to the site boundaries would also have a *High* magnitude of change. However when sensitivity is taken into account, all the

representative viewpoints are considered to be of *Medium* or *Medium-Low Adverse Significance* and the footpaths close to the site boundaries have a *Medium-High Adverse Significance*.

- Residential views – For the majority of residential views the magnitude of effect is *Moderate* (for some *Negligible* or *Slight*). The greatest magnitude of effect would be for R1 (Manor Farm Yelden). Most receptors would experience *Medium or Medium-Low Adverse Significance*. However viewpoints R4 and R5 (USAF/MOD properties and Lodge Farm) would experience *High-Medium Adverse Significance* and R1 (Manor Farm Yelden) *Severe Adverse Significance*.

Impact at start of Operational Phase (year 1)

7.3.11 The ES identifies the following impacts:

- Landscape features within the site – there would be very little change to the landscape features within the site. There are few features within the site and the landscape is mostly level.
- Direct Effects on Landscape Character Types – The Riseley Clay Farmland and Chelveston and Caldecott Claylands are considered to have *Medium-Low Sensitivity*. Paragraph 5.179 of the ES notes that:

“ these LCAs are defined as being “large scale, intensively farmed, arable landscapes with significant hedge removal. This combined with the gently undulating landform that levels out to a plateau area on higher ground makes these landscapes relatively simple, large scale landscapes, that have been heavily influenced by modern farming and human activity. This correspondingly relates more appropriately to the simple large-scale character of wind turbines. Therefore these Landscape Character Areas are generally considered to be more suited than others in the ability to accommodate the proposed development”

The magnitude of effect would be *Moderate* resulting in a *Medium-Low Adverse Significance*.

Whilst there might be instances when the turbines would be seen in the same visual context as existing and proposed turbines these are all outside the LCAs mentioned above and any effect would be indirect.

- Indirect Effects on Landscape Character – The ES notes for other landscape character areas the proposals would generally form a localised change to the skyline of views and that the impact is variable depending upon the character of each area and the distance from the site.
- Effect on Distant Views (further than 2.5 km) – Appendix 5.2 of the ES provides full details of the likely effects. The ES states that:

“ Due to the elevation of the site and the landform within the site, the bases of the turbines would not be visible from a distance.”

For all distant viewpoints there would be a *Slight* or *Negligible* magnitude of change producing a *Barely Perceivable Significance* for most distant viewpoints or *Low Adverse Significance* for VVM3 (footbridge over A6, Rushden) and Photographs E and M (road into Lower Dean and Footbridge over A6, Rushden). The impact of the view represented by Photograph D (Three Shires Way, west of Lower Dean) would be *Medium-Low Adverse Significance*.

- Effect on Local Views - Appendix 5.2 of the ES provides full details of the likely effects.

The ES states that:

“ Due to the elevation of the site and boundary vegetation neither the actual land of the site nor the base of the turbines would be visible from all of the local views represented by the photographs and VVMs, except for photograph A, a public right of way....”

There would be a *Moderate* magnitude of change from most of the viewpoints and a *High* magnitude of change for Photographs P (Footpath MM18 175m west of site boundary), Q (Bridleway MM17 225m west of site boundary), R (Footpath FPS4 400m north of site boundary adjacent Kimbolton Road), and T (Footpath FPY17, 150m east of site boundary and VVM5 (West of Hargrave Kimbolton Road). It further suggests that when sensitivity is taken into account all of representative viewpoints are of *Medium* or *Medium-Low Adverse Significance*, although the footpaths close to the site boundaries would have a *Medium-High Adverse Significance* (photographs P, Q, R and T)

- Effect on Residential Views – Appendix 5.4 of the ES provides full details and considers all residential properties within 2km of the nearest turbine. The ES suggests that the magnitude of effect would be *Moderate* for all receptors except R1 (Manor Farm, Yelden) where there would be a *High* magnitude of change. It then suggests that when sensitivity is taken into account all of the residential receptors are of *Medium Adverse Significance* or less except for R4 (USAF/MOD properties) and R5(Lodge Farm, Shelton) which would be of *High-Medium Adverse Significance* and R1 (Manor Farm, Yelden) which would be of *Severe Adverse Significance*.
- Zones of Theoretical Visibility – Figure 5.60 in ES. Illustrates the worst case scenario for blade tips and shows that within approximately 2.5 km of the site the tips of the blades of all of the turbines are likely to be visible.
- Cumulative Effect on Views – Full details are included in Appendix 5.2 and 5.4 of the ES. From most viewpoints either none of the other turbines or the turbines would be at such a distance there would be no change of effect, Except:
 - (I)VVM5 (west of Hargrave, Kimbolton Road) – the proposal would have a High magnitude of effect and the significance would be Medium Adverse, so the cumulative effect of Burton Wold would not increase the magnitude of the effect.
 - (II)VVM 10 (Three Shires Way, Yelden) – The combined effect of the Burton Wold Extension, Ringstead Grange and Bicton would increase the cumulative impact to be of *High* magnitude of change and *High-Medium adverse significance*.
 - (ii) VVM12 (Between Irthlingborough and Little Addington)- the combined effect of proposed turbines at Bicton and Ringstead Grange would increase the magnitude of effect to *Moderate* and the significance to *Low* adverse.
 - (iv)VVM13 (A6 south of Rushden) – there would be glimpses of the proposed turbines at Ringstead Grange and Bicton, increasing the magnitude of effect to *Slight* but the significance would remain unchanged.
- Cumulative Zone of Theoretical Visibility - Figure 5.61A in the ES illustrates cumulative zones of theoretical visual influence with the Burton Wold Windfarm. From an elevated area to the north west of the site it will be possible to see most of the turbines from the application site and Burton Wold. Figure 5.62A shows ZTVs for other proposed windfarms. Views will be possible from ridge lines but not from many of the river valleys.

Impact during Operational Phase (Year 15)

7.3.12 The ES notes that the following mitigation has been included in the proposal.

- Primary measures – the size of the turbines has been reduced to 125m; the colour has

been changed to grey; the turbines have been re-located from the southern corner of the site to protect the setting of the village of Yelden; turbines have been excluded from any area within 50m of a footpath and 200m from a bridleway and the number of turbines has been reduced from 17 to 9.

- Secondary measures – planting and hedgerow improvements as part of the biomass proposal.

Appendix 5.2 of the ES considers the impacts on viewpoints. It suggests that the hedgerow planting along the southern boundary would have a significant effect on the view represented by Photograph A (southern access road at junction with road). It is also noted that it would improve the impact from viewpoints at footpaths and bridleways close to the site boundaries – Photographs P (footpath MM18, 175m west of site), Q (bridleway MM17 225m to west of site), R (footpath FPS4 400m to north of site), T (footpath FPY17, 150m east of site) and VVMs 6 (south of Lower Dean) and 8 (Three Shires Way, Yelden). Significance would change from *High-Medium Adverse* to *Medium Adverse* for Photograph locations P, Q, R and T and from *Medium Adverse* to *Medium-Low Adverse* for VVM8 and from *Slight* to *Negligible* change for VVM6 and with no change in significance as *Barely Perceivable*. It further suggests that there will be no change in significance for other view points.

Appendix 5.4 considers the impacts on views from residential properties. It is suggested that the planting will have grown enough in 15 years to screen views from R1 (Manor Farm, Yelden), R4 (USAF/MOD properties) R5 (Lodge Farm, Shelton) and R6 (The Lodge, Shelton). This it is suggested would result in a change of significance from *Severe Adverse* to *Medium Neutral* for R1(Manor Farm, Yelden), from *High-Medium adverse* to *Medium Beneficial* for R4 (USAF/MOD properties) and R5 (Lodge farm, Shelton) and from *Medium adverse* to *Low adverse* for R6 (The Lodge, Shelton).

Decommissioning Period

7.3.13 The ES notes that the effects would be similar to those during the construction period and would not be significant.

Initial Assessment of the ES by the Council's Landscape Consultant (LUC)

7.3.14 The Council's consultant (LUC) initially carried out a desk based assessment of the Landscape and Visual Assessment (LVIA) in the ES and then made a site visit. The consultant has made the following observations.

Desk Review

7.3.15 It would have been helpful if the review of relevant policies in relation to the landscape had been included within this part of the ES. (For Members information however they are included elsewhere).

Method Statement

7.3.16 The LVIA indicates that it is based upon the following best practice (the consultant (LUC) did not dispute that this was the right approach):

- Guidelines for Landscape and Visual Impact Assessment 2nd Edition (Landscape Institute and Institute of Environmental Management and Assessment 2002)
- Landscape Character Assessment Guidance for England and Scotland (Scottish

Natural Heritage and Countryside Agency, 2002).

- Visual Representation of Windfarms: Good Practice Guidance (Horner + Maclennan and Envision. For Scottish Natural Heritage 2006)
- Visual Assessment of Windfarms: best practice (University of Newcastle for Scottish Natural Heritage 2002)
- Cumulative Effect of Windfarms, Volume 2 (Scottish National Heritage 2005)

7.3.17 The Council's consultant (LUC) however is critical of a number of aspects of the method statement:

- The definition for landscape and visual are placed together and they should have been separate.
- The benefit of including a separate analysis of the historical landscape is unclear
- The definition of visual/receptor sensitivity is confusing as it uses distance criteria for determining sensitivity
- The method in relation to significance is confusing as it combines landscape and visual judgements, while the criteria identified only relate to visual effects in relation to identified viewpoints.
- No clear information is provided regarding why the selected viewpoints were chosen
- Best practice recommends a study area of 35 Km radius for turbines between 101-130 m tall. For most elements of the LVIA the study area that has been used is only 20Km, and there are aspects within this 20km area that have not adequately been considered.
- It would have been useful if the Zone of Theoretical Visibility had been included up front in the LVIA. It would also have been useful for there to have been a ZTV to hub height.
- The review of National Character Areas only includes a review of NCA91 Yardley-Whittlewood Ridge and does not refer to NCA 88 Bedfordshire and Cambridgeshire Claylands and NCA 89 Northamptonshire Vales.

Baseline Conditions

7.3.18 The best practice guidance requires that the ES should describe the current condition of those aspects of the environment that are likely to be significantly affected.

7.3.19 The Council's Consultant (LUC) comments that:

- There is a lot of confusing information in this section, which means that it is difficult to draw out key information.
- That the long drawn out nature of this information makes it very difficult to relate directly to the effects assessment which follows
- It is also difficult to understand how a judgement of sensitivity has been assigned to the relevant factors which constitute the baseline
- The LVIA judges the overall sensitivity of the landscape to change by making reference to a report "Placing Renewables in the East of England" , which is insufficient to make a judgement about the specific sensitivity of the landscape features.
- A review of National Character Areas 88 and 89 should also have been undertaken
- There is inadequate consideration of the local character areas. Whilst 18 are identified and mapped within the 20 Km radius (although the numbering does not correspond), only 6 are considered and this is a major omission.
- Where they are considered the sensitivity ratings in instances have not been carried through to the assessment of effects and this inconsistency makes it difficult to have confidence in the LVIA as a whole

- Setting aside comments related to why the viewpoints were selected, the choice of selected viewpoints is considered appropriate for views within close proximity of the site and representative of important receptors, however more distant view points should also have been included.

Sensitivity

7.3.20 The Council's Consultant(LUC) comments that:

- The approach to assessing landscape and receptor sensitivity should be clearly separated
- In considering landscape character sensitivity reference should also be made to existing studies for example the study of wind turbine development in Huntingdonshire
- Whilst the LVIA does later provide greater clarity on the factors considered in the determination of landscape sensitivity it is unclear how these have been applied to the landscape character areas
- The sensitivity of landscape character areas may have been underestimated. (however it is considered unlikely that this changes the overall significance of effect)
- The following character areas should be considered:
 1. Irthlingborough Slopes
 2. Burton Wold
- Determining sensitivity of a visual receptor on a distance based method is better suited to magnitude of effect and not necessarily sensitivity
- The site visit indicated that the sensitivity of some viewpoints has been underestimated

Magnitude of Change

7.3.21 The Council's Consultant (LUC) does not make any detailed criticism of this section of the ES.

Significance

7.3.22 The Council's Consultant (LUC) comments that:

- The LVIA sets out that the significance of effects is determined by considering the sensitivity of the resource, the magnitude of change arising from the proposed development and the use of professional judgement which is in accordance with guidance
- In terms of the landscape features within the site it is noted that whilst the LVIA concludes that there would be very little physical change, it does not include any assessment of sensitivity, change or significance of effect.
- In relation to landscape character, the higher rating of significance for Higham Ferrers which forms the valley slopes of the Nene Valley compared to the Clay Farmland within which the site is located is questioned.
- The effect from viewpoints may have been underestimated. For example VVM7 shows turbines form a dominant skyline feature rising above Yelden.

Assessment of Effects Summary

7.3.23 The Council's Consultant (LUC) comments that:

- The assessment of effects correctly considers the 3 stages of construction, operation and decommissioning. However the information is presented in a complex way with a lengthy narrative which makes it difficult to identify key issues and cross compare

- It also considers the main aspects, the site, landscape character and wider landscape context but again it is confused
- Cumulative effects are mixed up with the operation effects.

Cumulative Effects

7.3.24 The Council's Consultant (LUC) comments that the LVIA:

- A separate Cumulative Landscape and Visual Assessment is required. (CLVIA). In line with best practice should have been 60km radius used to identify operational and planned wind farms.

Presentation and Communication of Information

7.3.25 The Council's Consultant (LUC) comments that the LVIA:

- Includes non essential information and is confused and does not follow a logical format
- Presentation of viewpoints are not as clear as they could be
- There is a lack of cross referencing between the text and appendices
- Numbering also differs between the text and cross references (eg Figure 5.2)

The LVIA omits:

- Certain planning policies
- A defined study area
- Relevant NCAS (NCA 88 and 89)
- An assessment of all the LCAs within the study area
- Reasoning and justification for viewpoint selection
- Up to date photographs for the assessment of viewpoints
- A full cumulative impact assessment

Viewpoints:

- The LVIA has used both a 300mm viewing distance (A3 report) which is the minimum required by best practice guidance and also the recommended "comfortable" viewing distance of 400-500 mm (A2 viewing boards)
- Two of the viewpoints do not show the "existing situation" the "historical masts" or the "proposed turbines" view in addition to the existing (VM9 and VM11). Also VM10 has been omitted from the viewpoints in the figures.

Site Visit

7.3.26 The Council's Consultant (LUC) made the following comments following a site visit:

Potential Impact on landscape Features

- Agree with the LVIA that there would be very little physical change to the landscape features within the site
- The site visit confirmed that the site itself is potentially a suitable one for a wind turbine development. The development could be accommodated without adverse impacts on the landscape features of the site

Potential Impact on Landscape Character

- LCA13b – Riseley Clay Farmland - The LVIA concludes that this landscape would have a medium to low sensitivity to change. This is contrary to Bedford Borough's LCA which considers the sensitivity to be moderate to high. The LCA States:

“Overall the landscape character of the Riseley Clay farmland character area is judged to be moderate to high sensitivity. While much of the area is dominated by arable farmland there are significant elements of high sensitivity including the rural villages with their scattered “ends”, tall stone churches and remnants of medieval settlements, the blocks of ancient woodland, historic parkland and the subtle tributary valleys and streams of the River Great Ouse”. It also has a very rural tranquil quality. The LVIA states that turbines would be visible from much of this LCA.

The sensitivity of the landscape has been underestimated and that the significance of the effect raised to at least medium. Although under the methodology in the LVIA this is still not significant in EIA terms.

- LCA 7A – Chelveston and Caldecott Claylands -The LVIA underestimates sensitivity. It is similar to the Riseley Clay farmland and of medium sensitivity and a medium significant effect. This is a result of the wide views and expansive exposed character.
- LCA 8B – Higham Ferrers to Thrapston Limestone Valley Slopes -The LVIA concludes a medium to high sensitivity with an overall adverse significant effect. The significance may have been overestimated.
- LCA 2g – Irthlingborough Slopes -The LVIA has not fully assessed this LCA.

Viewpoints:

- It is important to note that photographs can never replace the real visual experience and photomontages always tend to diminish rather than exaggerate visual impact.
- The photomontages provide sufficient context at each viewpoint and provide a realistic representation of the scheme when used according to the identified viewing distance (300mm).
- Agree with the representation and adequacy of the majority of the 13 viewpoints subject to:

VM2 – this is on the eastern edge of Chelveston village and is representative of the view from a number of residential properties. It is of medium to high sensitivity rather than the stated medium-low sensitivity in the LVIA. The overall significance of effects is high to medium not medium to low adverse. This raises it to being a significant effect in EIA terms.

VM 6 – The LVIA suggests sensitivity is low, however as the viewpoint is in a wooded context with no other development present its sensitivity is higher. The magnitude of change would also be higher as the wind farm would be clearly visible in an otherwise uninterrupted view of the landscape. This view point could be regarded to have medium to low sensitivity to change. This would change the significance of effect from barely perceivable to medium to low. However, this would not have an effect on the overall judgement of significance.

VM7 -the LVIA suggests that this has a low sensitivity however this is an underestimate due to the importance of the setting of the historic settlement of Yelden within the Til valley – the clustered historic buildings, Motte and Bailey Castle and church tower forming prominent feature. The sensitivity should be increased to medium to high. There would be a high magnitude of change. This would increase the significance to high to medium. There is a significant effect in relation to this view point.

VM 12 – The receptors are the scattered residential properties along the road running south west of Little Addington, the users of this road and walkers using the Nene Way. This has a medium to low sensitivity not low sensitivity to change. The magnitude of effects would be moderate rather than slight. This would change the

significance from barely perceivable to moderate to low

7.3.27 The Council's consultants (LUC) recommended additional viewpoints:

1. From the road between Ringstead and Great Addington, providing a view from the road which runs along the ridge above the Nene Valley
2. Within close proximity but providing a view from the Nene Valley Way, Burton Wold and Nene Valley Regional Park
3. viewpoint from the recreational routes that cross the site

They also identified the need for further longer distance viewpoints.

7.3.28 The Council's Consultants (LUC) noted that the key issues in terms of visual amenity were:

- Local residential amenity
- Recreational use of local footpaths on and around the site
- Use of the regional recreational routes – Three Shires Way and Nene Valley
- Impact on setting of Yelden

Landscape Enhancement Opportunities

7.3.29 The Council's Consultant (LUC) made the following observations in relation to the proposed mitigation and enhancement.

- Planting will not screen the turbines
- There is an opportunity to implement further mitigation measures to enhance the site, for example improvement to bridleways and footpaths in terms of connectivity and quality. Obtrusive fencing which exists on site could be improved and any proposed fencing around the biomass plant and substation should respect the surrounding landscape. With such measures the site could become an attractive route for both users of the bridleways and footpaths. Links to Melchbourne and the surrounding areas to the Nene Valley could be provided with the wind farm acting as a focal point and offering a level of interest along the route.

Conclusions of the Council's Consultant(LUC) in relation to the ES

7.3.30 The Council's Consultant (LUC) comes to the following conclusions:

- Although there are some locally significant landscape and visual effects on the whole in landscape and visual terms the Chelveston site would appear to be an appropriate location for a wind energy development of the proposed size and scale.
- However there are concerns about the methodology and presentation of the LVIA as well as important information that is missing:
 1. study area and proper assessment of all character areas
 2. a clear justification for the selection of views including selection of some longer views
 3. a separate CLVIA to industry guidance
 4. use of more up to date base data (eg for photomontages)
- The LVIA has incorrectly judged the impact on the Riseley Clay Famlands Character Area, but agree that the overall significance of the proposed development on landscape character does not change as a result and overall the site is suitable for the proposed development.
- On the whole the viewpoints adequately represent the impact of the development (except 2, 6 7 and 12 as discussed above)

- Need to consider several additional viewpoints (as set out above)
- Further work is required in relation to viewpoint selection
- There is a requirement for robust Cumulative LVIA
- Overall despite these omissions the conclusion is that the site is likely to be appropriate for the proposed development.

October Addendum to the Environmental Statement – Further Landscape Assessment

7.3.31 The applicant submitted an Addendum to the ES to address the concerns of the Council's landscape consultant (LUC). This includes:

- Justification for the 20Km study area
- Further work on the assessment of cumulative impacts
- Explanation of the choice of viewpoint locations
- Consideration of the impact on additional character areas
- Additional viewpoints (including a description of photomontage methodology)
- Impact on landscape features within the site.

Assessment of the October Addendum to the ES by the Council's Landscape Consultant

7.3.32 The Council's Landscape Consultant(LUC) has provided the following advice:

Extent of Study Area

7.3.33 20Km study area is sufficient to consider impacts even though it is below that recommended by Scottish Natural Heritage Guidance. It complies with that requested in the scoping report.

Cumulative Impact

7.3.34 In the Addendum the study area has been extended to 40Km for the assessment of cumulative impacts. This is considered to be appropriate. Combined, simultaneous, successive, repetitive and sequential visibility is considered. Figure 5.66 shows all existing, consented and proposed (in planning) schemes. ZTVs have been overlain for all existing and consented schemes but not for proposed schemes. However paragraph 2.14 of the Addendum states that if all proposed schemes were to come forward and be developed there would be relatively few locations where no turbines would be visible. It should however be noted that there has been a cumulative assessment completed for viewpoints outside the site which is addressed in the Rights of Way chapter and also a cumulative assessment from viewpoints outside the site in the LVIA chapter.

7.3.35 The consultants were specifically asked to advise regarding at what stage proposals needed to be included within a cumulative assessment and they note that as a general rule the Scottish National Heritage Guidance is used. What this requires to be assessed is:

- Existing development, either built or under construction
- Approved development awaiting implementation
- Proposals awaiting determination within the planning process

The guidance highlights that in some cases it may be thought to be desirable to include more speculative proposals – for example those where a scoping opinion has been provided. It suggests that the weight to be accorded to such proposals is a matter for the decision making authority. Where a pre-application proposal is to be regarded as an important material

consideration then it is appropriate that it be included in a cumulative assessment.

7.3.36 The conclusion of LUC is that the cumulative assessment has been completed in line with appropriate standards although the cumulative impacts could have been made clearer. This is however judged not to be significant.

Choice of Viewpoint Locations

7.3.37 LUC consider that the level of detail and information provided for the selection of viewpoints sufficiently identifies the receptors and their reason for selection.

Landscape Character Impacts

7.3.38 As requested the assessment of National Character Areas has been extended to include:

- NCA 91 – Yardley-Whittlewood Ridge
- NCA 88 – Bedfordshire and Cambridgeshire Claylands
- NCA 89 – Northamptonshire Vales
- NCA 92-Rockingham Forest

7.3.39 Also all the Local Character Areas (18) are assessed within a 20 Km radius.

7.3.40 LUC considers that this assessment is sufficient.

Zones of Theoretical Visibility

7.3.41 The Addendum provides additional ZTVs to allow an assessment of hub height and blade tip. LUC advise that this additional information is helpful.

Additional Viewpoints – Photomontages

7.3.42 The additional viewpoints were agreed with the Council. These are:

- View from Nene Way Footpath
- View from east of Lowick near Aldwinckle Bridleway
- View from near junction of A6116, Thrapston
- View from land east of Great Addington

7.3.43 It is noted that photographs were taken over a 4 year period and that ideally these should have been taken at the same time. However it is considered that the photographs are adequate.

7.3.44 LUC confirm that they consider that the additional viewpoints are helpful and that they agree with the judgements made on the impacts of the development on views in the study area.

Landscape Features within the Site

7.3.45 The rights of way within and immediately adjacent to the site are assessed in landscape and visual terms in Chapter 9 of the ES. This assessment identifies 9 viewpoints from within the site. The rights of way and views chosen are appropriate.

7.3.46 Cumulative impacts from rights of way were also considered; particularly in relation to Burton Wold, Bicton Wold, Airfield Farm, Nun Wood, Milton Keynes and Ringstead Grange. The magnitude of change with the combined effect of these windfarms is not considered to result in a significant change that would effect the outcome of the original assessment. However it is noted that the cumulative effect is likely to increase in relation to both the proposed Ringstead Grange and Bicton Schemes.

7.3.47 LUC consider the assessment of the visual impacts from the rights of ways within the site to have been appropriately assessed and their level of significance of effect to be appropriately judged.

Council's Consultant's (LUC) Conclusions in relation to the October Addendum to the ES

7.3.48 The additional information provided addresses the queries which the initial review of the LVIA identified.

7.3.49 The visual impacts on rights of ways should have been included in the LVIA chapter. However the impact has been assessed in line with current guidance.

7.3.50 As identified in the LVIA Review the general conclusions arising from the assessment are considered to be accurate and the site as a whole is considered to be an appropriate location in landscape and visual terms for wind energy development of the proposed size and scale.

Analysis of the Outstanding Concerns of Objectors

7.3.51 The Addendum has addressed some concerns of objectors however a number remain. It is important for Members to be aware that whilst landscape and visual assessments aim to be objective at the end of the day subjective judgements are made regarding how sensitive the landscape and visual receptors are to change and the scale of the change and thus how significant the impact of the proposal would be. Assigning a different level of sensitivity and magnitude of change can result in a different conclusion being reached.

Sensitivity of the Landscape and viewpoints, magnitude of change and significance

7.3.52 Objectors have continually argued that the applicant has downplayed the sensitivity of the landscape. They argue that it is an intimate human landscape with small attractive historic villages nestled into the landscape linked together by numerous well used footpaths and bridleways. Words used to describe the landscape are "undulating", "lack of manmade structures", "small scale", "non industrialised". The quietness of the area is also highlighted. It is also highlighted that the site is at a higher altitude than the surrounding villages which it is suggested will increase the visual dominance of the turbines. Magazine articles have been submitted to show that the quality of the landscape, and its connections with H.E Bates has been recognised.

7.3.53 LUC did highlight that the sensitivity of the landscape character areas might have been underestimated (they point in particular to the two most local ones – Risley Clay farmland and Chelveston and Caldecott Claylands). The ES suggests that the Risley Clay Farmland has a "medium to low sensitivity" to change. LUC highlight that Bedford Borough Council in the landscape character assessment work that they did considered the sensitivity to be "moderate to high" which they agree with and also suggest that the sensitivity of the Chelveston and Caldecott Claylands should be the same. However their view is that it is unlikely that this would change the overall significance of effects.

7.3.54 As the site is not within a National Park, Area of Outstanding Natural Beauty or in an area with any other landscape designation your officers view is that it would not be realistic to conclude that the landscape has a "high" sensitivity to change.

7.3.55 Objectors also argue that some viewpoints are much more sensitive than the applicant suggests. As highlighted above LUC are happy with most of the viewpoints but they highlight four where the sensitivity of the effect has been underestimated; although only two viewpoints where this would be critical and mean that the impact would become significant for the purposes of the EIA assessment. These are:

- VM2 – Kimbolton Road Chelveston – the ES suggests that this viewpoint has a medium-low sensitivity. LUC consider it to have a medium-high sensitivity.
- VM7 – Road from Swineshead to Yelden – the ES suggests that this viewpoint has a medium to low sensitivity. LUC consider it to have a medium-high sensitivity.

7.3.56 Objectors also suggest that the magnitude of change has been underestimated and that in most instances it would not be "moderate" but "high". LUC generally accept the magnitude of change conclusion within the ES except for the viewpoints referred to above. This is of most significance for VVM2 and VVM7. LUC nevertheless did reach the conclusion that the site was an appropriate location in landscape and visual terms for wind energy development of the proposed site and scale.

7.3.57 Hopefully Members will have been able to view the landscape and viewpoints by attending the Member site inspection. They should consider not just the impact upon East Northamptonshire of the development but also the impact on Bedfordshire.

7.3.58 Members will no doubt recall the appeal in relation to the Ellands Windfarm in the north of the District. One of the issues that the Inspector considered in relation to this appeal was that of impact on the landscape. The Inspector highlighted the attractive little villages of Hemmington, Luddington and Thurning and noted that their scale was small, human, largely inward looking and in the case of the later two their immediate landscape setting was more intimate. He concluded that the impact of turbines in this case was so severe as to make the impact unacceptable. He judged that the intimate human scale landscape that abutted the site could not absorb a development of the proposed scale without significant loss of character that that there would be a major adverse effect on the landscape setting of the 3 surrounding villages.

7.3.59 In the case of Chelveston however LUC have advised that this is an appropriate site for a windfarm and do not point to any major issues. Members should therefore consider how the area around Chelveston differs to the area around Ellands Farm in reaching their decision.

Quality of the Photomontages

7.3.60 Objectors have criticised the quality of the submitted photomontages and the absence of wirelines arguing that the submitted information is misleading and does not show the true height and impact of the turbines. Some further advice was sought from LUC and they advised:

- That the photomontages are in accordance with the Landscape Institute's Advice Note 01/09 "Use of Photography and photomontages in landscape and visual assessment. They also advised that the advice note of CPRE conflicted with some aspects of the Landscape Institute's guidance.
- In relation to comments about the use of a wide angled lens they noted" The LVIA states that the photographs were taken using an Olympus E-410 digital single lens reflex camera with a 14-42mm zoom lens set at a focal length of 25mm. Due to a focal length multiplier on the camera, this is the equivalent to a 50mm focal length on a 35mm film SLR camera. Whether the photographs were taken with a wide angle lens is not a significant factor, however it is vital that the correct viewing distances were 400 – 500 mm @A2 and 300-375 mm @A3. According to SNH guidance, material printed in an ES and should be between 300mm and 500mm, although a distance between 400mm and 500mm is recommended. The viewing distances in the LVIA are therefore considered appropriate.

- A photomontage will never represent exact impacts and will always be an underestimate...The photomontages are simply an aid"

7.3.61 At the end of the day photomontages cannot ever hope to show exactly what will be seen with the naked eye. They cannot for instance capture the movement of turbines. This is why LUC were not asked to comment specifically on the fine detail in Hargrave Conservation Society's comments and why the Members site visit was arranged in advance of this meeting. Members will have seen the boxer mast. This is 70 metres high and whilst lower than the proposed turbines and approximately 230m from the nearest turbine nevertheless is a good landmark and guide. No doubt they will also have regularly viewed the turbines at Burton Wold. These can also be used as a guide however it must be borne in mind that these are only 100 metres high and the proposed turbines are 125 metres high.

7.3.62 The objectors flew a balloon close to the site and have used this to produce their own photographs of the impact of the turbines. These will be displayed at the meeting. These have been taken from Yelden, Chelveston/Caldocott and The Deans. The objectors highlight that the difference in altitude will underplay the impact. They highlight in particular the view from the lay-by on the B645.

Study area and Location of Viewpoints

7.3.63 Objectors have argued that further more long distance viewpoints should have been provided by the applicant. A list of 28 sites was provided by Hargrave Conservation Society. Your officers made a site visit to most of these locations within our District and officers in Bedfordshire did the same for their area. Officers concluded that viewpoints from these locations were not essential to the consideration of the application; that existing viewpoints provided guidance and that there was no justification for requesting additional longer distance viewpoints. LUC were not commissioned to do this assessment work as the case officers were able to use their local knowledge.

7.3.64 It is interesting to note that the photographs that the objectors have provided are all within 5km of a turbine location.

7.3.65 LUC have confirmed that the use of a 20Km area for the LVIA is acceptable. Your officers concur with this view. As distance increases from turbines they generally become less prominent within the landscape. There is also a difference between being able to see a turbine and it having an adverse impact upon the landscape.

Cumulative Assessment

7.3.66 Objectors maintain that the study area for the cumulative impact assessment should be wider. LUC disagree and are happy with a study area of 40 KM rather than 60 KM. This is on the basis that the 60KMs comes from Scottish advice and they accept that the landscape around Chelveston is not directly comparable. A 40 KM study area extends to Cambridge, and past Peterborough, Milton Keynes and Market Harborough.

7.3.67 Objectors also express concern that no viewpoints/photomontages have been provided for this wider area. However more local photomontages can be used to make a judgement of what the impact would be.

7.3.68 A cumulative assessment needs to include both existing and proposed turbines. Objectors express concern that not all proposed windfarms have been included within the cumulative assessment. Paragraphs 7.3.35 and 7.3.36 outlines the advice from LUC regarding which sites it is reasonable to require should be included in a CLVIA. To be regarded as proposed sites normally a formal planning application should have been submitted at the time an assessment is carried out. Only exceptionally should proposals be included which are at an earlier stage. Objectors have suggested that Brampton, Molesworth

and Thurleigh should have been included. No formal applications have however been submitted in relation to these sites.

7.3.69 Objectors have tried to argue that LUC concluded that the Molesworth proposal should be included. This is not the case. What LUC said was that it “could” be included and that this was a judgement for the LPA based upon how material to the case they considered this proposal to be. HDC have confirmed that they expect an application to be submitted in January 2011 for Molesworth, however as this site is approx 10 KM to the north east of the Chelveston site your officers view is that it is not so material to the consideration of the case that it would have warranted inclusion in the submitted CVLIA.

7.3.70 HDC have advised that they are not aware of any proposal for Brampton. Neither are Bedfordshire in relation to Thurleigh.

7.3.71 Objectors draw attention to the comment in the October Addendum (paragraph 2.14) that “ if all the proposed windfarms within the 40 Km cumulative impact study area were to come forward and be developed there would be relatively few locations where no turbines would be visible” Members should however be mindful of the fact that it is unlikely all will come forward. For example some will be refused, like the proposal at Catshead Wood (ref 10/00068/FUL) and Bicton within HDCs area and hopefully if appeals result they will be defended successfully. Chelveston Parish Council argue that the refusal at Bicton justifies refusal of the application at Chelveston. However the two cases are not directly comparable. English Heritage objected to this application and HDC concluded that the proposal would result in harm not just to one heritage asset but to Kimbolton, Tilbrook and Stonley Conservation Areas and to the Grade I listed buildings of Kimbolton Castle and Kimbolton Castle gatehouse (Kimbolton School), At Andrew’s Church Kimbolton, all Saints Church Tilbrook and Warren House (II*). In relation to landscape impact the number of turbines proposed was in excess of the number that HDCs supplementary planning guidance advises would be acceptable. For Members information the recent appeal that HDC defended where the reason for refusal related to the impact on one heritage asset, Toseland Hall, was allowed at appeal.

Presentation of the LVIA and CLVIA

7.3.72 Whilst LUC has been critical of the confused and unclear nature of the submitted information it is sufficient to assess, the proposal and this would not justify refusal of the application.

Use of LUC and Scope of their Work

7.3.73 Hargrave Conservation Society questions the use of LUC and also expresses concern that their instruction was too limited.

7.3.74 LUC is a professional consultancy company and therefore will have approached their instruction in an appropriate manner. Hargrave seem to expect that this Council should have instructed consultants to carry out a full LVIA and CLVIA rather than just assess the information that had been submitted. This is not normal practice for any reports submitted as part of a planning application and would have resulted in a significant amount of work and potentially unnecessary expense.

7.3.75 Objectors have submitted a lot of detailed comments and because of the subjective nature of landscape assessment the decision was taken not to ask LUC to comment specifically on these. Instead Officers have considered objectors comments against the LUC report. They have only sought clarification on a couple of points (for example the quality of the photomontages and cumulative impact assessment).

Impact on Individual Residential Properties

7.3.76 The reports by LUC concentrate on the wider landscape implications of the proposal, however the ES did consider the impact on specific residential properties and the conclusions of the ES are referred to above in paragraphs 7.3.10, 7.3.11 and 7.3.12. Appendix 5.4 to the ES considers the impact on residential properties within 2km of the nearest turbine in detail. It highlights in particular the impact on the former USAF/MOD properties (R4), Manor Farm, Yelden (R1) and Lodge Farm, Shelton (R5).

7.3.77 The former USAF/MOD housing (now known as Chelston Rise) has been refurbished and a number of the properties are either occupied or are being offered for sale. The boundary to this group of houses is fairly open. There is a 2 metre high open mesh fence and a low hedge with occasional trees. The northern boundary does not directly abut the former airfield site however the eastern boundary does. Whilst the proposed planting would help provide mitigation further planting would be desirable. A condition can be imposed in respect of this.

7.3.78 Manor Farm abuts the former airfield site to the east around its mid-point. This property lies within Bedfordshire. This property is fairly well screened from the site by existing deciduous and evergreen planting which allows some views through. This site is in the ownership of the applicant.

7.3.79 Lodge Farm is in close proximity to the immediate north east of the former airfield site. It is set back from the road, is lower than the road and fairly well screened by existing planting.

7.3.80. Silcombe House (previously known as High barn Farm) is situated close to Manor Farm however the ES does not conclude that there would be a significant impact on this property. This is because the main windows of this property do not look towards the site and any views that there would be would be glimpses due to the presence of existing barns and outbuildings. Top Cottage is also close to Manor Farm and Silcombe House. The ES notes that views towards the site are screened by the barns of Silcombe House.

7.3.81 An objector suggests that Shelton Lodge is the nearest property to the site and that it is not considered at all. It is presumed that this is property R6 in the Appendix which is referred to as "The Lodge, Shelton". This property is located in the vicinity of Lodge Farm. This property has mature trees (including some evergreen trees) around its boundaries and its main windows do not look towards the site. The ES identifies that initially the significance would be Medium-Adverse, but that as the proposed planting matured the significance would reduce to Low-Adverse.

Impact on Stanwick Lakes

7.3.82 Objectors have suggested that the proposal could have an adverse visual impact on Stanwick Lakes. The site is however approximately 4 Km from Stanwick Lakes and LUC have not identified that there would be an issue.

7.4 LANDSCAPE AND VISUAL EFFECTS (BUILT ENVIRONMENT/CULTURAL HERITAGE)

7.4.1 The following national and regional policy is relevant to the consideration of the effects of the proposed development on the historic environment.

7.4.2 PPS5, policies HE8 and HE9, stresses that the effects of development on the setting of a Listed Building, Registered Park and Garden, and Conservation Area, are a material consideration in the determination of planning applications. The impact on nationally

important monuments and their settings is also considered under these policies.

7.4.3 PPS22 *Renewable Energy* advocates that permission should not be given for developments that compromise national heritage designations, or where the adverse effects outweigh the benefits of the development (para. 11).

7.4.4 The *East Midlands Regional Plan* (policies 26, 27, 31) encourages the protection of nationally designated sites and their settings and the enhancement of tourist attractions.

7.4.5 The *North Northamptonshire Core Spatial Strategy* promotes the conservation and enhancement of historic environment assets (policy 13);

7.4.6 The English Heritage guidance document *Wind Energy and the Historic Environment* characterises the direct physical impacts and impacts on the setting and visual amenity of historic sites that may be caused by wind farm developments and advises that proposals are determined in accordance with historic environment planning policy.

7.4.7 It identifies the following factors which should be borne in mind when assessing the acceptability of developments.

- Visual dominance – wind turbines are far greater in scale than most historic features. Where an historic feature (such as a hilltop monument, or fortification, a church spire or a plantation belonging to a designated landscape) is the most visually dominant feature in the surrounding landscape, adjacent construction of turbines may be inappropriate
- Scale – the extent of a wind farm and the number, density and disposition of its turbines will also contribute to its visual impact
- Intervisibility – Certain archaeological or historic landscape features were intended to be seen from other historic sites. Construction of wind turbines should respect this intervisibility
- Vistas and sight-lines – Designed landscapes invariably involve key vistas, prospects, panorama and sight lines or use the topography to add drama. Location of turbines within key views, which may often extend beyond the designated area, should be avoided.
- Movement, sound or light effects – The movement associated with wind turbines as well as their scale may be a significant issue in certain historic settings. Adequate distance should always be provided between important historic sites and wind turbine developments to avoid the site being overshadowed or affected by noise and shadow flicker effects.
- Unaltered Settings – The setting of some historic sites may be little changed from the period when the site was first constructed, used or abandoned. Largely unaltered settings for certain types of sites, particularly more ancient sites, may be rare survivals and especially vulnerable to modern intrusions such as wind turbines. This may be a particular issue in certain upland areas.

The document also notes that some landscapes have experienced greater change than others and that these historically dynamic landscapes, particularly those where the prevailing character is industrial or agriculturally intensive, may be more suited to accommodating large-scale wind energy developments than less dynamic ones. It advises that the historic character of the landscape should therefore be considered alongside other aspects of character and visual and aesthetic issues. Landscape capacity and sensitivity analyses should always include the historic dimension.

7.4.8 Guidance is that the setting of a listed building can be very wide and far reaching.

7.4.9 The original ES was produced before the publication of PPS5. The July Addendum includes a review of the policies in the PPS and an analysis of whether the submitted assessment is still appropriate. The October Addendum widened the study area from 7km to

10km.

7.4.10 The ES identifies that there is currently no accepted methodology for assessing the effects of development on the setting of cultural heritage sites. It explains that it seeks to use a quantitative approach to the assessment of the effect of the proposed development on the setting of cultural heritage features, using a “clearly defined methodology”, but that given the visual nature of the assessment process, a qualitative approach is also required(but that this is based upon a structured and reasoned professional judgement). It is explained that the methodology uses the principle of establishing the significance of effects based upon a combination of defining the sensitivity to change of the cultural heritage feature and the magnitude of change. For the purposes of the assessment, it is explained, that the consented biomass and biofuel plant are considered to be existing features.

Setting of Cultural and Historic Features

7.4.11 The ES firstly tries to identify the setting of each cultural heritage asset. Appendix 11.2 in the ES includes a number of aspects of setting, the ES does not however clearly explain the reasoning behind each of these however it does include such matters as the extent of the setting and intervisibility (see paragraph 7.4.7 for explanation of what this is).

Sensitivity to change

7.4.12 The ES identifies that this can be assessed in a number of ways, but considers that the most appropriate way is to use the following criteria:

- Presence – ie how prominent or noticeable a feature is
- Promotion – ie how the feature is presented, publicised, the provision of facilities and the ability of the average visitor to find the feature

The ES suggests that a combination of presence and promotion forms a measure of sensitivity to change and uses the table below.

The following table shows how this has been done.

(Table 11.1: from ES) Sensitivity to Change of Cultural Heritage features

		Presence		
		Prominent	Noticeable	Negligible
Promotion	Facilitated	<i>High Sensitivity</i>	<i>High Sensitivity</i>	<i>Medium Sensitivity</i>
	Promoted	<i>High Sensitivity</i>	<i>Medium Sensitivity</i>	<i>Low Sensitivity</i>
	Not Promoted	<i>Medium Sensitivity</i>	<i>Low Sensitivity</i>	<i>Low Sensitivity</i>

7.4.13 It is surprising that it did not incorporate the grade of the listed buildings into the methodology.

Magnitude of Change on the Setting of cultural Heritage Features

7.4.14 The ES uses a scoring system for this on the basis of scale, whether the development would be complementary and permanent, to identify whether the development would have a major effect, moderate effect or a minor effect.

7.4.15 The main issue in relation to this part of the ES relates to how permanence is dealt with. The ES defines temporary as “ where there are definite proposals to remove the development and reinstate to its original and equivalent state, within a set timescale, and where the timescale can be regarded as short or medium term, relative to the historical timescale of the cultural heritage feature”. On the basis of this definition the wind farm is judged to have a temporary effect. Objectors have questioned this. Most cultural heritage features are old by their very nature and therefore a 25 time period is short and could be judged to be temporary. It has been suggested that whether the magnitude of change is temporary should be assessed against the lifetime of individuals who benefit from the presence of such heritage assets. There has been some acceptance by Inspector’s at appeal of the temporary nature of the impact of turbines on heritage assets although this is not conclusive.

(Table 11.2: from ES) Magnitude of Change on the Setting of Cultural Heritage Features

Scale	Dominant	3
	Equal	2
	Subordinate	1
	Negligible	0
Complementary	Antithetical	2
	Unrelated	1
	Sympathetic	0
Permanence	Irreversible	2
	Permanent	1
	Temporary	0
Total Score	6-7	Major effect
	3-5	Moderate effect
	0-2	Minor effect

Significance of Effects on Cultural Heritage Features

7.4.16 The ES determines this based upon the combined measure of sensitivity to change and magnitude to change. It indicates that the effects of the proposed development considered to be “most significant” are those assessed as having a direct major/moderate significance, or an indirect major significance. The following tables shows how this has been done:

(Table 11.3: from ES) Significance of Effect on the Setting of Cultural Heritage Features

		Sensitivity to change		
		High	Medium	Low
Magnitude of	Major	Major Significance	Major/Moderate Significance	Moderate Significance
	Moderate	Major/Moderate Significance	Moderate Significance	Moderate/Minor Significance
	Minor	Moderate Significance	Moderate/Minor Significance	Minor Significance

Other Assessment Factors

7.4.17 The ES then indicates that consideration is also given to other factors identified within the document “Wind Energy and the Historic Environment” by English Heritage. These are:

- Intervisibility – ie where a cultural heritage feature was intended to be visible from other historic sites.
- Vista and sight lines – a clearly defined view, vista or sight-line
- Movement sound or light effects
- Unaltered settings

This appears almost to be an after thought, and like the grading of listed buildings it would seem sensible for this to have been included within the methodology. These factors have however been used to identify the setting of the various cultural heritage features.

7.4.18 The ES then identifies the following additional factors:

- Beneficial, neutral or adverse effects
- Direct or indirect effects
- Seasonal and temporal effects
- Aggregated effects
- Cumulative effects
- Secondary effects
- Residual effects

7.4.19 It includes the following definitions for direct and indirect effects.

Direct – a change that takes place within the setting of a cultural heritage feature which has an effect on the feature when perceived in the same visual context

Indirect – a change that occurs outside the setting of a cultural feature, but still visually affects the wider setting of the cultural feature by its very presence.

The advice in PPS5 in relation to setting does not include such a distinction.

Baseline Position

7.4.20 The ES (as Amended by the October Addendum) indicates that, within the search area there are:

- 29 Scheduled Ancient Monuments
- 30 Grade I listed buildings
- 35 II* listed buildings
- 627 Grade II listed buildings
- 18 Conservation Areas
- Melchbourne Park (whilst this is identified as a historic landscape feature it is not a registered park and garden).
- 1 Registered Park and Garden

7.4.21 The text of the original ES included a review of ancient monuments, sections on each of the Conservation Areas, however it only included 2 short paragraphs in relation to the grade I and II* listed buildings in the vicinity of the site. It then grouped the other listed buildings by settlement. The July Addendum considered the churches and the ancient monument in Yelden in more detail and these are considered below.

Assessment of Effects – Construction and decommissioning

7.4.22 The ES observes that the effects on cultural heritage features would be no worse than during the operational phase. It is explained that whilst large cranes would be used to erect and decommission the turbines these would only be a little higher than the turbine towers. It is also noted that construction traffic would not have an impact due to the chosen route for such traffic.

Assessment of Effects – Operational Period

7.4.23 Appendix 11.2 in the ES and Appendix 11.3 in the October Addendum contain an assessment of the impact on each of the cultural heritage features.

7.4.24 Objectors in particular highlight the importance of Yeldon Church (Grade I) and castle (ancient monument), Shelton Church, relationship with a listed farmhouse (possibly Duchy Farm, but this is not clear) which is close by, relationship with Lodge Farmhouse (now known as Francis House), and the impact on Conservation Areas.

7.4.25 In their original comments English Heritage expressed concern about the impact on the setting, intervisibility and relationship with the landscape of the following Grade I listed churches:

Church of St Mary, Higham Ferrers
Church of St Peter Irthlingborough
Church of St Peter Newton Bromswold
Church of St Peter Raunds
Church of St Mary Rushden
Church of St Lawrence Stanwick
Church St Mary, Yelden

They also expressed concern about the ES did not demonstrate how the proposed windfarm would impact on the views between the church towers and Yelden Castle, which is an ancient monument.

7.4.26 The Addendums to the ES have sought to address these comments and English Heritage have confirmed that they do not object to the application. Each of these specific heritage assets are considered below.

Yelden Church – The ES identifies that this has a high sensitivity and concludes that the significance of the impact on this feature would be Major/Moderate. It also suggests that the impact would be indirect. It states in paragraph 11.112 that “whilst wind turbines would be the more dominant feature in relation to the church, the church tower only has a small spire and in most circumstances would not be seen directly behind the church. Consequently, there would be no direct effect on the church only a temporary awareness of new upright features that are offset beyond the setting of the church.”

Table 11.2 identifies that intervisibility is between the church and the village and that this is not effected by the development. In terms of the extent of the setting it states:

“the village forms the immediately apparent setting. Tower and small spire of the church limits the extension of its visual influence, but due to being in a more open setting on the edge of the village and from the influence of local landform, this extends to the more localised rural landscape around the village.....”

Further analysis was provided in the July Addendum. The conclusion appears to be that the turbine locations have been moved (when compared to pre-application proposals) and that as they are no longer directly behind the church but offset this protects its setting.

If the magnitude of change were not to be judged temporary then the impact, using the scoring in the ES would be Major. Whether the impact of turbines should be regarded as temporary has already been considered in paragraph 7.4.15.

If the impact is judged to be direct then even if it is accepted that the magnitude of change is temporary then the impact, on the basis of the methodology in the ES, would be significant. It is the extent of the setting, according to the ES, which determines whether the impact is direct or indirect. However, The advice in PPS5 in relation to setting makes no distinction in relation to setting.

Members hopefully will have been able to attend the site visit and view this church. Your officers view is that the proposed windfarm would have a detrimental impact on the setting of this church. Whilst the turbines are offset when viewed from the road and not directly behind the church they would still be visible in the same context as the church. When the church is viewed from the Three Shires Way the turbines would not be offset. However, having regard to the need to weigh up the impact against the benefits of a renewable energy proposal, and having regard to the lack of objection from English Heritage your officers are of the view that it would be difficult to substantiate a reason for refusal on this basis.

Yelden Castle – The ES identifies this as having a high sensitivity. It concludes that the significance of the impact would be Major/Moderate and that the impact would be indirect. Again the general comments made in relation to the definition of “temporary” and “indirect” are relevant.

The ES identifies that this feature has a similar scale to the proposals ie it is not as dominant as the church. It states” whilst wind turbines would become the large scale new features, the most dominant visual influence on the castle is the adjoining residential properties of the village, which more significantly influence the setting of the castle. The existing mounds do not break the skyline, with a relatively low profile that relates more to the localised context of the village scene. The cultural heritage feature would not be set directly against the backdrop of the proposed wind turbines, and in nearly all circumstances would be seen as features that are offset from the main focus...”

Your officers are not convinced that the proposed windfarm would impact on the setting of this ancient monument.

Church of St Peter Newton Bromswold – The ES identifies this as having medium sensitivity basically because it is not promoted (this is how the feature is publicised, the provision of facilities and the ability of the average visitor to find the feature). It is however a Grade I listed building of national importance which would suggest that it should rightly be regarded as highly sensitive). It concludes that the impact is moderate significance and direct. It would appear however that the ES has underestimated the potential impact. If it is regarded as highly sensitive on the basis of the methodology in the ES it would score the same as Yelden Church. ie it would be at the top end of moderate significance and if the development is not judged to be temporary then it would have a direct major impact.

In relation to this feature the ES notes: “ the wind turbines would be seen on the skyline, but in most locations would be experienced offset from the church. Only to the south and on higher ground would the wind turbines be seen above and beyond the church spire within the setting. Only the most southern part of the site lies within the setting, where no wind turbines are proposed and thus the wind turbines would not directly effect the setting.”

Officers have visited this church and it sits within a wooded setting. Officers do not consider that the proposed windfarm would have a detrimental effect on the setting of this church.

Intervisibility between Yelden Church and St Peters Church, Newton Bromswold. –The July Addendum includes some analysis in relation to this and includes a photograph showing the

view from the Three Shires Way. It is possible to see both churches from this viewpoint; however not without making a definite effort to turn ones head. Your Officers view is that the proposed windfarm would not have such a significant effect on this intervisibility to justify refusal of the application.

Church of St Mary, Higham Ferrers – the ES, considers this with nearby buildings and identifies this feature as prominent/facilitated and therefore of high sensitivity. However it concludes that there significance of the impact would be none. This is because the ES identifies that the setting is the church yard and the wider settlement of Higham Ferrers.

Church of St Peter Irthlingborough – The ES identifies this as prominent/not promoted and therefore of medium sensitivity (It is however a Grade I listed building and previous comments in relation to this are applicable. It concludes that the significance of the impact is Moderate/Minor. The extent of the setting is defined as the town, and north-western River Nene valley edge.

Church of St Peter Raunds – The ES identifies this as prominent/not promoted and therefore of medium sensitivity (as it is Grade I listed previous comments apply). However it concludes that the significance of the impact would be none. In relation to the extent of setting the ES comments that this is the churchyard, town of Raunds and the local landscape adjacent to the town. It is noted that due to the size of the spire there is a limited visual association with the landscape adjacent to the town.

Church of St Mary Rushden – The ES identifies this as prominent/not promoted and therefore of medium sensitivity (as it is Grade I listed previous comments apply). However it concludes that the significance of the impact would be none. The extent of the setting is identified as the church yard and open space associated with the war memorial.

Church of St Lawrance Stanwick – The ES identifies this as prominent/not promoted and therefore of medium sensitivity (as it is Grade I listed previous comments apply). However it concludes that the significance of the impact would be none. This is because the ES identifies that the extent of the setting is the church yard, village of Stanwick and localised landscape. It is identified as a moderate sized church and that the spire extends the visual influence of the church within the village and localised landscape.

Intervisibility of Higham Ferrers, Rushden, Irthlingborough, Raunds and Stanwick Churches – The July Addendum includes an analysis of this. It states that that these towns are on the valley slopes of the River Nene with their sphere of influence directed to the valley and River. It argues that the proposed windfarm would lie on a plateau to the east of this valley beyond the setting of the valley and river to the side of the intervisibility lines of sight. It also suggests that the turbines would not be in the same field of views of any of the church spires.

Your officers do not dispute this conclusion. The main viewpoint where a number of these churches is visible from is VVM 12, which is between Irthlingborough and Little Addington. However this is a fairly long distance view across what is a built up/industrialised landscape and the churches are not significant elements on the skyline.

7.4.27 An objector mentions a further Grade I listed church in Bedfordshire.

Shelton Church (Bedfordshire) – In terms of its sensitivity the ES identifies this as noticeable/not promoted ie with a low sensitivity (previous comments about Grade I listing are applicable however). It concludes that the impact would be Moderate/Minor in winter and none in summer. Appendix 11.2 in the ES states “ small church with a low tower. Contained by surrounding buildings in settlement, and thus noticeable limits its visual influence. Consequently the development would not form part of its setting.

Your officers do not question this conclusion.

7.4.28 The summary of significance of effects in the main body of the ES also refers to 2 further churches which are both II*.

Church of All Saints, Hargrave – The ES identifies this as prominent/not promoted ie of medium sensitivity (previous comments about listing are applicable however). It concludes that the significance of impact would be moderate. The ES states “ the church is well contained by the localised hollow that the church lies within and the large number of mature trees...only from occasional areas to the north and north-east of the village, where the land is slightly higher would the wind turbines be visible in the setting, and then mainly as broken views between vegetation.....”

Church of St John the Baptist, Caldecott the ES identifies this as noticeable/not promoted and therefore of low sensitivity(previous comments I listing are applicable however)– It concludes that the significance of impact would be Moderate/Minor.

Your officers do not consider that there would be a significant impact on either of these churches.

7.4.29 Objectors refer specifically to the relationship between 2 listed farmhouses: Whilst |Duchy Farm was specifically mentioned it is unclear which other farmhouse was being referred to. Duchy Farm is within a group of other farms and it is assumed that it might have been one of these.

Duchy Farm - the ES considers this with a group of other buildings in Caldecott, which are also Grade II listed (1290m from nearest turbine). These are identified as noticeable/not promoted ie of low sensitivity. (previous comments I listing are applicable however). The significance of the impact is identified as Moderate/Minor on the basis that the magnitude of change would be significant.

7.4.30 Within East Northamptonshire the nearest Conservation Areas are within Rushden and Higham Ferrers and within Bedfordshire, at Upper Dean, Swineshead and Risley. Covington is the nearest Conservation Area within Huntingdonshire. Objectors also refer to Kimbolton and Tilbrook. The ES has assessed the impact and officers are satisfied that there would be no significant impact on Conservation Areas.

7.4.31 Objectors refer to the impact on Melchbourne House. This is a II* listed building approximately 3.6km from the nearest turbine. It is a country house sitting within parkland. The ES assesses the significance of the impact as moderate/minor.

Assessment of Effects – Cumulative Impact

7.4.32 The ES comments that the cumulative impact of the proposal with the existing Burton Wold wind farm would only impact on one cultural heritage feature and not change the magnitude of the effect.

7.4.33 It notes that the proposed windfarms at Airfield Farm Poddington, and Nun Wood, Bozeat and the windfarm near Emberton, Milton Keynes are too far away to have a cumulative impact on cultural features.

7.4.34 It is envisaged in the ES that the most significant cumulative impact would come from the proposed Ringstead Grange wind farm and that the proposed windfarm at Bicton, Kimbolton would have minimal impact. It is noted that the Ringstead Grange proposal would have a cumulative impact on both Yelden Church and Castle which are the features most effected by this proposed windfarm. As set out in the section above it is unlikely that the Ringstead Grange proposal will come forward in the same form as it was at scoping opinion stage. It is concluded therefore that it is unlikely that there would be a cumulative impact from the proposal in relation to heritage assets.

7.5 ARCHAEOLOGY

7.5.1 Chapter 17 of the ES deals with archaeology. It was updated by the July Addendum following the publication of PPS5. Work included a desk top and a walk over survey. The significance of potential impacts was assessed by taking into account the sensitivity of the archaeological/heritage feature and the potential magnitude of the predicted impact.

7.5.2 There is only one archaeological site dating to the Iron Age within the boundary of the development listed within the County Heritage Environmental Records of Northamptonshire. Only the construction of turbine EN7 might affect this. The ES considers that the unknown character of this archaeological site and the limited scale of the foundation of the turbine means that the impact on this will be negligible.

7.5.3 In terms of unknown remains, the ES suggests that due to the recent history of the airfield the potential for the survival of remains is negligible. There was extensive ploughing of the site late into the 19th century. Also the airfield construction and decommissioning will have reduced the potential extent of any potential remains. It also considers the type of settlement within the vicinity of the site and concludes that the potential for there to be sites from the Bronze Age, Iron Age and Romano-British periods. Neither is there any evidence of any Post-roman or medieval settlement at the site.

7.5.4 The ES indicates that during construction any ground disturbance will be carried out under archaeological control through a "watching brief".

7.5.5 The County Archaeologist's advice is set out in 6.27. She considers that the ES might have underestimated the significance of the archaeological remains within the site. She advises that turbines EN4, EN5 and EN7 are next to areas that could contain remains. She therefore recommends a more stringent archaeological survey rather than just a "watching brief". She is however happy for this to be dealt with by condition and has not advised of the need for field investigation prior to the determination of this application.

7.6 ECOLOGY

Introduction

7.6.1 Chapter 12 of the original ES considers the impact on ecology. Ecological survey work continued on the site and both the July and October Addendum include further sections on ecology.

Designated Sites/Birds

7.6.2 The nearest statutory designated site is Yelden Meadows which is a SSSI. It is however a flood meadow designated for its biological interest.

7.6.3 The Upper Nene Gravel Pits SSSI is the next nearest site and is located approximately 3.6 Km north west of the application site. Part of it has been designated as a potential European site (pSPA and Ramsar site) due to its bird population.

7.6.4 The application site itself is not subject to any non statutory designations. The nearest are Caldecott Verge County Wildlife Site and Stanwick Pastures, which are approximately 0.25km to the west. There are also other County Wildlife sites within the vicinity however these sites have generally been designated due to their botanical interest.

7.6.5 In relation to designated sites therefore the main issue which needs to be considered is the impact on the Upper Nene Gravel Pits and in particular bird populations.

Bird Survey Work

7.6.6 The original ES included a wintering bird survey from the winter of 2005/06 and a breeding bird survey for 2006 and an update of this breeding bird survey for 2009. The surveys, it is advised, were carried out on the basis of best practice advice provided by Scottish Natural Heritage and Natural England. However the ES argued that Vantage Point surveys were not necessary. Natural England advised that this survey work needed to be updated and that VP surveys were required.

7.6.7 The July and October Addendums include details of the additional survey work for wintering and breeding birds that was undertaken in 2009/10 and the following further explanation of why VP surveys are not required:

- There are no target species present within the site in any significant numbers
- The relatively flat topography of the site combined with the plantation bordering the site, would hamper the use of VP survey methodology.

Natural England have now accepted that VP surveys are not required.

Overwintering Birds

7.6.8 The survey work shows that the site hosts relatively large numbers of birds over the wintering period. However, these numbers are associated with species which are abundant in the UK during winter and are not of any special conservation concern.

Golden Plover

7.6.9 In their initial response 6.15 Natural England raised concerns in relation to the Golden Plover (a species that is considered to be potentially significant in terms of its conservation status within Europe as it is listed under Annex 1 of the Birds Directive). However the survey in 2009/10 only recorded a single fly over of a small flock of Golden Plover. The October Addendum to the ES notes that at less than 0.005% of the UK wintering population the number passing over the site does not qualify as nationally important. It also refers to survey work in Bedfordshire and Northamptonshire and notes that the numbers are not even of regional significance. It refers to the analysis in the original ES, which considered the impact on this species from such things as direct habitat loss, displacement, collision and barriers to movement, and concluded that the impact was unlikely to be significant. It is also noted that European guidance identified that this species is not susceptible to collision with wind turbines.

Lapwings

7.6.10 The 2009/10 survey also recorded fewer wintering lapwings (RSPB Red List Species) using the site than in 2006. Reference is made in the October Addendum to survey work in Bedfordshire and Northamptonshire and it is noted that the numbers are not of national or regional significance.

Other overwintering birds

7.6.11 The surveys found that other birds of conservation interest (Annex I, Schedule 1, Red List Species or Species of Principal Importance) occurred in very small numbers. This included *Skylarks*, which have been mentioned by objectors.

7.6.12 Objectors have also referred to the impact on *Canada Geese*. These are not identified as being of conservation interest. The ES refers to an "incidental record of two flying south east over the site". The 2010 over winter survey makes no reference to this species.

Breeding Birds

7.6.13 The surveys show that the expanse of open grassland across the site generally supports few breeding species with the *Skylark* being the most numerous target species. No Annex 1 (of the Birds Directive) or Schedule 1 Wildlife and Countryside Act birds are present on the site during the breeding season in significant numbers. The October Addendum notes that whilst other birds of conservation concern (such as *Lapwing*, *Starling*, *Whitethroat*, *Green Woodpecker* and *Bullfinch*) have been recorded at the site whilst these have undergone recent national decline in breeding numbers, these species remain common and widespread at local and national level and that the numbers recorded at the site, it is judged, are not of national or regional importance.

7.6.14 Of the raptors only the *Buzzard* has been recorded as breeding within the site. The *Buzzard* is not a target species or of local conservation concern.

Birds Generally

7.6.15 Several Annex/Schedule 1 raptors have been identified at the site – most notably the *Red Kite* but also *Hobby* and *Peregrine Falcon*.

Red Kite

7.6.16 This species is of particular interest locally and the October Addendum notes that Two *Red Kites* were recorded flying across the centre of the site on one occasion in the summer of 2009. In March 2010 a single *Red Kite* drifted westwards across the site. In May 2010 a single *Red Kite* was recorded flying over the site. It is however noted that *Red Kite* were not recorded during any of the other survey visits. It therefore concludes that the site is not of regional or national importance for this species.

Swan

7.6.17 An objector refers to the impact on swans, however these do not appear to have been recorded in any of the surveys.

Barn Owls

7.6.18 Objectors refer to the impact on Barn Owls. The original ES survey work found no evidence of Barn Owls (para 12.5.4 of ES). The 2010 wintering bird survey work included as Appendices to the Addendums notes that the Barn Owl was “Recorded towards dusk in February and March, hunting roadside verges and fields north of the airfield, only skirting the airfield itself”.

Natural England’s Conclusions in relation to birds and Designated sites

7.6.19 Natural England advise that they are satisfied that the proposal would not have a significant impact on overwintering birds, breeding birds or local raptor populations. Natural England are therefore satisfied that the proposed development would not have a significant impact on the pSPA. They do however request that post construction monitoring be carried out and this can be controlled by condition.

Protected Species

7.6.20 Natural England were satisfied that the ES, as originally submitted, had satisfactorily considered the impacts of the proposal on badgers, reptiles and water voles. However they requested further survey work in relation to newts and bats.

Badgers

7.6.21 A Badger survey was carried out in 2006 and updated in 2009. 3 active setts were identified during the 2006 survey and a further 3 during 2009. Natural England supports the requirement for updated surveys and mitigation as part of an ecological management plan which can be controlled by the imposition of a suitably worded condition.

Water Voles

7.6.22 The ES notes that the wet ditches within the site were examined during the extended Phase 1 Survey in 2006. No evidence of water vole was found and the ditches were considered to be sub optimal in nature due to their limited extent of marginal vegetation and in the case of the north eastern ditch relatively low water levels. No change was recorded in the 2009 updated survey.

Reptiles

7.6.23 The ES notes that no reptiles were recorded during any of the survey visits.

Great Crested Newts

7.6.24 The Great Crested Newt Survey, carried out in 2007 found a medium breeding population of Great Crested Newts in ponds adjacent to the proposed development. Natural England wanted further information about how far these areas were from terrestrial habitat for newts. A further newt survey was carried out in 2010 and is included in the July Addendum. This found newts in the same ponds (ponds P1, P3, P5 and P6). This study looked at how much terrestrial habitat would be lost. As newts spend most of their terrestrial life within 250m of a pond it was estimated that only 0.09Ha of terrestrial habitat would be lost (only 0.3% of the pasture within 250m of breeding ponds). Only masts EN5 and EN8 are within 250m of breeding ponds. The Addendum therefore concluded that the impact on Great Crested Newts was of negligible significance. Natural England have now advised that given the quality and area of habitats likely to be effected impacts upon Great Crested Newts are unlikely to be significant. However they do suggest that enhancements to habitat would be appropriate and this can be addressed by condition.

Bats

7.6.25 The ES identifies that during March/April 2006 the buildings and trees within the site were appraised for their potential to support roosting bats and that this survey was updated in April 2009. The buildings were deemed to be unsuitable due to their construction or condition. Two mature ash trees were deemed however to have roost potential. Dusk emergence and dawn re-entry surveys were carried out in conjunction with the activity surveys (see below) and focused on the tree closest to a proposed turbine location (Turbine EN5). No bat roosts were identified during these surveys.

7.6.26 Three bat activity surveys were also undertaken on 25th June and 30th and 31st July 2009 to establish levels of bat commuting and foraging activity across the site. Low to moderate levels of bat activity were recorded at the site primarily in association with vegetated areas at the site boundaries. Bat activity within the more central area where the turbines are proposed was less frequent and at markedly low levels.

7.6.27 Natural England and the Northants Bat Group criticised the level of survey work that had been carried out. Paragraph 6.15 and 6.17. Further work was therefore undertaken. Interim results were included in the July Addendum and final results in the October Addendum.

7.6.28 Further transect walk surveys were undertaken and remote detection surveys during 2010 in early summer (June 2010), late summer(July) and Autumn (September). The

October Addendum reports that the findings of the manual transect surveys were similar to those recorded in 2009 as were the results of the remote detection survey. The recent purchase of the mast enabled the results of remote detection to be compared to data obtained at height. During the 9 nights of remote detector surveys only a single faint registration of a long eared bat was recorded at height. The October Addendum concludes that this indicates that the occurrences of bats flying at mast/turbine height is very low, and that it is unlikely that bats will be flying at turbine height in close proximity to the proposed turbines.

7.6.29 Natural England have removed their objection on the basis of this further survey work. They note that the remote detectors did pick up low levels of noctule (a high risk species) at turbine locations (but not from the detector placed at height) and that several registrations of barbastelle (a rare species) were recorded at the site periphery, away from turbine locations. They also note that there were periods of rain during detector survey work in July and September, which might have influenced the level of bat activity and that therefore caution should be used in dismissing the greater level of activity in June. However they consider the assessment to be robust. Paragraph 6.15 . They note that the majority of activity is associated with boundary features and that the sweep of all turbines blades are to be more than 50m from such features. They do however recommend post construction monitoring and this can be achieved by condition.

7.6.30 The Northants Bat Group however maintain their objection and this is set out in full in paragraph 6.17. However Natural England are the statutory consultee and as they are happy with the bat survey and do not dispute its conclusions it would be difficult to substantiate a reason for refusal based upon the impact that the proposal would have on bats.

Other Species

7.6.31 An objector expresses concern about the impact on *Hares*. The ES notes that several *Brown Hare* were recorded within the site, particularly in the North East corner, during the 2006 and 2009 surveys. The ES notes that the *Brown Hare* is a protected species under the UK Biodiversity Action Plan (BAP) and is also listed on the Northamptonshire BAP. It further notes that this species appears to have undergone a substantial decline since the early 1960s. The ES however concludes that despite this decline it remains common and that therefore the presence of this species within the site is of minor consequence. Neither Natural England or the Wildlife Trust raise the presence of this species as being a significant issue.

7.6.32 *Toads* are mentioned by an objector. No reference to the presence of these is referred to in the ES.

7.6.33 The ES notes that the site is likely to support common small mammals including *Field voles*.

7.6.34 The ES notes that the habitats are likely to support a range of common invertebrate species but that there is no evidence to suggest that the habitats are likely to support any rare or notable invertebrate species.

7.6.35 There is thus no reason to conclude that the impact of the proposal on non protected species would be significant.

7.7 AVIATION AND RADAR

7.7.1 The MOD has not objected to the proposal but has requested the imposition of a condition requiring aviation lighting on the turbines. NATs have also not objected on safeguarding grounds.

7.7.2 The Civil Aviation Authority highlighted the need for consultation with Cranfield and Sackville Airports. This has been done and to date no formal comments have been received. In the past Cranfield did express concern about the proposal stating:

“There are definitive plans for Cranfield Airport to install a Search radar on site, for both area control and surveillance approaches. The radar aerial will be gantry mounted and will be 15 metres above airfield elevation. The published height for Cranfield Airport is 109 metres AOD.

Cranfield Airport will need to see detailed drawings showing a side elevation of the rise and fall of the ground between Cranfield Airport and your proposed site, with a straight line drawn between the top of the radar aerial at the airport and the top of the highest turbine blade at the site of the proposed windfarm.

If it can be shown the rise of the land between Cranfield Airport and the proposed wind farm effectively shields the radar from Doppler interference from moving blades, then I will consider the application accordingly. If however, it shows that the highest point of the wind farm turbine blade is in direct sight of the radar head, then I shall be objecting to your planning proposal as it will constitute a direct hazard to the safe operation of Cranfield Airport”

As this is just a proposal and does not have the benefit of planning permission, it would not be possible to substantiate a reason for refusal on this ground.

7.8 NOISE

7.8.1 The principle sources of noise generated from turbines are caused by the blades as they rotate through the air and from internal machinery, normally the gear box and to a lesser extent the generator. Modern turbines are designed to minimise noise emissions but the issue is still one that gives cause for concern. This noise sounds like a swoosh.

7.8.2 Other sources of noise will arise from construction and decommissioning as a result of the use of machinery used to build the development and take it down. Such activities associated with this type of work would be typical of a construction site and could be controlled by condition.

7.8.3 Paragraph 20 of PPS22 advises that ETSU-R-97 should be used to assess and rate noise from wind energy development proposals. This is a 4 stage approach. The first stage is to measure prevailing background noise levels during day and night time periods. The second is to use those measurements to generate maximum permissible day and night time noise levels. These are set at a prescribed margin above background level, normally 5dB(A). This margin recognizes that a balance needs to be struck between the impact of the turbine noise and the need to ensure satisfactory living conditions for those who might be exposed to it. The third stage is to predict likely noise emissions from turbines at each of the representative properties. The purpose of this stage is to provide the turbine operators and local people with the assurance that the turbines will be operated within pre-established noise limits. The fourth stage is to produce draft planning conditions requiring that pre-established noise levels are not breached. Further more detailed explanation is provided in paragraph 6.31 of this report in the comments from Environmental Health.

7.8.4 There is limited headroom at Silcombe House and Manor Farm located in the district of Bedford Borough Council. Headroom is the name for a buffer zone between the measured background level at monitoring locations and the ETSU daytime and night time lower limits of 35dB(A)-40dB(A) and 43dB(A) respectively. Environmental Health express some concern that there would be limited headroom at Manor Farm and Silcombe House in Bedfordshire at night time (it is presumed that this conclusion would also be applicable to Top Cottage which

lies within the vicinity of these two properties) and 5 Stanbrook Way, Yelden during day time. They however have advised that this can be addressed through the use of suitably worded conditions that would control the final turbine selection, post installation monitoring of the units, absolute noise conditions in accordance with ETSU and a full complaints procedure and conditions relating to any reported breach and required mitigation measures.

7.8.5 The noise consultant employed by Preserve suggests that the background noise levels have been overestimated (as readings may not have been taken in the most appropriate locations or at the most appropriate time of year) and that the predicted noise levels of the turbines underestimated (because averaging has been used and inappropriate results inferred from the regression analysis) and that there would thus be more limited or no headroom. He has suggested to Preserve that this could be an area for legal challenge if the Council relies upon the approach in the ES.

7.8.6 The noise consultants employed by the Council are satisfied that the monitoring locations were representative and comply with ETSU guidance. It is understood that an alternative site was used for Lodge Farm as it was not possible to put monitoring units in the amenity area. ETSU states that in circumstances where these conditions cannot be fulfilled (ie the use of amenity areas) an alternative location should be identified at which the measurements of free field turbine noise can be expected to be the same as the property in question. The monitoring location was closer to where the turbines are proposed to reflect this. ETSU also recognises that the time of year can effect noise readings. Environmental Health have advised that summer months may be expected to give higher ambient noise levels due to leaves on trees but lower levels due to reduced rainfall, and vice versa.

7.8.7 Temple, the Council's acoustic consultant has advised, in relation to methodology, that MAS have identified small points that do not invalidate the methodology used in the ES. Whilst they have identified some anomalies in the data they have not said how they should be dealt with in the assessment methodology of ETSU.

7.8.8 Environmental Health do not, based upon the advice of the Council's acoustic consultant, accept the arguments of Preserve's consultant and are satisfied that the ETSU guidance is met and that there are no grounds for refusal due to this type of noise. Legal advice has been taken and officers are satisfied that the advice is robust.

7.8.9 There is another kind of noise which has been found to occur exceptionally at windfarms. This is referred to as amplitude modulation. Complainants have described it as sounding like distant rain or a pile driving operation. It is not understood what causes this and therefore it cannot be predicted. However, as it only occurs exceptionally Environmental Health have taken the view that if it arose it would need to be addressed through their statutory nuisance powers. A condition is also recommended which places the onus on the operator of the windfarm to fully investigate and where necessary mitigate for any noise complaint received including those relating to amplitude modulation.

7.9 SHADOW FLICKER

7.9.1 The rotating turbine blades can cast moving shadows that cause a flickering effect and this can effect residential properties.

7.9.2 The ES indicates that, as a general rule of thumb, only properties within ten rotor diameters of a turbine are likely to be effected. For Chelveston this is 900 metres. The only properties within this distance are:

- Lodge farm
- Manor Farm (in ownership of the applicant)
- High Barn Farm (now known as Silcombe House)
- USAF housing(now known as Chelston Rise)

7.9.3 In the UK there is no rule regarding how much shadow flicker a property could reasonably be expected to accept. However in Germany a legal decision has indicated that 30 hours of actual shadow flicker per year at certain neighbour's properties is acceptable.

7.9.4 The ES explains that a computer model was used to predict the amount of shadow flicker that the above properties could receive. It suggests that a worst case scenario was used in that the model assumes:

- Properties have windows with direct uninterrupted views of the turbine
- No screening is provided by buildings or vegetation
- The rotor plane is constantly perpendicular to the line of the sun
- The turbine is continually operating

7.9.5 The ES then explains that the predicted number of sunshine hours were tabulated with the results from the model.

7.9.6 The model prediction was for the following levels of shadow flicker:

- Lodge farm – approx 10 hours per annum
- Manor Farm – approx 71 hours per annum
- High Barn Farm – approx 58 hours per annum
- USAF housing – approx 28 hours per annum

7.9.7 The number of actual sunshine hours was then applied to these predicted levels (met office data from 1971-2000 – 34% sunshine hours).

- Lodge Farm – approx 3 hours per annum
- Manor Farm – approx 24 hours per annum
- High Barn farm – approx 20 hours per annum
- USAF Housing – approx 10 hours per annum

7.9.8 The ES therefore concludes that predicted shadow flicker levels are within an acceptable range. It also notes that Manor Farm is actually screened by a belt of trees and also that High Barn Farm is screened by trees and buildings.

7.9.9 It does however indicate that if shadow flicker was found to be a problem then a turbine can be shut down electronically during the times when shadow flicker is most likely. A condition could be imposed requiring this.

7.10 THE IMPACT ON HEALTH FROM TURBINES IN CONJUNCTION WITH THE BIOMASS PLANT

7.10.1 A major concern of objectors is that the turbines will adversely effect the dispersal of emissions from the biomass plant and that this would be harmful to human health. It has been argued that as this is the first instance that the two have been proposed together a risk assessment should have been carried out.

7.10.2 As the original ES did not cover this issue, in the light of local concern, the applicant was asked to provide further assessment. This is contained within the October Addendum.

7.10.3 It must be borne in mind in reaching a view on this issue that the County Council have granted planning permission for the biomass plant and this needs to be the starting point for any decision. Only the possible impact of the turbines can be considered.

7.10.4 The conclusion of the Addendum is that:

- When the wind speed is very low, which is when the air quality impacts of the Plant, although small, are at their greatest, the turbines will not rotate and therefore their impact will be negligible.
- When the wind is sufficiently strong that the turbines are operational the impact of the turbines is to increase turbulence and reduce the mean flow in the turbine wakes with little impact elsewhere. Within the wake the overall effect will be a tendency to increase mixing and hence reduce concentrations of the dispersing materials. Outside the wakes there will be little impact.

7.10.5 The Council employed Temple, an independent consultant, to advise on this conclusion. The consultant has advised that emissions from many human activities have the potential to cause nuisance but that this is controlled by a combination of separation distance and atmospheric dilution or dispersal, and that in many cases dilution and dispersal is aided by the release of emissions through tall chimneys. He further advises that the more turbulence and mixing that occur in the atmosphere between source of emissions and receptors (local residents) then the greater the degree of dilution that normally occurs. Thus, he advises, the more atmospheric turbulence and mixing that occurs, then the lower the risk of any adverse effect on the amenity of residents.

7.10.6 The consultant explains how atmospheric stability can effect dispersion.

7.10.7 The consultant advises that there are 2 main elements of wind turbines which might affect the dispersion of odours and other emissions. These are the towers and the turbine rotors.

7.10.8 He advises that in stable conditions air movement will not be constrained by the towers, but that the towers will cause some, but very localised, mixing of air flow in the atmosphere. In unstable and neutral conditions there would be more of a mixing effect.

7.10.9 He advises that in stable conditions the turbines will not be moving and that therefore they are unlikely to have any effect. Under unstable and neutral conditions he advises, the blades will be turning and cause turbulence and mixing.

7.10.10 His conclusion is that the effects of the wind turbines on plume dispersion will at worst be neutral under stable atmospheric conditions but that under all other weather conditions the turbines will have a beneficial effect. This is the same conclusion that the October Addendum came to.

7.10.11 An objection was received from Hargrave Preservation Society in response to the report from Temple. Environmental Health have therefore spoken to the Health Protection Agency (who when they were consulted originally in relation to the application raised no objection) for their comments. Whilst these were due to be provided before this report was finalised they remain outstanding. Any further comments received will be included on the Update Sheet.

7.11 OTHER SAFETY ISSUES

7.11.1 Objectors have raised the issue of the general safety of turbines, referring to ice build up, fire and collapse of turbines. The safety of turbines is considered in chapter 14 of the ES. It is noted that the wind energy has an exemplary safety record and that in 25 years of operating experience no member of the public has been injured during the normal operation of a wind turbine. Objectors however refer to various accidents and fatalities.

7.11.2 The ES notes further that the existing rights of way running through the site are fenced and that the proposal would therefore not pose a danger to a responsible member of

the public. Turbines are also a significant distance from the rights of way. Objectors on the other hand raise the fencing as an issue as people would be “closed in”.

7.11.3 Reference is made to the Guidelines for Health and Safety in the Wind Energy Industry. Warning notices would be provided with contact details. The applicant has highlighted that the turbines to be used at Chelveston will use the latest available technology and would be designed and manufactured to withstand the most extreme weather conditions. There would be a central computer monitoring system linked to a remote monitoring system. Turbine rotation would be automatically stopped at high and low wind speeds. In relation to potential ice throw sensors would be fitted which would detect any imbalance caused by ice accumulation.

7.11.4 The MOD have requested the imposition of a condition in relation to safety lighting.

7.11.5 The Fire and Rescue Service have a proposal to use the base for fire fighting training and this has caused concern to objectors. The service have however confirmed that the site they are considering is to the northern extremity of the former airfield some distance from the turbines and that all fires would be within sealed containers. Orally they have advised that this would not present any fire hazard to a wind farm and they have been asked for their written views.

7.12 ECONOMIC AND SOCIO ECONOMIC CONSIDERATIONS

7.12.1 Chapter 12 of the ES deals with socio-economic impacts and chapter 10 deals with sustainability issues, which objectors have referred to as economic issues.

7.12.2 The ES identifies that there is no standard guidance for the assessment of socio-economic impacts. It includes a review of population and employment information and highlights the importance of tourism to the local economy.

Economic impact on local area

7.12.3 It is identified that the proposal would result in significant investment in the local area. The applicant has adopted a policy of sourcing local goods and services. Whilst the turbine blades and nacelles themselves are to be imported from Europe the towers are proposed to be constructed on site. It is estimated that up to 25 people would be directly employed during the 9 month construction period. Indirect expenditure in local shops, accommodation and service stations is also expected.

7.12.4 The ES identifies that there is debate regarding the impact that windfarms have on tourism. Objectors have suggested that it could have an adverse impact on visitor numbers. The first windfarm received 60,000 visitors in its first year of operation and a total of 350,000 visitors in its first 8 years. The ES refers to research carried out by MORI in Argyll and Bute in 2002. Of the tourists interviewed 40% were aware of the existence of windfarms in the area and 43% thought they had a positive effect.

7.12.5 Whilst the proposed windfarm would be visible from rights of way which attract visitors there is no evidence which would suggest that this windfarm would lead to a drop in visitor numbers. A viewing car park is proposed as it might actually encourage visitors. (It is however fairly small and no ancillary facilities like toilets and cafes are proposed and it would not result in disturbance) It would not be possible to substantiate a reason for refusal based upon the impact that the proposal would have on tourism.

Wider Economic Issues

Subsidies to Windfarms

7.12.6 Objectors have expressed concern that the only reason so many windfarm proposals are coming forward at the present time is because they are supported by huge Government subsidies. This is a matter of national policy and is not a material planning consideration for the determination of this planning application.

Capacity Factors

7.12.7 Objectors have also highlighted that the amount of energy that would be generated by the proposal has been over-estimated. Paragraph 2.6 sets out how much electricity the ES estimates would be generated from the proposal and how much CO2 would be saved (on the basis that one unit of electricity generated from the windfarm would replace one unit of output from coal fired, oil or gas power stations). Windfarms do not operate continuously or at full power and this calculation has assumed a 30% capacity (Appendix 2.1 of the ES indicates that this is the capacity factor recommended by BWEA(British Wind Energy Association)).

7.12.8 Objectors have provided nationally published data for existing windfarms which shows that such a high capacity factor is rarely achieved. They have suggested that somewhere between 20% -25% would be more realistic. They suggest that because of this the development does not meet the tests of sustainable development in PPS1.

7.12.9 It would appear to be difficult to be sure exactly what the actual capacity factor would be. The table below therefore shows what the energy generation and CO2 displacement would be for different capacity factors:

Capacity factor	Electricity Generation MWh	Number of households served	CO2 saving tonnes
30%	59,000	12,500	25,000
25%	49,275	10,484	21,188
20%	39,420	8,387	16,951

7.12 10 Lower capacity figures would still represent a significant saving and given the national need to reduce CO2 emissions it is unlikely that an argument could be put to substantiate a reason for refusal on this ground. Key Principle (iv) in PPS22 identifies that economic benefits of renewable energy, whatever their scale (it makes the same point in relation to environmental benefits) are material considerations that should be given significant weight in determining whether a proposal should be granted planning permission. Even if there was only a small amount of CO2 saving it would still represent sustainable development.

Energy Balance

7.12.11 In addition to considering the displacement of generation from other sources the ES also considers the energy balance of the proposal. This is the time that the turbines must operate to generate as much energy as is used in the life of a windfarm (ie emissions from the construction, decommissioning and operational phases). The ES states that in 10 months each turbine will have generated as much electricity as is consumed through its life cycle.

Community Benefits

7.12.12 The ES identifies that the proposal would include ecological enhancements, mainly as a result of the additional planting and this is identified as a community benefit. This planting is however something which is required for the Biomass proposal and would be essential mitigation for the windfarm.

7.12.13 Members will recall that Barnwell Manor Wind Energy Ltd, in relation to the proposed windfarm at Catshead Wood, Sudborough (ref 10/00068/FUL) proposed to make a contribution to a local development fund to enable financial support to be given to local social, educational and environmental initiatives. The ES stated that various local initiatives and organisations were being looked at as potential beneficiaries including the implementation of a Renewable Energy Voucher Scheme where existing households located in close proximity to the wind farm would receive a contribution payment or be offered a discounted tariff with a nominated supplier towards their annual electricity costs over the operational life of the wind farm.

7.12.14 Circular 05/2005 'Planning Obligations' sets out government advice on the role of planning obligations in the planning system. It advises that planning permissions must not be bought or sold. It is therefore not legitimate for unacceptable development to be permitted because of benefits or inducements offered by a developer which are not necessary to make the development acceptable in planning terms. The circular also advises against the use of obligations to secure the community a share in the profits of a development. Notwithstanding this, there is scope for the developer to offer benefits and for the community to accept them. "Delivering community benefits from wind energy development: A Toolkit" (Renewables Advisory Board, 2009) advises that the local authority can play a role in facilitating this process providing that the Officers or Councillors involved should not be in a position to influence the outcome of the planning decision. Chelveston Parish Council has raised this as an issue however to date no detailed discussions have taken place with the applicant.

7.12.15 A specific benefit in relation to this proposal would be improvement to the rights of way by the removal of the unattractive heras fencing. This has been raised with the developer and it is recommended that a condition is imposed requiring a scheme to phase this in. The proposed windfarm would clearly result in some visual impact and impact to users of the rights of way, and whilst not so significant that refusal of the application is recommended on this ground, this would be a benefit directly related to an impact.

7.13 HIGHWAYS

7.13.1 The ES includes the following information in respect of traffic generation, in Chapter 2 pages 19-22). It suggests that most impact will come from the construction phase.

Traffic Generation

Construction traffic

Component/Activity	Deliveries	Round Trips
Delivery of turbines	45	90
Delivery of steel plates and section for tower	90	180
Crushed stone for tracks and hardstanding (assuming no material re-cycled)	1201	2402
Delivery and removal of plant and equipment	50	100
Concrete materials	340	680
Geotextile for tracks and hardstanding	13	26

Materials for foundations	26	52
Delivery of cabling and trench sand	90	180
Delivery and removal of cranes	20	40
Total	1875	3750

(Note – the delivery of turbines are abnormal loads)

7.13.2 The ES notes, in Chapter 2, that on average just over 14 HGV movements per day are expected. However in Chapter 5 (para 6.60) it notes that there will be certain periods during construction when there will be higher volumes of traffic. During the construction period the ES indicates there should be a maximum of 25 people working on site.

Operational Traffic

7.13.3 The ES indicates that there will be no requirement for HGV vehicles to access the site during the routine operation of the wind farm. On average, it indicates, there will be one small vehicle or light van per day accessing for security purposes.

7.13.4 Servicing and maintenance of the turbines, it is advised, would be carried out once or twice a year. This would be likely to be carried out by teams of 2 people accessing the site in a 4x4 vehicle.

Decommissioning Traffic

7.13.5 The ES states that dismantling, at the end of 25 years, would require approximately 71 exceptional loads from the site and up to 155 HGV loads over a 6 month period.

7.13.6 Chapter 6 of the ES deals with the issues of access transport and traffic and the impact the development would have on the local road network and highway safety.

Routes to Access the Site

7.13.7 The ES notes that wind turbine components are likely to be imported from Europe and that the ports of Immingham and Felixstowe both have well established routes to the A6 near Chelveston. There are then 2 possible routes:

- Route A – via the B456 through Chelveston to the northern access of the site
- Route B – access via Newton road to the southern entrance of the site

(see plan in Appendix 2 to this report)

Route A

7.13.8 The ES contains an assessment of the baseline condition of this route noting that it is a single carriageway without footways or street lighting and only partly kerbed, except in the village of Chelveston. It has a speed limit of 60 mph except in Chelveston where it is 30 mph. At the western end of the route there are signs indicating speed camera enforcement. It is a "Motorcycle Red Route" (a route where four or more people have been killed or seriously injured over past 3 years over a 1000m stretch in a rural area).

7.13.9 In June 2009 2721 vehicles were recorded (average 12 hr weekday). 197 of these were large vehicles (HGVs or buses). The ES indicates that pedestrians were noted on the footpaths within Chelveston.

7.13.10 Accident data shows that between 1 January 2006 and 31 March 2009 there were 12 personal injury accidents (PIAs) recorded from its junction with the A6 to the northern access.

One of these was fatal, 5 serious and the other 8 slight casualties. Six of the PIAs were single vehicle loss of control; 3 were head on collisions; and 3 occurred at junctions. One of the junction accidents involved a cyclist.

7.13.11 In 2005 62% of motorcyclists on the B645 west of Chelveston broke the speed limit and 221% of these were at speeds between 80 and 107 mph. East of Chelveston 84% of riders broke the speed limit, and 50% of these were between 80 and 133 mph.

7.13.12 The ES notes that the B645 has accident reduction measures, but that this route has more hazards.

7.13.13 The northern site access goes from this route. The ES notes that this has adequate visibility but that it is on a long straight section after winding carriageway, which makes it an appealing place for overtaking.

7.13.14. In terms of suitability the ES notes that the B645 is a classified route, which means that it is better maintained and that it already carries HGVs. It was formerly the A45 trunk road. The ES comments that it is capable of accommodating significant traffic movements. The ES also notes that the carriageway widths are more suitable and that the road is well signed. The ES does however note that this route passes through Chelveston with tight bends and changes in vertical and horizontal alignment.

7.13.15 There are more residential properties along this route and coming into the village of Chelveston from the west there is a gradient and sharp bends meaning that HGVs would need to brake.

Route B

7.13.16 The ES also contains an assessment of the baseline condition of this route, noting that it is a single carriageway with no footways, no street lighting, few road markings and no kerbing. It has a speed limit of 60 mph. Four junctions are noted along the route. There are only 2 residential properties.

7.13.17 In June 2009 traffic flow was 570 vehicles (two-way average 12 hr weekday traffic flow). 80 of these were large vehicles. The ES indicates that no pedestrians were noted on this route during the site visit.

7.13.18 Accident data shows that between 1 January 2006 and 31 March 2009 there were 2 personal injury accidents (PIAs). These resulted in one fatal and 2 slight injuries. Both were head on collisions that occurred on the Caldecott Road at the bend near to the access road that leads into the application site.

7.13.19 This route has no accident reduction measures on this route and the ES notes that it has fewer potential hazards. Although attention is drawn to its narrow width which could the ES notes lead to conflict with HGVs.

7.13.20 This route gives access to the southern site access. The ES notes that the access from Newton Road comprises 2 small t-junctions in an area with less traffic.

7.13.21 The ES notes that Newton Road only has 21% of the flow of the B645, and that there are fewer accesses to properties, that there is less variation in the vertical and horizontal alignment and less need for a driver to brake and change gear. It is however noted that it is an unclassified road which means that it has less maintenance, which could be made worse by HGVs. The ES also notes that at several points there is no space for HGVs to pass and at some points for a HGV to pass a car. There are more changes of direction on this route that could mean that HGVs would need to use the wrong side of the road at the junction.

7.13.22 Newton Road only has 2 residential properties. It is noted that HGVs already use

this route as there is a haulage firm on the northern side of Newton Road.

Preferred Route – Existing Traffic

7.13.23 The ES concluded that Route B via Newton Road was the preferred route. This is the route that is to be used by HGVs accessing the Bio-mass plant.

7.13.24 The ES contains a detailed assessment of the junctions along this route. It also advises that sections of this route are required to be upgraded to implement the planning permission for the Bio-mass plant.

7.13.25 The ES also considers traffic volumes on this route. Surveys were carried out in June 2009. These showed the following traffic movements (for a 12 hour average weekday 7.00 to 19.00)

Current Traffic Flows on Newton Road and Link Road

Road	Total HGVs	Total Vehicles
Newton Road	80	570
Un-named Road	41	674

Traffic flows projected for Newton Road with the Bio-mass plant and Bio-fuels:

Road	Total HGVs	Total Vehicles
Newton Road	80	570
Bio-mass and Bio-fuels	42	42
Total	122	612

Impact on Highway Network

Construction impact

7.13.26 The ES explains that to assess the capacity of the preferred route to accommodate the exceptional loads the following has been assumed:

- Rotor blades – 45m long, 3.6m diameter, 8,250 Kgs
- Nacelles – 10.2m long, 4.3m diameter, 85,000 Kgs

It is noted that these are larger than those required for the proposal.

7.13.27 The turbines blades are likely to be transported on extendable trailers with all wheel steering. Long or exceptional loads would be escorted as necessary. Movement of such loads is legislated for under the Special Types General Order. Movement of loads over 30m require approval by the Highways Agency. The type of vehicle required to convey the turbine blades are generally capable of travelling at normal speeds on trunk roads. Traffic management by the police might be required on the more local roads. The nacelles could be carried on low loaders which can circulate freely.

7.13.28 For the purpose of the impact assessment double the average movements is assumed ie 28 vehicle movements per day.

The following increases in traffic movements on Newton Road are predicted:

Vehicle	Current	Construction	Estimated Increase
HGVs	122	28	23%
Total	612	53	8.7%

(Note: These figures include the Bio-mass plant and Bio-fuel facility)

7.13.29 It is suggested that there is no need for a detailed assessment of the effects. For Members information NCC have not requested this.

Operational Impacts on Highway Network

7.13.30 As set out above there will be limited vehicle movements during the operational phase. The ES notes that these flows would be negligible and therefore it does not assess them. This is reasonable given that the purpose of an ES is to consider the significant environmental effects of a proposal.

Driver Distraction Impacts

7.13.31 The ES notes that the closest turbine would be more than 300m from any road and that therefore the danger to motorists from structural failure or “icing” can be discounted.

7.13.32 The ES notes that there is no evidence that road accidents increase following introduction of turbines. Whilst the HA Guidance “Advice Note SP12/09 – Planning Applications for Wind Turbines sited near to Trunk Roads, suggest that locations next to roads with a history of shunt type accidents should be avoided. This is not the case in this location.

Decommissioning Impacts

7.13.33 The ES indicates that the impact of decommissioning has not been assessed, as the baseline highway and traffic data will not be relevant in 25 years. However it is suggested that the impacts will be, as minor in significance, as those relating to construction, especially given that overall vehicle movements will have increased. This would seem to be a reasonable conclusion.

Cumulative Impact

7.13.34 The ES indicates that the following HGV movements are predicted: for the construction phase of the Bio-mass plant:

- 170 HGV deliveries over 6 months; an average of 2 HGV movements per day. This will generate a predicted increase in HGVs of less than 3% on Newton Road.

7.13.35 The following HGV movements are predicted for the operational phase of the Bio-mass plant and Bio-fuel facility:

- 42 HGV movements per day, which is a 50% increase in current traffic flows on Newton Road and 100% on the un-named road. For total traffic numbers an increase of less than 7% on Newton Road is predicted as a result of deliveries to the biomass plant during its operational period.

Mitigation and conclusions

7.13.36 The ES includes a section on mitigation, The main method it suggested was to use the route that avoids traffic going through Chelveston (route B), although signage, timing of loads and traffic management is also proposed.

7.13.37 The Highways Agency and Local Highway Authority requested swept path analysis for the local and trunk roads. This was included within the July Addendum. On the basis of this both the Highways Agency and Highway Authority have advised that they have no objection to the proposal. The Local Highway Authority were satisfied that route A can be used for the delivery of large turbine components and they advised that route B should be used for all other traffic. In addition they require the implementation of the off-site highway works agreed for the Bio-mass plant to be implemented. These matters can be controlled by suitably worded conditions.

7.14 LEISURE AND RIGHTS OF WAY

7.14.1 There are a number of footpaths and bridleways that cross the site and the site is also visible from the Three Shires Way. Further detail is provided in the comments from the Rights of Way Officer at NCC. Objectors have also provided leaflets of the walks in the area which pass through the site and have highlighted that the rights of way are well used by locals and visitors.

7.14.2 The Companion Guide to PPS22 advises that turbines should be set back from roads and railways of at least the fall over distance so as to achieve maximum safety. There is no statutory separation distance between a wind turbine and a public right of way. However, the fall over distance is normally considered an acceptable separation distance and the minimum distance is often taken to be that the turbine blades should not be permitted to oversail a public right of way. In relation to bridle paths, the British Horse Society has suggested a 200m exclusion zone around bridle paths to avoid frightening horses.

Visual Impact

7.14 3 The LVIA in the ES considers the impact on users of rights of way outside the site, however the ES also includes a separate chapter which considers the impact on rights of way within the immediate vicinity of the site. The ES identifies that when the land was in operational use by the MOD these were not open but that they have since been re-instated although not necessarily on their original route. The ES also identifies that when a land was bought the applicant carried out a risk assessment as a number of safety hazards had been identified within the site, and fencing was carried out to the rights of way (Further clarification has been sought from NCC regarding this and will be reported on the Update Sheet).

7.14.4 The ES considers 9 viewpoints in relation to these more local rights of way. The ES identifies that the methodology to assess the impact on these is the same that was used in the LVIA.

7.14.5 The ES identifies the sensitivity of each of the 9 views as medium-high (to qualify as high sensitivity it suggests rights of way users would need to be on national trails, in National Parks, Areas of Outstanding Beauty or within recreational areas like Regional Parks or National Trust land). It notes that the current view is of an open and exposed landscape, consisting of poor quality grazing land with a cluster of buildings within the centre of the site, and that the horizon is formed either by the landform of the plateau or tree planting at the edge of the site. It further notes that walking away from the centre there are long distance open views to the west and east. It is noted that the fencing to the rights of way is noticeable to the users of the rights of way particularly users of the footpaths, where the fences are in close proximity. The fence lines channel views along the route of the public rights of way. It is noted that the feeling of openness is reduced by the fencing.

7.14.6 The ES identifies that due to the openness and generally flat elevation of the plateau the majority of the turbines would be visible from most bridleways and footpaths within the site. The ES further notes that the turbines would form dominant and prominent visual features within the open and exposed landscape of the plateau for all viewpoints. The degree of visual change is therefore identified as being high, as the proposals will form a dominant, significant and prominent part of the view, although within a landscape which is considered to be of poor quality and from footpaths and bridleways with views restricted by fencing.

7.14.7 The ES suggests that having regard to the existing levels of quality, integrity and key characteristics of the landscape and visual setting and the establishment of planting (proposed for the Biomass plant) the effect of change is a neutral one.

7.14.8 It concludes in paragraph 9.31 that based upon an overall magnitude of change as moderate that there will be a medium level of significance. It suggests that as the site is strongly influenced by man made structures and has the capacity, due to its low sensitivity to accommodate further development the significant effect is considered as a neutral one.

7.4.9 LUC in their first response did not consider the visual impact on users of rights of way as this aspect of the visual assessment had been included in the rights of way chapter. They were specifically asked to consider this impact and in their second response concluded that the visual impact to users of the rights of way had been correctly assessed in the ES.

7.14.10 Your officers however are of the opinion that this section of the ES is somewhat contradictory. In particular it is not fully explained why the magnitude of change is considered only to be moderate when it is identified that the visual change is high. The definitions in this chapter for magnitude of change are:

High – The proposals form a dominant significant and prominent part of the scene/view that affects and changes the overall character, or forms a major element in the existing high quality view, or high quality landscape or large proportion of visible sky.

Moderate – The proposals form an immediately apparent and recognisable new element within the overall scene, although not necessarily the single dominant element readily noticed by the observer within the existing view, or moderate quality landscape or main part of the visible sky.

It is presumed because the quality of the landscape is considered in the ES to be poor the impact is considered to be moderate, however LUC have advised that the ES has underestimated the quality of the landscape. If it is concluded that the magnitude of change is high (and there would seem to be some basis for such a conclusion) then the impact would be of High-Medium significance which would mean that the impact on rights of ways is of significance for the purposes of the ES. This is considered further in the conclusion to this section.

7.14.11 The ES includes an analysis of the impact of the cumulative impact of other windfarms. It considers the impact in relation to Burton Wold, Bicton Wold, Airfield Farm, Nun Wood, Milton Keynes and Ringstead Grange. It suggests:

- Burton Wold would only be visible from 2 of the 9 viewpoints within the site and then only just visible with the naked eye, being at a distance of 9.6km
- Airfield Farm, Poddington and Nun Wood,(proposed turbines) have the potential to be visible being at 9km and 13km from the southern part of the site.
- Milton Keynes wind farm would not be visible from the site
- Ringstead Grange, (proposed turbines), at 5.0-5.7km would potentially be visible
- Bicton, (proposed turbines) at 8Km have the potential to be visible and it is noted that in good visibility they would be seen to be larger in scale than the existing Burton Wold

turbines

It concludes that only the cumulative effect in relation to Ringstead Grange and Bicton would change the conclusions of the visual assessment. For Ringstead this would result in a high-medium significance for 3 of the 9 viewpoints in year 1 but that this would revert to medium significance after year 15 due to planting. For Bicton the cumulative impact would result in a high-medium significance for 8 out of the 9 viewpoints and that this would not be mitigated by planting. It however appears unlikely that if a proposal comes forward at Ringstead Grange it will be in a similar form to the scoping request. It is likely that it would be at a much reduced scale. Huntingdonshire District Council have refused the application at Bicton due to the impact on cultural heritage assets and the visual impact of the proposal. Cumulative impact in relation to proposed turbines could be very difficult to argue if an application was refused on this basis as such impacts might never come to fruition.

7.14.12 The ES also considers the impact on rights of way in proximity of the site from movement of blades, shadow of blades, and noise.

Movement of blades

7.14.13 An issue is that the movement of blades can startle horses. PPS22 therefore indicates that:

“The British Horse Society (BHS), following internal consultations, has suggested a 200m exclusion zone around bridle paths to avoid wind turbines frightening horses. Whilst this could be deemed desirable, it is not a statutory requirement, and some negotiations should be undertaken if it is difficult to achieve this”

The BHS has reviewed its policy and now suggests that a separation distance of four times the height of a turbine should be the target for national trails and Ride UK routes and 3 times elsewhere, with the 200m referred to in PPS22 being seen as a minimum.

7.14.14 The ES indicates that the design of the proposal complies with the guidance in PPS22, in that all turbines are located a minimum distance of 200m from a bridleway. The ES also suggests that as the turbines are tall their blades will be further above the ground which should reduce the impact. It further notes that the level nature of the site and the enclosure provided by the fences ensures that within the site there are no unexpected views of the turbines from the bridleways. Horses, it is suggested, would have a gradual awareness of the turbines from the approach routes into the site.

7.14.15 The ES identifies that all turbines are located at least 50m from public footpaths.

Shadows

7.14.16 The length and duration of shadows is dependent upon the time of day and time of year. IN general shadows are longest in winter and early morning and late afternoon/evening. It is moving shadows which can cause the problem. Using a computer programme the ES identifies the impact of shadows on the bridleways in paragraph 9.54 and 9.55. The ES dismisses the effect as not being significant on the basis that all turbines are more than 200m from a bridleway.

Noise

7.14.17 The ES identifies that ETSU-R-97 does not refer to noise levels apart from those for housing. The ES refers to noise levels which were specified in a now superseded advice note for mineral development and concludes that noise levels will not significantly effect users of the rights of ways.

7.14.18 The Rights of Way Officer at the County Council advises that she has no objection in principle to the application, although she does not specifically comments on the issues of proximity of turbines to the rights of way, shadow flicker or noise.

7.14.19 She does however advise that NCC Rights of Way will need to agree surfacing materials for Bridleway MM18, which is to be used to provide access to the site.

7.14.20 In addition, she highlights that there will be a need for the proposal to provide contributions towards the Rights of Way Improvement Plan. She also requests the removal of the fences adjacent to the rights of way.

Conclusions in relation to impact on rights of way

7.14.21 It seems clear that there will be a visual impact to users of rights of way both within and from outside the site. However in considering this it has to be taken into account that such views will not be constant but will appear, get more noticeable and then be behind the right of way user as they continue on their journey. Although most people consider that the impact of turbines is not positive the turbines have been sited so they are more than 200 metres from all bridleways in accordance with PPS22 advice and on this basis it would be difficult to justify a reason for refusal based upon the impact on rights of ways particularly as the rights of way section at NCC have not objected to the proposal. It would be surprising if local people chose not to continue to use the rights of way if the turbines were to be granted permission and erected. Objectors have highlighted that the area is also used by visitors and the impact on tourism was considered in paragraph 7.12 above where it was concluded that it would not be significant.

A condition is recommended requiring the removal of the heras fencing adjacent to the rights of way and therefore is it is not considered there needs to be any requirement, as suggested by NCC, for contributions towards their Rights of Way Improvement Plan as the removal of the fencing would represent a significant local improvement.

7.15 ELECTROMAGNETIC INTERFERENCE

7.15.1 A wind turbine can cause electromagnetic interference in two ways, by emitting a signal itself, and by interfering with other signals. The nature of the interference depends on the size of the structure relative to the wave length of the radiation. Advice in the Companion Guide to PPS22 advises that providing careful attention is paid to siting, wind turbines should not cause any significant problems of electromagnetic interference i.e. adverse effects on communication systems which use electromagnetic waves as the transmission medium (e.g. television, radio or microwave links).

7.15.2 Organisations were consulted as part of the preparation of the ES and after further work, no objections have been raised. It has therefore been concluded that the positioning and dimensions of the turbines will not cause disturbance to communication systems, including those used by emergency services and mobile telephone service providers.

7.15.3 In relation to TV interference it is worth noting that analogue signals are more effected than digital ones. As switchover is due to occur the impact on TV reception would be minimal. However a condition could be imposed to mitigate any impact.

7.16 HYDROLOGY AND SOILS

7.16.1 This issue is considered in Chapter 13 of the ES. It is noted that as the site was a former airfield made ground is likely to be present over significant area. It also identifies the underlying geology. The site does not lie within any aquifer protection zones. The nearest river is the River Til 4.5 km to the north west.

Flood risk

7.16.2. One objector suggests that putting such large amounts of concrete in the ground will result in flooding to Yelden The site, however is located within Floodzone 1 and The Environment Agency have raised no objection to the application.

Contamination

7.16.3 When the site was decommissioned by the MOD a site investigation was carried out. Some contamination was identified however Environmental Health are satisfied that adequate remediation can be carried out and have recommended the imposition of a number of conditions.

7.16.4 The applicant has sought to argue that the presence of contamination is one of the reasons why the heras fencing was erected adjacent to the rights of way. The Council's Environmental Health team have never been provided with the original investigation that was carried out by the MOD and therefore further advice has been sought from NCC rights of way. Any further information received will be included on the Update Sheet.

7.17 OTHER ISSUES

7.17.1 Objectors have raised a number of other miscellaneous issues, some of which are not relevant to the determination of this application; for example a number of comments, including references to smell, pests vermin, palm oil, actually refer to issues related to the Biomass Plant and Bio-fuel operation.

Set Back Distances

7.17.2 A number of objectors have referred to a Bill currently being considered by the House of Lords which could potentially specify a minimum set back distance of turbines from dwellings. To date this has only had a first reading (this stage is a formality which signals the start of a Bill's journey through the Lords). The general debate will be at the second reading and this has not yet been scheduled. Set back distances are not Policy, and indeed it is unclear how they would accord with advice in PPS22, and cannot be regarded as a material planning consideration.

Greenfield Nature of the Site

7.17.3 Whether or not the site is Brownfield/previously developed or Greenfield is not relevant to the consideration of this application. The need for renewable energy and the environmental impacts of a proposal are the material planning considerations.

Loss of Farming Land

7.17.4 Only a small portion of the former airfield would be developed and agricultural use of the land could continue.

Light Pollution

7.17.5 Whilst aircraft warning lights will be required for the turbines these would not generate sufficient light pollution to justify refusal of the application.

Other Renewable Sources of Energy or locations

7.17.6 An objector suggests that solar parks may be more efficient, another that more suitable areas exist. As Members are aware they need to consider the proposal before them.

Future Proposals

7.17.7 An objector wonders what the proposal will lead to and whether there will be more turbines proposed in the future. As Members are aware they need to consider the proposal before them.

Lack of Consultation

7.17.8 The developers carried out extensive pre-application consultation in 2006 and would appear to have amended the proposal as a result of this. There was no requirement for them to do further public consultation immediately prior to the submission of the application. The fact that the occupier of Lodge Farm bought the property after this earlier public consultation is not something that should influence the decision. They have had the opportunity to make representations in relation to this application and have done so.

Level of Information that has been Submitted

7.17.9 The application was accompanied by a detailed Environmental Statement, and two detailed Addendums have been submitted to address issues raised by consultees and by consultants employed by this Council. The documents can be read together and there is no justification to request that the original ES be re-written. The submission now fully considers the significant environmental impacts of the proposal.

Human Rights

7.17.10 Objectors have raised issues with respect to the Human Rights Act in regard to protection of family life and of property rights. The local planning authority does have to have regard to the Act when making decisions on planning applications and make its decision in accordance with the law. In this case, the expectation will be that the local planning authority will arrive at a decision that is not unreasonable (to the extent that it could be challenged on judicial review grounds), based on all relevant material planning considerations. If this can be shown, then the local planning authority should be able to resist any challenge under the Human Rights Act.

House sales, prices, views and Council Tax

7.17.11 The impact on the value of property or the loss of a private view are not material planning considerations. Neither is the suggestion that the presence of the windfarm would be a ground for reducing Council Tax.

History of the Site

7.17.12 The fact that Chelveston was mentioned in the Domesday book does not justify refusal of the application.

7.17.13 Neither does one objectors suggestion that the airfield is sacred ground and should be left so, or that it is a disgrace to the brave airmen.

7.18 CONCLUSIONS

General overview

7.18.1 In accordance with S.38(6) of the Planning and Compulsory Purchase Act 2004 this application falls to be determined in accordance with the provisions of the development plan unless material considerations indicate otherwise. This report has sought to set before Members the relevant provisions of the development plan and other material considerations. Members have also been advised that for the time being policies contained within the East

Midlands Regional Plan are to be regarded as a material consideration in the determination of this application.

7.18.2 Tackling climate change is a key Government priority for the planning system and its objective of securing sustainable development. National guidance sets the framework for addressing the issue and securing implementation of planning policy at regional and local level, which will contribute to the reduction in carbon emissions and other green house gases. Also key to the government's policy on achieving sustainable development is the need to protect and enhance the natural and historic environment, the quality and character of the countryside and existing communities. What is clear is that a balanced judgement needs to be made between the benefits of renewable energy production and any adverse effects.

Electricity Generation and CO2 reduction

7.18.3 Whilst capacity factors may be lower than the applicant has predicted the proposal would still make a valuable contribution to meeting renewable energy targets.

Renewable Energy Targets in the RSS

7.18.4 Whilst RSS includes targets for renewable energy these are indicative only.

Visual Impact/Landscape Impact

7.18.5 Most people hold the view that turbines can have a harmful impact on the landscape and the level of objection that has been received on this ground is high. However, despite the Localism Bill, this in itself is not sufficient grounds to refuse the application. A decision needs to be made on the merits of the case.

7.18.6 The ES includes a detailed assessment of the visual impact of the proposal and whilst it was not as clear as it could have been and required amendment, this was addressed through the submission of 2 Addendums and a ZTV for proposed windfarms. The Council's landscape consultant LUC have advised that the proposal would not have such a significant effect on the landscape to justify refusal.

Cultural Heritage

7.18.7. Policies HE9 and HE10 in PPS5 advise that the harm to the setting of a listed building needs to be weighed against the wider benefits of an application and that the level of harm also needs to be considered . Whilst the proposal would have some impact of the setting of Yelden Church, which is in Bedfordshire, this would not be substantial and the renewable benefits of the proposal outweigh the harm to this single heritage asset. English Heritage have not objected to the application and it would be difficult to substantiate a reason for refusal on this ground.

Archaeology

7.18.8 NCC are satisfied that there is no need for any additional survey work at this stage. They advise that any archaeology will have been effected by the past history of the site and recommend the imposition of a condition.

Ecology

7.18.9 The additional survey work that has been undertaken has satisfied Natural England, who are the statutory consultee in relation to ecological matters that the proposed windfarm would not have a significant ecological impact.

Noise

7.18.10 The impact of noise from turbines is a very technical issue, which is why advice was sought from a specialist noise consultant. The advice from Environmental Health colleagues based upon their advice is that it would be possible to address this issue through suitably worded conditions.

Health issues in relation to the Biomass Plant

7.18.11 This is a major issue for objectors. The Biomass plant has the benefit of planning permission and will also require an IPPC permit from the Environment Agency. All that can be considered under this application is whether there is any merit in the argument put forward by objects that the turbines will effect the dispersal of pathogens and smells. Further information was requested and advice was sought from specialist consultants whose view is that the turbines might actually help dispersal. This conclusion has however been disputed by objectors and the Health Protection Agency have therefore been asked to advise further and any comments received will be included on the update sheet.

Other Safety Issues

7.18.12 There is no evidence to suggest that there are any overriding safety issues. The technology has national support.

Rights of Way and Tourism

7.18.13 Whilst there is no doubt there will be some impact to users of rights of way, including the Three Shires long distance right of way it would be difficult to consider this as being so significant to justify refusal of the application. It is also unlikely that local people and visitors would stop using the rights of way and that the proposal would have a harmful effect on tourism.

7.18.14 The applicant has been asked to consider removal of the unattractive heras fencing adjacent to the rights of way. This would help to provide some community benefit. A condition is recommended in relation to this.

Aviation and Radar

7.18.15 The MOD and Civil Aviation Authority do not object to the application. Whilst Cranfield Airport have expressed concern their expansion proposals are at too early a stage to justify refusal of the application.

TV Interference

7.18.16 There is usually a technical solution to any TV interference that might arise and this is normally addressed by the imposition of a condition.

Highways

7.18.17 Whilst access to the site is a matter of local concern neither the Highways Agency or the Local Highway Authority object to the application and therefore it would not be possible to substantiate a reason for refusal on this ground.

Hydrology

7.18.18 No issues emerge in relation to hydrology that cannot be addressed through the imposition of conditions.

Conclusion

7.18.19. Whilst a number of significant concerns have been raised by objectors and there is strong objection locally to the proposal, on balance having regard to the information included within the ES, as amended by the Addendums and additional plan, national policy, the development plan and other material considerations officers consider that it would be difficult to refuse the application on planning grounds.

8 Recommendation

8.1 That permission be GRANTED subject to conditions.

9 Conditions/Reasons -

1. The development hereby permitted shall begin not later than three years from the date of this decision.
Reason: In accordance with Section 91 of the Town and Country Planning Act 1990, as amended by Section 51 of the Planning and Compulsory Purchase Act 2004, to prevent the accumulation of unimplemented planning permissions.
2. The permission hereby granted shall expire no later than 25 years from the date when electricity is first exported from any of the wind turbines to the electricity grid network ("First Export Date"). Written confirmation of the First Export Date shall be provided to the Local Planning Authority no later than 1 calendar month after the event.
Reason: The turbines have a design life of 25 years and in the interests of visual amenity are to be removed from the site after this date and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.
3. Not later than 12 months before the expiry of this permission, a decommissioning and site restoration scheme shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall make provision for the removal of the wind turbines, the associated above ground equipment and foundations to a depth of at least one metre below ground. The scheme shall include the management and timing of any works, a traffic management plan to address likely traffic impact issues during the decommissioning period, a noise controls during decommissioning, an environmental management plan to include details of measures to be taken during the decommissioning period to protect wildlife and habitats, identification of access routes, location of material laydown areas, restoration measures and a programme of implementation. The approved scheme shall be fully implemented within 24 months of the expiry of this permission.
Reason: The turbines have a design life of 25 years and in the interests of visual amenity are to be removed from the site after this date and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.
4. If any of the turbines hereby permitted fails to operate for a continuous period of 6 months, a scheme shall be submitted to the Local Planning Authority for its written approval within 3 months of the end of that 6 month period for the repair or removal of the relevant turbine. The scheme shall include as relevant a proposed programme of remedial works where repairs to the relevant turbine are required; a method statement and timetable for the dismantling and removal of the relevant turbine and associated above ground works and foundations to a depth of at least one metre below ground; and a method statement and timetable for any necessary restoration works following removal of the turbine. The scheme shall thereafter be implemented in accordance with the approved details and timetable.
Reason: To safeguard the amenities of the adjoining occupiers and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.
5. No development shall take place until a Construction Traffic Management Plan has been submitted to and approved in writing by the Local Planning Authority. The Construction

Traffic Management Plan shall include proposals for the routing of construction traffic, scheduling and timing of movements, the management of junctions to and crossings of the public highway and other public rights of way, details of escorts for abnormal loads, temporary warning signs, temporary removal and replacement of highway infrastructure/street furniture, reinstatement of any signs, verges or other items displaced by construction traffic and banksman/escort details. The approved Construction Traffic Management Plan including any agreed improvements or works to accommodate construction traffic where required along the route, shall be carried out as agreed in writing by the Local Planning Authority.

Reason: In the interests of amenity and public safety and to prevent any unacceptable effects arising from the construction process including any deposit of mud or other extraneous material on the highway during the construction period and in accordance with Policy 13 of the North Northamptonshire Core Spatial Strategy.

6. Prior to the commencement of development a Construction Method Statement shall be submitted for the approval in writing of the Local Planning Authority. Thereafter, the construction of the development shall only be carried out in accordance with the approved Statement, subject to any variations approved in writing by the Local Planning Authority. The Construction Method Statement shall address the following matters:
- (a) Details of the phasing of all construction works.
 - (b) Details of the construction and surface treatment of all hard surfaces and tracks.
 - (c) Details of the proposed storage of materials and soils and disposal of surplus materials.
 - (d) Dust management.
 - (e) Siting and details of wheel washing facilities.
 - (f) Details of the proposed temporary site compound for storage of materials and machinery (including areas designated for car parking).
 - (g) The construction of site access and the creation and maintenance of associated visibility splays.
 - (h) Cleaning of site entrances, site tracks and the adjacent public highway and the sheeting of all HGVs taking spoil or construction materials to/from the site to prevent spillage or deposit of any materials on the highway.
 - (i) Pollution control: protection of water environment, bunding of fuel storage areas, surface water drainage, sewage disposal and discharge of foul drainage.
 - (j) Proposals for post construction restoration/reinstatement of the temporary working areas and track shoulders and crane pads.
 - (k) Details of emergency procedures and pollution response plans.
 - (l) A site environmental management plan to include details of measures to be taken during the construction period to protect wildlife and habitats.
 - (m) Site illumination during the construction period.
 - (n) Details of the routing of underground cables.
 - (o) proposed hours of work
 - (p) excavations, fabrication and erection of turbines

Reason: In the interests of amenity and public safety and to prevent any unacceptable effects arising from the construction process including any deposit of mud or other extraneous material on the highway during the construction period and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

7. Notwithstanding the submitted details, prior to any construction work taking place in relation to the development hereby approved the following details shall be submitted to and approved in writing by the local planning authority:-

1. Hard surface materials to the highway improvement works at the junction of the C59 and unclassified Road fronting the site.
2. Provision of vehicle visibility splays at the junction with the C59 Rushden Road.
3. HGV "Directional Signs" (unclassified road in advance of the junction with the C59, also at a point to be agreed, C59 in advance of the junction with the C119 junction).
4. Road markings.
5. Timetable for implementation of works

The submitted details shall illustrate a carriageway width junction / widening

improvement works which are to the local highway authority's adoptable standard. The development shall be constructed in strict accordance with the approved details and approved vision splays retained thereafter.

Reason: in the interests of highway safety.

8. Route A, as identified in the Environmental Statement and Environmental Statement addendum July 2010, shall be used solely for delivery of the wind turbines and blades and associated abnormal components and for no other deliveries. In the event of an emergency the link accessing the B645 from the former Shelton Road can be used to serve emergency vehicles and for no other purpose.

Reason: in the interests of highway safety.

9. All Heavy Goods Vehicle movement, during both construction, operation of the windfarm and decommissioning, shall use Route "B" only, as identified in the Environmental Statement and Environmental Statement addendum July 2010.

Reason in the interests of highway safety.

10. No development shall take place until details of the dimensions, finish and colour of the wind turbines and any external transformer units and of the finish and colour of the anemometer mast shall be submitted to and approved in writing by the Local Planning Authority. No name, sign, symbol or logo shall be displayed on any external surfaces of the turbines or any external transformer units or the anemometer mast other than those required to meet statutory health and safety requirements. The development shall be carried out as approved and thereafter be retained in accordance with the approved details.

Reason: In the interests of visual amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

11. The overall height of the wind turbines shall not exceed 125m to the tip of the blades when the blade tip is at its highest point as measured from original ground level immediately adjacent to the turbine base and the hub height of the wind turbines shall not exceed 80m.

Reason: In the interests of visual amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

12. All wind turbine blades shall rotate in the same direction.

Reason: In the interests of visual amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

13. Other than in accordance with the lighting details required under condition 26 relating to air safety, the turbines and the anemometer mast shall not be illuminated and there shall be no permanent illumination on the site other than lighting required during the construction period, and during planned or unplanned maintenance or emergency lighting.

Reason: In the interests of light pollution and visual amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

14. All cabling between the turbines and between the turbines and substation shall be laid underground.

Reason: In the interests of visual amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

15. No development shall take place within the site until the applicant, or their agent or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted to and approved by the Local Planning Authority in writing.

Reason: To ensure that any archaeological features within the site are correctly recorded in accordance with PPS5

16. No development shall take place until an Ecological Enhancement Scheme, to include an implementation programme, has been submitted to and approved in writing by the Local Planning Authority. This scheme shall accord with the outline commitments in the Environmental Statement and shall include:
- Areas of more species rich grassland;
 - Native woodland and hedgerow planting;
 - Pond enhancements; and
 - Terrestrial habitat for newts
- Development shall be carried out in accordance with this Ecological Enhancement Scheme.
- Reason: To ensure that protected species are safeguarded during and after the construction process in accordance with PPS9
17. No development shall take place until a Post Construction Monitoring Scheme in relation to birds and bats has been submitted to and approved by the Local Planning Authority in writing. This scheme shall specify survey methodology; frequency of visits and the duration of monitoring. Development shall be carried out in accordance with this approved post construction monitoring scheme.
- Reason: To ensure that protected species are safeguarded during and after the construction process in accordance with PPS9
18. The Environmental Management Scheme, required by condition 6, shall accord with the principles contained within the Environmental Statement as amended by the July and October Addendums.
- Reason: To ensure that protected species are protected during construction work in accordance with PPS9
19. No development shall take place until there has been submitted to and approved in writing by the Local Planning Authority a scheme of landscape works, which shall include as a minimum the planting referred to in the Environmental Statement and additional planting adjacent to rights of ways. This scheme shall include the following details:
- 1.Planting proposals giving location, species, number, density and planting size.
 - 2.The relationship of new planting to buildings, roads, footpaths, drains and location of all underground and overground services.
 - 3.Areas of grass turfing or seeding and other surface materials .
 - 4.Depth of topsoil to be provided where necessary and the measures to be taken to maintain the new planting for the required period..
 - 5.Implementation Programme
 - 6.Details of the long term management and maintenance proposals for the new planting.
- Development shall be carried out in accordance with these approved details.
- Reason: To enhance the appearance of the proposed development and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.
20. All planting, seeding or turfing comprised in the approved details of landscape works shall be carried out in the first planting and seeding seasons following the erection of the first turbine. Any trees or plants which within a period of 5 years from the completion of the development die, are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species, unless the Local Planning Authority gives written consent of any variation. For the purpose of this condition a planting season shall mean the period from November to February inclusive.
- Reason: To enhance the appearance of the proposed development and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.
21. No development shall take place until a scheme to remove the heras fencing adjacent to the rights of way within the former airfield site (the land identified in blue as being within the ownership/control of the applicant) has been submitted to and approved in writing by the Local Planning Authority. This scheme shall include additional landscaping in

accordance with condition 24, an alternative form of security fencing and a phased implementation programme for the removal of the heras fencing. The development shall be carried out in accordance with the approved scheme.

Reason: To enhance the appearance of the proposed development and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

22. Unless otherwise agreed in writing by the Local Planning Authority the position of the turbines and the meteorological mast shall be in accordance with the grid references as supplied in the Environmental Statement Addendum July 2010 and no micro-siting (defined as minor alterations to the approved siting) shall take place without the prior written permission of the local planning authority.

Reason: The change in position would result in a reduction in acceptable distances between bridleways, footpaths and cause harm to ecological species within hedgerows/trees across the site and residential amenity outside the site.

23. Prior to the First Export Date as described in condition 2, a written scheme shall be submitted to and approved in writing by the Local Planning Authority setting out the protocol for the assessment of shadow flicker in the event of any complaint from the owner or occupier of a dwelling (defined for the purposes of this condition as a building within Use Class C3 of the Use Classes Order) which lawfully exists or had planning permission at the date of this permission. The written scheme shall include remedial measures. Operation of the turbines shall take place only in accordance with the approved protocol unless the Local Planning Authority gives its prior written consent to any variations.

Reason In the interests of residential amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

24. Prior to the erection of any turbine, a scheme providing for a baseline survey and the investigation and alleviation of any electro-magnetic interference to terrestrial television caused by the operation of the turbines shall be submitted to and approved in writing by the Local Planning Authority. The scheme shall provide for the investigation by a qualified independent television engineer of any complaint of interference with television reception at a dwelling (defined for the purposes of this condition as a building within Use Class C3 of the Use Classes Order) which lawfully exists or had planning permission at the date of this consent where such complaint is notified to the developer by the Local Planning Authority from 18 months of the completion of the last turbine. Where interference with television reception is determined by the qualified independent television engineer to be attributable to the wind farm, mitigation works which have been approved in writing by the Local Planning Authority shall be implemented in accordance with the approved scheme.

Reason In the interests of residential amenity and in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

25. Prior to the erection of the first wind turbine, the developer shall provide one month's written confirmation to the Local Planning Authority of the anticipated date of commencement of construction; the height above ground level of the highest structure in the development and the position of each wind turbine in latitude and longitude.

Reason: In the interests of air safety.

26. No development shall take place until an air safety lighting scheme for the turbines and the meteorological mast has been submitted to and approved in writing by the Local Planning Authority. For the avoidance of doubt the lighting scheme shall be infrared lighting with an optimised flash pattern of 60 flashes per minute of 200 milliseconds to 500 milliseconds duration at the highest practicable point. The approved lighting scheme shall be installed on the site and retained in use whilst the turbines and anemometer mast are in place.

Reason In the interests of air safety and to protect visual amenity in accordance with Policy 13 in the North Northamptonshire Core Spatial Strategy.

27. No development shall take place until a scheme for the provision, implementation,

ownership and maintenance of the surface water drainage has been submitted and agreed in writing with the Local Planning Authority. The works/scheme shall be constructed and completed in accordance with the approved plans/specification at such time(s) as may be specified in the approved scheme.

Reason: To prevent flooding by ensuring the satisfactory storage/disposal of surface water from the site.

28. Before the development hereby permitted commences a scheme shall be agreed with the Local Planning Authority which specifies the provisions to be made to protect the site from contamination due to the approved use. The agreed scheme shall be implemented prior to the development coming into use and shall be maintained thereafter. No development approved by this planning permission shall commence until:

(a) A suitable and sufficient desk top study has been carried out which shall include the identification of previous site uses, potential contaminants that might reasonably be expected given those uses and other relevant information. And using this information a diagrammatical representation (Conceptual Model) for the site of all potential contaminant sources, pathways and receptors has been produced.

(b) A site investigation has been designed for the site using the information obtained from the desk top study and any diagrammatical representations (Conceptual Model). The investigation must be comprehensive enough to enable:

(i) a risk assessment to be undertaken relating to human health, ground and surface waters and other ecosystems associated on and off the site that may be affected, and

(ii) refinement of the Conceptual Model, and

(iii) the development of a Method Statement detailing the remediation requirements.

(c) The site investigation has been undertaken in accordance with details approved by the Local Planning Authority and a risk assessment has been undertaken.

(d) A Method Statement detailing the remediation requirements, including measures to minimise the impact on human health, ground and surface waters, and other ecosystems using the information obtained from the site investigation has been submitted to the Local Planning Authority. This should be approved in writing by the Local Planning Authority prior to that remediation being carried out on the site.

(e) The development of the site should be carried out in accordance with the approved Method Statement.

Reason: To ensure adequate consideration is given to ground contamination issues to avoid the risk of contamination in connection with the new development.

29. If during development, contamination not previously identified, is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until the developer has submitted, and obtained written approval from the Local Planning Authority for, an addendum to the Method Statement. This addendum to the Method Statement must detail how this unsuspected contamination shall be dealt with.

Reason: To ensure adequate consideration is given to ground contamination issues to avoid the risk of contamination in connection with the new development.

30. Upon completion of the remediation detailed in the Method Statement a report shall be submitted to the Local Planning Authority that provides verification that the required works regarding contamination have been carried out in accordance with the approved Method Statement(s). Post remediation sampling and monitoring results shall be included in the report to demonstrate that the required remediation has been fully met. Future monitoring proposals and reporting shall also be detailed in the report.

Reason: To ensure adequate consideration is given to ground contamination issues to avoid the risk of contamination in connection with the new development.

31. Before the development is commenced on site, details of the chosen turbine type shall be submitted to and approved by the Local Planning Authority. Details shall include the full turbine specifications and evidence that the units meet the same criteria as those measured during monitoring and prediction models. Only the approved turbine shall be

installed and retained on site.

Reason: To ensure that the turbines used meet the same noise criteria as specified within the noise assessment.

32. As detailed in the submitted proposals all fabrication of the turbines shall be completed inside a portal frame building on site. Any departure in these proposals shall be agreed in writing with the Local Planning Authority.

Reason: To limit the disturbance on local residents in terms of noise and traffic movements.

33. The combined effects of the noise from the wind turbines and the rating level of noise emissions (including the application of any tonal penalty), when assessed in accordance with the attached Guidance Notes, shall not exceed the values set out in the attached Tables 1 and 2 within notes attached to this decision notice. Noise limits for dwellings which lawfully existed at the date of this permission but not listed in the tables attached shall be those at the nearest location listed in the tables.

Reason To protect nearby residents in terms of noise disturbance.

34. No wind turbine shall generate electricity to the grid until the local planning authority has approved in writing a scheme submitted by the wind farm operator. This scheme shall detail the measurement of noise emissions from the wind turbines and shall be carried out by a suitably qualified consultant, approved by the Local Planning Authority at the operators expense. A noise measurement study shall commence one month prior to the turbines becoming operational and continue for a period of three months at those noise measurement locations closest to the turbines or at locations agreed with the Council as per those set out in list below. The noise measurement study shall continue for an additional nine months at Silcombe House or Manor Farm after the wind turbines first become operational.

- Hargrave Lodge
- Hargrave (Kemps Vineyard)
- Lodge Farm
- Silcombe House
- Manor Farm
- Yelden
- USAAF Housing
- Caldecott
- Chelveston

If for any reason it is not practicable to carry out the noise measurements at any of the above locations then alternative noise measurement locations will be identified and agreed with the Local Planning Authority.

Reason: To protect nearby residents from noise disturbance.

35. The results of the noise measurement study shall be provided to the Council for their agreement and approval in order to discharge compliance with Condition 34 and to demonstrate compliance with Condition 33.

Reason: To protect nearby residents from noise disturbance.

36. At the request of the Council, during the life of the planning permission for the development or following a complaint alleging noise nuisance due to the wind turbines hereby approved, (including any complaints of Amplitude Modulation), the wind turbine operator shall appoint an independent consultant to measure and assess the level of noise emissions from the wind turbine at the location of the complainant's property (or, in the event that access is not possible, at the nearest publicly accessible location acceptable to the Council). Following the procedures described in the Guidance Notes attached to this decision notice. A report of the assessment shall be provided in writing to the local planning authority within 28 days of a request under this condition unless this period is extended by the local planning authority in writing.

Reason: To protect nearby residential properties from noise disturbance.

37. Wind speed, wind direction and power generation data for each wind turbine shall be continuously logged and provided to the local planning authority at its request and in accordance with the attached Guidance Notes within 14 days of such a request.
Reason: In order to provide data to demonstrate compliance with noise conditions

38. The contractor shall as far as is reasonably practicable seek to control and limit noise and vibration levels associated with construction activities so as to minimise nuisance from noise at properties in the vicinity of the works. The contractor shall apply "best practicable means" (BPM) as defined in section 79(9) of the Environmental Protection Act 1990 to all activities on site in order to achieve this objective. No works that cause noise audible outside the site boundary shall take place outside the hours of 07:30 – 17:30 Monday to Friday and 08:00 – 13:00 on Saturdays and at no time on Sundays and Bank Holidays.

Reason: To protect the amenities of nearby residential properties in terms of noise disturbance.

39. In the event of any of the noise conditions 31, 33, 34, 36,37 and 38 not be met then the wind farm operator shall within 28 days propose a scheme to the Local Planning Authority to mitigate any breaches and prevent their future occurrence. The scheme shall specify the timescale for implementation. If the scheme is approved by the Local Planning Authority it shall be implemented in accordance with the approved timescale. If the scheme is rejected by the Local Planning Authority, then the wind farm operator shall revise the scheme and resubmit it within seven days for approval, and the approved scheme shall be implemented.

Reason: To protect the amenities of nearby residential properties in terms of noise disturbance.

40. The proposed turbines shall be located in accordance with plan reference 'Section 2 Plans ES1-3 Page 37' of the ES Addendum July 2010'. Any deviation from this plan must be agreed in writing with the Local Planning Authority.

Reason: To ensure that the location of the turbines meet the same noise criteria as specified within the noise assessment.

41. Details of the scheduled maintenance programme in accordance with the manufacturers guidelines shall be submitted to and agreed in writing by the Local Planning Authority prior to the turbines becoming operational. Thereafter all records of maintenance shall be held by the developer and provided to the Local Planning Authority on request within 14 days.

Reason: To ensure that the turbines used meet the same noise criteria as specified

SCHEDULE OF GUIDANCE NOTES RELATING TO CONDITIONS NOISE

These notes (or any superseding equivalent UK adopted procedure) are to be read with **Conditions 1 - 12**. They further explain these conditions and specify the methods to be deployed in the assessment of complaints about noise emissions from the wind farm.

NOTE 1

- (a) Values of the LA90,10min noise statistic should be measured at the complainant's property, using a sound level meter of IEC 651 Type 1, or BS EN 61672 Class 1, standard (or the equivalent relevant UK adopted standard in force at the time of the measurements) set to measure using a fast time weighted response. This should be calibrated in accordance with the procedure specified in BS 4142:1997 (or the equivalent relevant UK adopted standard in force at the time of the measurements).

- (b) The microphone should be mounted at 1.2 - 1.5m above ground level, fitted with a two layer windshield or suitable equivalent approved by the local authority, and placed outside the complainant's dwelling. Measurements should be made in "free-field" conditions, so that the microphone should be placed at least 3.5m away from the building facade or any reflecting surface except the ground.
- (c) The LA90,10min measurements should be synchronised with measurements of the 10-minute arithmetic average wind speed and with operational data from the turbine control systems of the wind farm.
- (d) The wind farm operator shall continuously log arithmetic mean wind speed and arithmetic mean wind direction data in 10 minute periods from the hub height anemometer on the site to enable compliance with the conditions to be evaluated. Such data shall be 'standardised' to a reference height of 10m as described in ETSU-R-97 at page 120 using a reference roughness length of 0.05m.

NOTE 2

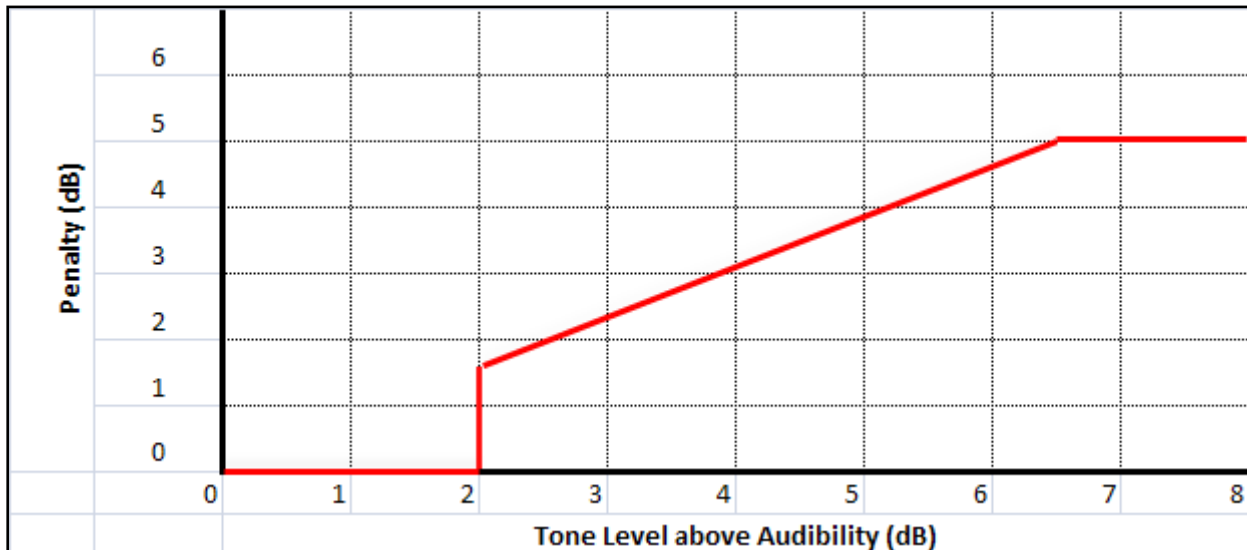
- (a) The noise measurements should be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b). Such measurements should provide valid data points for the range of wind speeds, wind directions, wind shear levels, frozen ground, cloud cover, times of day and power generation requested by the local planning authority. In specifying such conditions the local planning authority shall have regard to those conditions which were most likely to have prevailed during times when the complainant alleges there was disturbance due to noise. At its request the wind farm operator shall provide all of the data collected under **Condition 6** to the local planning authority.
- (b) Valid data points are those that remain after all periods during rainfall have been excluded as informed by a rain gauge sited adjacent to the measurement location. Additional atypical data as agreed by the local planning authority shall also be removed.
- (c) A least squares, "best fit" curve of a maximum 2nd order should be fitted to the data points and define the rating level at each integer speed.

NOTE 3

Where, in the opinion of the local planning authority noise emissions at the location or locations where assessment measurements are being undertaken contain a tonal component, the following rating procedure should be used.

- (a) For each 10-minute interval for which L A90,10min data have been obtained as provided for in Note 1 a tonal assessment is performed on noise emissions during 2 minutes of each 10 minute period. The 2 minute periods should be regularly spaced at 10 minute intervals provided that uninterrupted clean data are available. Where clean 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 standard procedure shall be reported.
- (b) For each of the 2-minute samples the margin above or below the audibility criterion of the tone level difference, ΔL_{tm} , should be calculated by comparison with the audibility criterion given in paragraph 2.1 on pages 104-9 of ETSU-R-97.
- (c) The margin above audibility is plotted against wind speed for each of the 2-minute samples. For samples for which the tones were below the audibility criterion or no tone was identified, substitute a value of zero audibility.

- (d) A linear regression should then be performed to establish the margin above audibility at the assessed wind speed for each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic average shall be used.
- (e) The tonal penalty is derived from the margin above audibility of the tone according to the figure below. The rating level at each wind speed is the arithmetic sum of the wind farm noise level, as determined from the best fit curve described in Note 2, and the penalty for tonal noise.



NOTE 4

If the rating level is above the limit set out in the conditions, measurements of the influence of background noise should be made to determine whether or not there is a breach of condition. This may be achieved by repeating the steps in Note 2, with the wind farm switched off, and determining the background noise at the assessed wind speed, L3. The wind farm noise at this speed, L1, is then calculated as follows where L2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L1 = 10 \text{ Log}[10 L2/10 - 10 L3/10]$$

The rating level is re-calculated by adding the tonal penalty (if any) to the derived wind farm noise L1. If the rating level lies at or below the values set out in the conditions then no further action is necessary. If the rating level exceeds the values set out in the conditions then the development fails to comply with the conditions.

NOTE 5

Amplitude modulation is the modulation of the level of broadband noise emitted by a turbine at blade passing frequency. These will be deemed greater than expected if the following characteristics apply:

1. A change in the measured LAeq, 125 milliseconds turbine noise level of more than 3 dB (represented as a rise and fall in sound energy levels each of more than 3 dB) occurring within a 2 second period.
2. The change identified in (a) above shall not occur less than 5 times in any one minute period provided the LAeq, 1 minute turbine sound energy level for that minute is not below 28 dB.
3. The changes identified in (a) and (b) above shall not occur for fewer than 6 minutes in any hour.

Noise emissions at the complainant's dwelling shall be measured not further than 35m from the relevant building, and not closer than within 3.5m of any reflective building or surface, or within 1.2m of the ground.

TABLES OF NOISE LIMITS RELATING TO CONDITIONS

Table 1: Between 23:00 and 07:00 hours (Noise Level in dB LA90, 10min) Measured 10m height wind speed (m/s)

Location	4	5	6	7	8	9	10	11	12
Hargrave Lodge	20	28.3	32.8	34	34	34	34	34	34
Hargrave (Kemps Vineyard)	16.6	23.8	28	29.5	29.5	29.5	29.5	29.5	29.5
Lodge Farm	23	31	35.5	37	37	37	37	37	37
Silcombe House	28.4	36.8	41	42.2	42.2	42.2	42.2	42.2	42.2
Manor Farm	29	37.3	41.8	43	43	43	43	43	43
Yelden	21	22	30.7	35	36.2	36.2	36.2	36.2	36.2
USAF Housing	21	32	36.8	36.8	38	38	38	38	38
Caldecott	22	30	34.2	35.8	35.8	35.8	35.8	35.8	35.8
Chelveston	21	29.2	34	35	35	35	35	35	35

Table 2: At all other daytime periods as defined by ETSU_R-97 (Noise Level in dB LA90, 10min) Measured 10m height wind speed (m/s)

Location	4	5	6	7	8	9	10	11	12
Hargrave Lodge	20	28.3	32.8	34	34	34	34	34	34
Hargrave (Kemps Vineyard)	16.6	23.8	28	29.5	29.5	29.5	29.5	29.5	29.5
Lodge Farm	23	31	35.5	37	37	37	37	37	37
Silcombe House	28.4	36.8	41	42.2	42.2	42.2	42.2	42.2	42.2
Manor Farm	29	37.3	41.8	43	43	43	43	43	43
Yelden	21	22	30.7	35	36.2	36.2	36.2	36.2	36.2
USAF Housing	21	32	36.8	36.8	38	38	38	38	38
Caldecott	22	30	34.2	35.8	35.8	35.8	35.8	35.8	35.8
Chelveston	21	29.2	34	35	35	35	35	35	35

Appendix 1 - Summary of ES Assessment of Impact on Viewpoints

(information extracted from Appendix 5.2 in ES, which provides detailed description of existing viewpoints and their sensitivity and an analysis of the impacts)

Viewpoint	Distance to closest turbine (m)	Sensitivity	Impact during construction	Impact at year 1	Impact at year 15
VVM1 – outside Caldecott Church	1420	<i>Med-Low</i>	The top arms of cranes would be visible for some turbines more for others. Turbines would then become visible.	The blades and nacelle of all 9 turbines would be visible and the top of the tower of 4 turbines. Turbines would be visible across 40% of the width of the view.	As per year 1 except the nacelles of 2 turbines are likely to become screened by vegetation
			<i>Moderate Change</i>	<i>Moderate Change</i>	<i>Moderate Change</i>
			<i>Significance Medium Low Adverse</i>	<i>Significance Medium Low Adverse</i>	<i>Significance Medium Low Adverse</i>
VVM2 – eastern edge of Chelveston, B645 Kimbolton Road	1235	<i>Med-Low</i>	The top arms of cranes would be visible for some turbines more for others. Turbines would then become visible.	The blades, nacelle and the top part of the tower of all the turbines would be visible. The turbines would be visible across 40% of the width of the view.	Planting will make the turbines less visible. The nacelle of 2 turbines are likely to become screened however the blades from most turbines are likely to remain visible.
			<i>Moderate</i>	<i>Moderate</i>	<i>Moderate</i>

of Lower Deam			of the cranes would be visible.	majority of the turbines would be visible at a distance. Turbines visible across approx 20% of width of view.	will provide some screening but tops of towers, nacelle and blades likely to still be visible.
			<i>Slight Change</i>	<i>Slight Change</i>	<i>Negligible change</i>
			<i>Significance Barely perceivable</i>	<i>Significance Barely perceivable</i>	<i>Significance Barely perceivable</i>
VVM7- south east of Yelden	1740	<i>Med-low</i>	The majority of the cranes would be visible.	The blades, nacelle and the majority of the tower would be visible for all the turbines. Turbines would be visible across approx 40% of width of view.	As per year 1.
			<i>Moderate Change</i>	<i>Moderate Change</i>	<i>Moderate Change</i>
			<i>Significance Medium-low adverse</i>	<i>Significance Medium-low adverse</i>	<i>Significance Medium-low adverse</i>
VVM8 – Three Shires Way, Yelden	1250	<i>Med-high</i>	The majority of the cranes would be visible.	The blades, nacelle and majority of the tower would be visible for all turbines. Turbines would be visible across approx 40% of the width of the view.	Vegetation may have grown up to screen lower parts.
			<i>Moderate Change</i>	<i>Moderate Change</i>	<i>Moderate Change</i>

			<i>Significance Medium adverse</i>	<i>Significance Medium adverse</i>	<i>Significance Medium – low adverse</i>
VVM9- Three Shires Way, Yelden	1500	<i>Med-high</i>	The majority of the cranes would be visible.	The blades, nacelle and majority of tower would be visible for all turbines except 1. The prevailing wind direction means that for most of the year the blades would be viewed sideways. The turbines would be visible across approx 50% of the width of the view.	Vegetation may have grown up to screen parts.
			<i>Moderate Change</i>	<i>Moderate Change</i>	<i>Moderate Change</i>
			<i>Significance Medium adverse</i>	<i>Significance Medium adverse</i>	<i>Significance Medium adverse</i>
VVM10 – Three Shires Way at junction with bridleway BWM1	2600	<i>Med-high</i>	The majority of the cranes would be visible.	The blades, nacelle and the majority of the tower would be visible for all 9 turbines. Turbines would be visible across approx 20% of the width of the view.	As per year 1.
			<i>Moderate Change</i>	<i>Moderate Change</i>	<i>Moderate Change</i>
			<i>Significance</i>	<i>Significance</i>	<i>Significance</i>

			<i>Medium adverse</i>	<i>Medium adverse</i>	<i>Medium adverse</i>
VVM11 – NE Newton Bromswold	2390	<i>Med-low</i>	The majority of the cranes would be visible.	The blades, nacelle and the majority of the tower would be visible for all 9 turbines. Turbines would be visible in approx 20% of the width of the view.	As per year 1.
			<i>Moderate Change</i>	<i>Moderate Change</i>	<i>Moderate Change</i>
			<i>Significance Medium- low adverse</i>	<i>Significance Medium- low adverse</i>	<i>Significance Medium- low adverse</i>
VVM12 – between Irthlingborough and Little Addington	5780	<i>Low</i>	The majority of the cranes would be visible.	The blades. Nacelle and at east 2/3 of the tower would be visible for all 9 turbines The turbines would be visible across approx 15% of the width of the view.	As per year 1.
			<i>Slight change</i>	<i>Slight change</i>	<i>Slight change</i>
			<i>Significance Barely perceivable</i>	<i>Significance Barely perceivable</i>	<i>Significance Barely perceivable</i>
VVM13 – A6 south of Rushden	5800	<i>Low</i>	The majority of the cranes would be visible.	The blades, nacelle and most of tower would be visible for approx ½ of the turbines. Turbines would be visible	As per year 1.

				across approx 15% of the width of the view.	
			<i>Negligible change</i>	<i>Negligible change</i>	<i>Negligible change</i>
			<i>Significance barely perceivable</i>	<i>Significance barely perceivable</i>	<i>Significance barely perceivable</i>