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Mr Chris Purvis
Planning Department
Maldon Council Offices
Princes Road
Maldon
CM9 5DL

Our Ref: 02340-000472

15 March 2010

Dear Mr Chris Purvis,

SCOPING OPINION REQUEST FOR TURNCOLE FARM WIND FARM

RES UK and Ireland Ltd seek a scoping opinion for a proposed wind farm development on land to the east of Southminster at Turncole Farm.

It is intended that an Environmental Impact Assessment (EIA) of the proposal will be undertaken in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 1999 and that an Environmental Statement (ES) will be submitted with the planning application.

As part of the EIA process, and as recommended by the Regulations, we are requesting from the Council a scoping opinion which should describe what issues the ES should address. We have set out in the scoping checklist below the broad areas which we propose to include in the ES. We would be grateful if, as part of your scoping opinion, you could indicate to us your acceptance or otherwise of the content and provide further relevant detail where appropriate.

We have already been in consultation with various bodies such as Natural England and RSPB to understand the sensitivities of the area and shall continue to work with them through the development process, however a scoping opinion from them at this time will help to clarify which issues must be addressed and what if any preferred methodologies should be employed.

Please do not hesitate to contact me should you have any questions, or if you require additional copies of plans or wish them in electronic format.

Yours sincerely,

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Development Project Manager
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Registered in England & Wales Number 4913493
Registered Office as above

ENVIRONMENTAL STATEMENT SCOPING REPORT

INTRODUCTION

This document relates to a proposal by RES UK & Ireland Ltd (RES) for a proposed wind farm. The Turncole Farm site comprises of open, flat arable farmland. The proposed site is located approximately 3km south east of Southminster, as shown on the Site Location Plan, Appendix 1. It is estimated that the site could accommodate up to 7 large wind turbines, although it is recognised that the number may change due to technical, environmental, commercial constraints and the suitability of the site.

RES intend to submit a planning application and accompanying Environmental Statement (ES) to Maldon District Council for the proposed Turncole Farm Wind Farm, and have committed to commission studies to assist in an Environmental Impact Assessment (EIA) under Schedule 2 of the Environmental Impact Assessment Regulations 1999 (hereinafter the EIA Regulations).

The undertaking of an EIA will help to ensure that the likely significant environmental effects, both positive and negative, of the proposed development are assessed in a systematic way. In addition it will enable the significance of these effects and, if appropriate, the scope for reducing, mitigating together with possible enhancements is to be clearly understood by the Council, the public and the statutory consultees.

In line with best practice, the overall EIA process is being initiated through a scoping exercise with the planning authority and in consultation with other prescribed consultation bodies will guide our EIA process. A Scoping Report is provided here to identify all aspects of the scheme of potential environmental significance and to highlight the key issues to be addressed in the ES.

Additional objectives are:

- To establish the availability of baseline data;
- To define a survey and assessment framework from which a comprehensive overall assessment can be produced;
- To invite statutory and non-statutory consultees to comment on the project in terms of:
    - the potential effects to be assessed;
    - the environmental assessment methodology outlined for each issue;
    - any other areas which should be addressed in the assessment; and
    - any issues of perceived concern.

To invite the planning authority and consultation bodies to provide any relevant environmental information relating to the site and surrounding area.

THE APPLICANT

RES is one of the world's leading renewable energy developers. From large-scale wind farms and biomass power plants to on-site renewables, we are dedicated to the provision of reliable, low-carbon energy solutions. Drawing on decades of experience in the renewable energy and construction industries, RES has the expertise to develop, construct and operate projects of outstanding quality. Our enviable track record in project delivery has given us a reputation for excellence that is second to none. In the quarter of a century since RES was formed, we have played a central role in the development of the global renewable energy market and we have helped to move the sustainable energy debate from the margin to the mainstream.

EIA APPROACH

EIA is the systematic assessment of the potential effects of a proposal on the environment, including effects on human activity. The outputs, in the form of an ES, are used to inform the decision making process of the consenting authority, in this case Maldon District Council.

The following key stages would be followed in the development process:

- **Scoping:** consultation with relevant statutory consultees and other stakeholders to obtain their views on the proposal; identify potential impacts; identify existing environmental information and to agree methods for the assessment of these impacts. Scoping will also establish the need for feedback to, and ongoing consultation, with various key consultees.
- **Baseline Studies:** identification of existing environmental conditions and sensitivities through review of existing information and monitoring and field studies as required;
- **Layout Freeze:** once the baseline sensitivities are understood a wind farm layout will be designed which will seek to minimise negative effects and maximise beneficial effects.
- **Assessment of Effects and their Significance:** an assessment of the significance at local, regional, national and international scales of potential impacts;
- **Mitigation:** 'Primary Mitigation' is measures undertaken during the layout of the proposal which seeks to avoid effects from the outset by maintaining a suitable separation distance from sensitive receptors. 'Secondary Mitigation' are measures designed to avoid, reduce remedy or compensate for any predicted significant impacts of the proposal. Other measures may also be described which seek to reduce any non-significant effects.
- **Residual Effects:** identification and assessment of residual effects after mitigation.

CONSULTATION

A consultation programme will be undertaken as part of the EIA process, to allow those with an interest in the development to participate in the decision-making process.

The following organisations have been, or will be, consulted by RES during the EIA process:

- Local Planning Authority
- County Council
- Environment Agency
- Natural England
- English Heritage
- Royal Society for the Protection of Birds
- Public Rights of Way Officer
- Local Wildlife Trust
- OFCOM
- JRC
- BBC

- Hutchinson 3G
- Vodafone
- Orange
- T-Mobile
- BT
- Central Networks
- NTL
- Crown Castle
- Cable & Wireless
- CSS Spectrum Management Services Ltd
- BT Wholesale Infrastructure Protection
- Water & Sewerage Company
- Transco National Grid
- Electricity Company
- Highways Agency
- Highways Authority
- Civil Aviation Authority
- Ministry of Defence
- National Air Traffic Services

Please advise if additional consultees are to be contacted.

DESCRIPTION OF PROPOSED DEVELOPMENT

Site

The site lies 3km to the south east of Southminster. The site is centred on Ordinance Survey grid ref TQ 991 977 and covers an area of 465 hectares.

Project Description

The site is considered to have sufficient capacity for up to 7 wind turbines, however this may change as a consequence of the EIA process informing the design. As currently proposed, the Turncole Farm Wind Farm would produce sufficient electrical energy every year to satisfy the average annual requirements of approximately 11,125 homes.

As currently proposed, the wind farm development at Turncole will comprise:

- Up to 7 three-bladed horizontal axis wind turbines of up to 127m tip-height, nominally rated at up to 2.3MW;

- at each turbine, associated low to medium voltage transformers and related switchgear;
- turbine foundations;
- hard-standing areas for erection cranes at each turbine location;
- a single, permanent, free-standing meteorological mast;
- a series of on-site tracks;
- a site access route from the main road network;
- borrow pits;
- a sub-station compound containing a control building;
- a network of buried electrical cables;
- temporary construction compounds; and
- One or two temporary guyed meteorological masts to be used for detailed wind definition and wind farm commissioning/acceptance testing.

Wind Turbines

Using the 2.3MW Siemens turbine as a guide, turbine dimensions would be: tower height 80m, rotor diameter of 93m; giving an overall tip height of 126.5m. The indicative capacity of each turbine is 2.3MW, and the overall wind farm capacity will be up to 16.1MW. The turbines will be painted in a visually recessive colour, typically a light grey or white.

Turbine Foundations

The turbines will be fixed to reinforced octagonal tapered concrete foundations up to 20m diameter. The foundations will be formed in excavations up to 4m deep, depending upon the depth of peat on the site, and the depth to suitable load bearing ground.

Prior to excavation, topsoil and existing vegetation will be lifted and stored. After completion the foundations will be backfilled with reserved excavated material and the original vegetation will be reinstated if it is considered ecologically sensitive.

Concrete for site construction, including turbine foundations, would either be batched on-site, with materials either being sourced on-site or brought in from off-site depending on availability, or obtained from off-site sources located as close to the site as possible.

Transformers

Turbines typically generate at 690V. In order to prevent cable losses and to minimise cable diameter, the voltage is increased to 33kV by transformers at each turbine.

Electrical Cabling

The turbines would be electrically connected to the control building by means of 33kV cables. These cables would be laid underground in trenches running adjacent to the site tracks, leading to the on-site control building. These trenches would be backfilled with retained excavated material, marked with buried safety warning tape and have the original vegetation reinstated.

Control Building

The electrical cables would terminate at the control building, located adjacent to the grid substation compound, comprising switchgear, control equipment and mess facilities. Typically the control building would be approximately 20m x 13m x 6m high and with an appropriate vernacular design.

Access and Site Tracks

The access route to the site is yet to be confirmed and shall be subject to computer generated swept path analyses to confirm the horizontal alignment. Existing tracks on the site itself will be utilised wherever reasonably practicable. New and upgraded tracks would be typically up to 6m wide with appropriate widening at corners and passing places dependent on site conditions. The verges of the tracks would be reinstated as appropriate after construction.

Borrow Pits

Stone will be required for various purposes, primarily track construction. A proportion of this will be won from foundation excavation and the remainder will be sourced from on-site borrow pits if the stone is found to be suitable.

Crane Hardstanding Pads

The turbines are erected using mobile cranes. These require areas of hard standing adjacent to the turbine locations, which can support the load of the cranes on their outriggers. The pads, typically up to approximately 20m by 40m dependent on site conditions, are formed by excavating soft ground, and infilling with compacted stone.

Construction Compound

A site compound of approximately 50m by 50m, would be required to contain temporary site offices and with services including sealed waste storage toilet facilities; sufficient parking for cars and construction vehicles; containerised storage facilities and a receiving area for incoming vehicles.

After construction, the compound would be removed and the site cleared of hard-core, with the ground re-graded to a natural profile.

Grid Connection

The electrical connection between the wind farm and the grid network will be subject to a separate planning application under Section 37 of the Electricity Act 1989. The detailed environmental studies and reporting shall accompany that application. However, if sufficient detail is available from the District Network Operator the ES for the wind farm proposal will include consideration of the environmental effects of the indicative grid route corridor.

Construction Process

It is currently estimated that construction would take approximately 12 months from award of contract; however this would be subject to environmental and weather constraints which may extend this period. The main phases would include:

- access route road improvements;
- site entrance construction and excavation of first borrow pit;
- construction/upgrade of on-site access tracks;
- construction of temporary construction compound and hardstandings;

- construction of turbine foundations, requiring the import of concrete and steel;
- construction of the substation compound and control building;
- excavation of trenches and laying of cables alongside site tracks;
- connection of distribution cables;
- delivery and erection of wind turbines;
- commissioning of site equipment; and
- site demobilisation and restoration.

Some of these activities will be carried out concurrently in order to reduce the length of the construction programme. Site restoration will be conducted as early as possible.

Vehicle Movements during Construction

Vehicle movements associated with construction works will include:

- Cars and minibuses for transporting construction personnel onto the site;
- Heavy goods vehicles (HGVs) for pre-construction delivery of site offices and construction equipment;
- HGV abnormal load vehicles for delivery of the turbine components and base rings;
- Two mobile road going cranes, used for the erection of the turbines; and
- Standard HGVs for transporting electrical cable, steel reinforcement for foundations, construction plant fuel and other items and equipment.

A traffic management plan will be agreed in consultation with the local highway authority and other stakeholders. This will address scheduling, location of passing places and diversions for abnormal loads if required.

Operational Maintenance

A wind farm is typically visited up to four times a month by a small maintenance crew. There will also be a requirement for maintenance of the access tracks and substation.

Decommissioning

Turbines typically have an operational life of 25-30 years and the normal operating life of the wind farm would be 25 years. At the end of this period the turbines can be removed, reconditioned or replaced, and appropriate site restoration measures implemented.

POLICY

The ES shall draw upon various policies relevant to the proposal against which the suitability of the proposal shall be assessed. A planning statement will be submitted with the application, but shall not form part of the ES.

National Planning Policy

This wind farm application will be made in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (the EIA Regulations) (Statutory

Instrument 1999 No 293) which implement Council Directive No. 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (the EIA Directive), as amended by Council Directive No.97/11/EC.

The EIA will consider the following national policies:

- UK and regional renewable energy targets;
- Planning Policy Statement 22, 2004;
- Other relevant PPGs and PPSs; and
- Energy White Paper 2007
- Current or draft wind energy policies (e.g. locational guidance for wind farms, such as areas of search/preferred areas etc).

Please confirm if there are other documents that should be used

Development Plan Policies Applying to the Proposal

As required by the Town and Country Planning Act 1990 and the Electricity Act 1989, the wind farm proposal will need to consider the applicable development plan policies. The determination made by the Maldon District Council, will need to be in accordance with these policies unless material considerations indicate otherwise.

The ES will consider the following local and regional planning plans and policies:

Regional Spatial Strategy for the East of England (the east of England Plan) (12th May 2008);

Essex and Southend-on-Sea replacement Structure Plan 2001 (saved policies)

Maldon District Replacement Local Plan November 2005 (saved policies)

Please confirm that these documents constitute the development plan and which policies should be given particular consideration. Additionally please confirm the timescale for adoption of the Local Development Framework.

STRUCTURE OF THE ES

The ES would be produced in 3 volumes:

Volume I: Non Technical Summary - available free of charge to interested parties.

Volume II: Environmental Statement including technical appendices.

Volume III: Figures and Photomontages.

A separate Planning Policy Statement to discuss whether the wind farm is in accordance with the Development Plan and other material considerations, taking into account the findings of the EIA. This would be prepared and submitted with the ES and planning application as a separate document in support of the application.

CONTENT AND OVERVIEW OF ES VOLUME 2 CHAPTERS

CHAPTER 1 INTRODUCTION

- **The Application**

- **The Applicants**
- **EIA and the ES** - Describes the environmental assessment process, methodology used and structure of the EIS. The significant effects approach.
- **Defining the Significance of Environmental Effects**
- **Consultations**

CHAPTER 2 RENEWABLE ENERGY AND DEVELOPMENT PLAN

- **Rationale and Need for the Project**
- **Greenhouse gases and climate change**
- **Renewable energy and electricity production**
- **Energy Payback & Recycling**
- **International, EC, UK and Regional Policy on Renewable Energy**
- **Planning Policy Guidance & Statements**
- **Contribution of the Proposal**
- **Public Attitudes**

CHAPTER 3 DESIGN DEVELOPMENT & CONSULTATION

- **Introduction and location of search**
- **Identification of potential sites and their selection**
- **Preliminary consultation and site visits**
- **Commitment to progression of site**

CHAPTER 4 DESCRIPTION OF THE PROJECT

- **Site Description** - Location, topography and landuse, designations, wind resource etc.
- **The Proposed Development** - Site layout and design evolution, land use requirements, anemometer masts, the wind turbines, substation and control building, grid connection, main road access, on site access tracks
- **Construction** - Construction program, site access tracks, crane outrigger pads, foundations, temporary works, cabling, substation and control building, materials and transport, pollution control measures, workforce.
- **Reinstatement** - Site access tracks, turbine bases, other areas
- **Operation and Maintenance** - Operational features, transport, workforce
- **Decommissioning**

CHAPTER 5 LANDSCAPE AND VISUAL ASSESSMENT (This study would be undertaken by an independent consultant). A 30km radius study area around the wind farm will be considered. Chapter to consist of:

CHAPTER 5 LANDSCAPE AND VISUAL ASSESSMENT (This study would be undertaken by an independent consultant). A 30km radius study area around the wind farm is anticipated to be agreed through consultation. The LVIA chapter will consist of the following work stages: Introduction; Methodology description; Consultation with relevant statutory consultees (to agree upon study area, viewpoints, cumulative sites and methodology to be employed); Identification of baseline environment; Consideration of mitigation measures; Assessment of effects upon landscape character and visual amenity; and, consideration of any Cumulative effects.

The methodology to be employed will be agreed at the outset with the local planning authority and will be consistent with recognised industry guidelines including:

- Landscape Character Assessment: Guidance for England and Scotland Countryside Agency and Scottish Natural Heritage 2002);
- The Landscape Institute and Institute of Environmental Assessment's Guidelines for Landscape and Visual Impact Assessment (2002);
- Planning Policy Statement 22 Renewable Energy, (including Companion Guide), Office of the Deputy Prime Minister, (2004);
- Visual assessment of wind farms: Best practice. University of Newcastle (2002);
- Scottish Natural Heritage's *'Visual Representation of Wind Farms Best Practice Guidance'* (2006, albeit published in May 2007)
- **Baseline** - Landscape character and designations would be considered.
- **Assessment of Effects**
    - The assessment will consider effects upon landscape character areas, settlements, transport corridors, public rights of way and registered parks and gardens.
    - Approximately 15 viewpoints would be selected of short, medium and long distant views from representative locations. List to be agreed with Local Planning Authority. Wirelines would be produced from each viewpoint and a photomontage produced for up to 5 of these key viewpoints.
    - Please suggest a draft list of viewpoints within the scoping opinion response which the local authority wishes to see selected as viewpoints for the assessment.
    - Photographs would be taken using a 50mm lens as recommended best practice by the Landscape Institute.
    - Cumulative effects of the proposal with those of other wind farm projects built and or consented in the area shall be considered. Please confirm details of other wind farm projects within 25km of the proposal.
- **Mitigation Measures**
- **Conclusion and Summary of Effects** - A cumulative visual assessment will be undertaken of any existing or consented wind farms (as of the date the scoping opinion is received by RES) within the 30km study area around the proposed RES wind farm.

CHAPTER 6 ECOLOGICAL ASSESSMENT (FAUNA AND FLORA) (This study would be undertaken by an independent consultant). Chapter to consist of:

- **Introduction, Methodology** (reference made to current best practice guidelines) **and Consultations**

- **Baseline**

  The baseline shall be established from site surveys. Surveys employed at the site shall be agreed with Natural England and RSPB (with whom RES are already in consultation regarding bird surveys) and shall include:

  - Vantage Point (VP) bird surveys.
  - Brown and Shepherd breeding bird surveys.
  - Wintering bird surveys.
  - Phase 1 habitat surveys.
  - Mammal and Protected Species surveys.

- **Assessment of Effects**

- **Mitigation Measures**

- **Conclusion and Summary of Effects**

CHAPTER 7 ARCHAEOLOGY AND HISTORICAL HERITAGE (This study would be undertaken by an independent consultant). Chapter to consist of:

- **Introduction, Methodology and Consultations** - The assessment will include a desk based assessment and if considered necessary a one day walk over field visit.

- **Baseline** - Nearby features such as St Peters Chapel and St Leonards Church shall be considered.

- **Assessment of Effects** - Such assessment shall include consideration of direct effects of the proposal on cultural heritage features and indirect visual effects on significant features up to 5km from the site.

- **Mitigation Measures** - Such measures will be devised with reference to PPG 16 and other relevant guidance.

- **Conclusion and Summary of Effects**

CHAPTER 8 HYDROLOGICAL ASSESSMENT (The hydrological assessment would be undertaken by an independent consultant). Chapter to consist of:

- **Introduction, Methodology and Consultations**

- **Baseline** - The Environment Agency and Council will be consulted to obtain surface and groundwater information for the desk study. Nearby private water supplies will be identified. Surface water catchments will be mapped. A site walkover survey may be undertaken if required.

- **Assessment of Effects** - This chapter shall outline all the potential effects of wind farms on hydrological features.

- **Mitigation Measures & Residual Effects** - A range of mitigation measures relating to hydrology that are employed on wind farm sites will be described and the residual effects of the proposal shall be assessed.

- **Conclusion and Summary of Effects**

CHAPTER 9 NOISE ASSESSMENT (undertaken by RES's own noise team)

- **Introduction, Methodology** (with reference to Report ETSU-R-97: '*The Assessment and Rating of Noise from Wind Farms*') **and Consultations**
    - The noise emission characteristics and layout of the candidate wind turbines shall be described.
- **Baseline environment** - The nearest, or most noise sensitive, properties near the proposal shall be identified and indicative ambient noise levels, based on a background noise survey, shall be determined.
- **Impact assessment** - Noise emission levels owing to the wind turbines shall be predicted using a sound propagation model. Noise emission levels shall be compared with the background levels and assessed in light of planning consents or relevant noise limits.
- **Mitigation measures**
- **Conclusion and Summary of Effects** - Conclusions regarding the significance of the resulting effects of the operational wind farm development on the noise environment and residential amenity.

CHAPTER 10 TRANSPORTATION AND ACCESS

- **Introduction, Methodology and Consultations**
- **Alternative Transport Methods and Routes**
- **Baseline** - Existing conditions of the proposed access route including traffic flows and recognised constraints or sensitive locations would be identified. This would be done through site investigations to examine the route and in collaboration with the local highways authority to establish road strength and safety issues such as visibility splays.
- **Impact assessment**
    - The number and type of construction, operation and decommissioning traffic movements would be determined. Once this is established this would be assessed against the available access routes to the proposed site
    - Any traffic management measures which would be required to ensure the safety of other road users would be examined.
    - Any road improvements, upgrading necessary would be described and technical scale drawings would be produced.
- **Mitigation Measures** - The preferred route would be chosen and any mitigation measures which are seen necessary by the local highways authority would be agreed.
- **Conclusion and Summary**

CHAPTER 11 ELECTROMAGNETIC INTERFERENCE

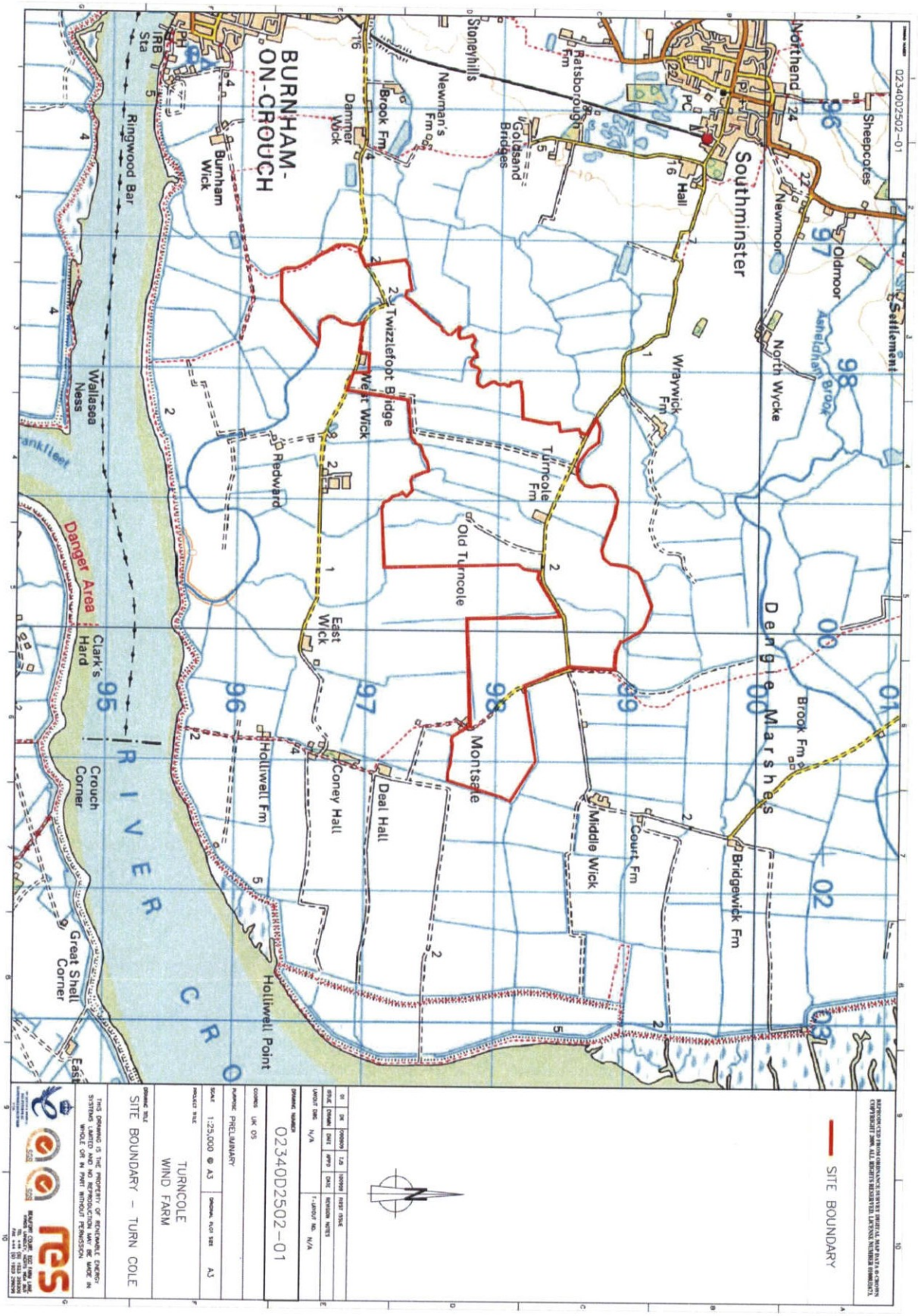
- **Introduction and Methodology**

- **Consultations** - With the appropriate bodies to whom electromagnetic interference may be a problem would be carried out. The possible problems which could occur would be explored such as interference with television reception, microwave communications and air traffic safeguarding.
- **Impact Assessment**
    - Consultation would lead to greater knowledge of existing links and transmitters and the requirement of mitigation measures to offset any disruption such as:
    - Reflection / scatter of point-to-point microwave radio links;
    - Reflection of television signals leading to 'ghosting' images, and
    - Radar and obstacle effects for aircraft.
    - Investigation would be undertaken to examine any potential problems with interference and ways to minimise interference through site layout.
- **Mitigation Measures** - Arrangements with the telecommunications and transmitting companies would be described to cover any costs necessary for any mitigation measures necessary.
- **Conclusion and Summary**

CHAPTER 12 SOCIO-ECONOMIC ASSESSMENT

- **Introduction, Methodology and Consultations**
- **Baseline, Impact Assessment and Mitigation Measures**
    - A brief overview of the baseline conditions of the following subjects would be provided, followed by an assessment of the effects of the proposal and any mitigation or enhancement measures proposed:
    - Economics of wind farms;
    - Recreation, including rights of way and recreational uses within and around the site;
    - Tourism, including a general overview of the role of tourism in the area and experience of wind farm effects elsewhere;
    - Education, including the role of wind farm projects in education;
    - Safety, describing the regulations and RES procedures that would apply during construction and operation of the proposal;
    - Shadow Casting, which will describe the frequency and duration of any periods during which the proposed turbines may cast a shadow over a nearby property, and
    - Reflected light, which will describe the potential for the turbines to reflect sunlight.
- **Summary and Conclusion**

Appendix 1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Oldmoor
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North Wycke
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Goldsand Bridges
Stoneyhills
Newman's Fm
Brook Fm
Dammer Wick
Burnham Wick
IRB Sta
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Ringwood Bar
Wallasea Ness
Twizzlefoot Bridge
West Wick
Redward
Wraywick Fm
Ashelduam Brook
Turncole Fm
Old Turncole
East Wick
Danger Area
Clark's Hard
Crouch Corner
Great Shell Corner
Holliwell Fm
Holliwell Point
Coney Hall
Deal Hall
Montsale
Middle Wick
Court Fm
Bridgewick Fm
Brook Fm
Dengie Marshes
RIVER CROUCH
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