

14 SUMMARY

14.1 Background

14.1.1 Rolton Kilbride (the "Applicant") is seeking to obtain planning permission for a proposed Renewable Energy Centre (REC) to generate power and heat within the Hams Hamm Distribution Centre, off Faraday Avenue, Coleshill (the "Application Site").

14.1.2 The Application site is located within the administrative area of Warwickshire County Council (WCC). The REC is known as Hams Hall Energy and referred to within this Environmental Statement (ES) as the "Proposed Development".

14.1.3 The Proposed Development would generate up to 14.5 megawatts (MW) gross of electricity - the equivalent of powering over 26,000 homes on a continual basis. The plant is capable of accepting approximately 150,000 tonnes of pre-treated waste per annum which would otherwise go to landfill.

14.2 The Applicant and EIA Project Team

14.2.1 The Applicant is a collaboration between Rolton Group, a long established, multi-disciplined engineering consultancy with specialisms in clean technologies and Kilbride, which offers expertise in development and infrastructure.

14.2.2 This ES has been co-ordinated and managed by Pegasus Group. The consultants who have contributed to the preparation of this ES are as follows:

- Air Quality – Air Quality Consultants
- Landscape / Townscape and Visual – Pegasus Group
- Traffic and Transport – Curtins
- Hydrology and Flood Risk – PFA Consulting
- Hydrogeology and Ground Conditions – Rolton Group
- Noise – LFAcoustics
- Ecology and Nature Conservation – Avian Ecology
- Archaeology and Cultural Heritage – Pegasus Group
- Socio Economics – Pegasus Group

14.3 Need for Environmental Impact Assessment and Scoping

14.3.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 require that a proposed development which falls within the description of a 'Schedule 2 Development' within the meaning of the Regulations, will require an Environmental Impact Assessment (EIA) where the development is likely to have significant effects on the environment by virtue of such factors as its nature, size or location (Regulation 2).

14.3.2 Under the EIA Regulations Scoping is not a mandatory requirement, but the Applicant has engaged in pre-application consultation with Warwickshire County Council (WCC) as the waste planning authority with responsibility for determining planning applications for waste-related development. A copy of the pre-application advice is provided in Appendix 1 of the Planning Statement which accompanies this Application. It is noted that the pre-application advice refers to both a Renewable Energy Centre and a Short Term Operating Reserve (STOR). The STOR facility was subsequently removed from the scope of the Proposed Development due to uncertainties as to whether this would be brought forward.

14.3.3 Under the EIA Regulations, proposals which fall within the scope of Schedule 2 development, an EIA is discretionary. This EIA has been produced however, in recognition of the strategic significance of the development and the expected local interest in the proposals. The EIA and this ES have been undertaken and prepared with due regard to the criteria of Schedule 4 of the Regulations. The ES includes an assessment of the predicted effects of the Proposed Development, focussing, as required by the EIA Regulations, on those effects that have the potential to be significant. The content of the ES, as well as the overall approach to the EIA, has also been designed to reflect other requirements of the EIA Regulations as well as widely recognised good practice in EIA.

14.4 Public Consultation

14.4.1 Public consultation was a fundamental and integral process of the planning application. A well thought out strategy to engage with local stakeholders was carefully delivered from the outset and comprised local councillor briefings; a leaflet drop and invitation to a public exhibition where members of the design team as well as the technology providers, air quality and transport consultants were on hand to answer any queries.

14.4.2 The full details of the public consultation strategy and feedback from the events are included within the Statement of Community Consultation which is a separate report and will be submitted with the planning application documentation.

14.5 Site Context and Location

14.5.1 The Application Site is located within the Hams Hall Distribution Centre, off Faraday Avenue, Coleshill, Warwickshire. Faraday Avenue is located to the east of the M42 at Junction 9 and is accessed via the A446 Lichfield Road. The site is a vacant plot measuring approximately 1.96ha and was previously developed as part of the wider Hams Hall Power Station and more latterly as a substantial electrical sub-station; the Application Site is currently used for the open storage of vehicles. The Application Site is identified within the North Warwickshire Proposals Map as falling within an 'Existing Industrial Estate'.

14.5.2 The Site is owned by Eon who is seeking to develop the land to include the introduction of a Renewable Energy Centre (REC) that generates power in the form of electricity and / or heat.

14.5.3 The Application Site is surrounded by various forms of development but largely commercial and industrial uses as the site forms part of the wider Hams Hall Distribution Centre complex. To the east and south along Faraday Avenue are commercial warehouses and industrial complexes serving a variety of uses, the closest of which are the BMW Plant to the east and DHL Exel Supply Centre to the south. To the immediate west of the site boundary is an electricity sub station and large overhead pylons which link north west towards Hams Lane and south to Coleshill. The plot to the west of the site is a car storage compound. To the north of the site the land is formed by designated Green Belt land containing large areas of hardstanding and small linear belts of trees.

14.5.4 The closest settlements are Lea Marston located 1.3km to the north and accessed via Hams Lane, Whitacre Heath 1.9km to the east beyond the River Tame, Grimstock Hill and Coleshill 2.1km to the south beyond the bulk of the Hams Hall Distribution Centre and Curdworth 1.9km to the west beyond the M42 motorway. The settlements of Water Orton to the south west, Shustoke to the south east are located approximately 2km and 3km away respectively.

14.5.5 The Application Site comprises a single body of land with distinct boundaries in the form of brick walls topped with security palisade fencing and wires. The southern boundary borders Faraday Avenue and its associated pedestrian footpath and sparse mown grass

verge, with a double gate facilitating access and egress for the site.

14.5.6 The plot is formed by one large area of hardstanding with very little vegetation.

14.6 Consideration of Alternatives

14.6.1 Schedule 4, part 1, paragraph 2 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires that "*an outline of the main alternatives studied by the applicant and an indication of the main reasons for this choice, taking into account the environmental effects*" are included within the ES.

14.6.2 Other Eon owned and managed sites were considered early in the feasibility process, however, the principal reason for the selection of the site was its location within an allocated site in an industrial area with good access to the primary route network and in close proximity to energy intensive industrial customers.

14.6.3 The design of the Proposed Development has been informed by an iterative process with alternative layouts and elevations considered throughout the process. The **Design and Access Statement** illustrates layout options of the site prior to the final option taken forward. The drawings demonstrate constraints and opportunities associated with the location and orientation of the REC, vehicular movement and access as well as landscaping proposals.

14.6.4 A series of basic architectural massing techniques were undertaken to help understand how the buildings would best relate to one another and the character of the surrounding area. Due to the initial design of incorporating a STOR facility to the north of the REC building, this allowed the REC to sit forwards within the site to relate to the existing industrial and commercial development either side.

14.6.5 Following the basic massing exercise the functional and operational requirements of the building were explored. By creating a single central energy plant unit that is served by the ancillary buildings located to the peripheral edges this allowed for vehicular circulation around the building to all facades.

14.6.6 A series of elevation option alternatives were explored and considered throughout the iterative design process and are illustrated within the Design and Access Statement. The colour palette of the cladding to the main buildings was proposed as a neutral grey-green colour and represented in bands becoming increasingly pale towards the top of the building. The introduction of the banding has helped to reduce the perceived massing of the building.

14.7 Site Identification and Feasibility

14.7.1 The Hams Hall Energy site was identified to provide the opportunity for power to be supplied to any interested local businesses as well as the opportunity to supply heat in the form of steam and / or hot water if required; and in view of the need for new waste infrastructure within the Warwickshire County Council area with the plant saving approximately 150,000 tonnes of waste going to landfill annually.

14.7.2 The site at Hams Hall was chosen having established:

- Its availability and its size which was suitable for a 150,000 tonnes facility;
- Its proximity to energy intensive industrial consumers. It is intended that the proposal may be able to offer low cost secure energy to one or more neighbouring businesses, assisting in securing the future of those companies and their employees;

- Its access within the existing industrial estate which immediately joins the primary route network of the M42 and M6 without the need to go through residential areas.

14.7.3 No other viable site alternatives that met all three criteria were identified.

14.8 Cumulative Issues

14.8.1 Schedule 4, part 1, paragraph 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 requires that a description of the likely significant effects of the development on the environment should cover cumulative effects.

14.8.2 Assessment of cumulative effects with other developments which are either operational, under construction / consented or the subject of a full planning application has been considered. During the pre-application process WCC's advice was that there were no schemes that were currently in the planning system that should be assessed as part of this application. A potential development to the north of the site was mentioned however there is no formal application for the site at this time and consequently no cumulative assessment has been undertaken.

14.9 Proposed Development

14.9.1 The Proposed Development comprises a 3-line Renewable Energy Centre with associated vehicular access.

14.9.2 The Renewable Energy Centre (REC) will employ an Advanced Conversion Technology (ACT) (gasification) a process which is supported by Government and is part of a number of renewable technologies being deployed in the UK. ACT / Gasification is a process to generate power and heat from Refuse Derived Fuel (RDF) together with other pre-treated wastes. RDF is a product which is pre-treated then shredded, dehydrated and / or compressed from municipal solid waste and industrial and commercial waste and when heated to very high temperatures breaks down to provide a gas which is utilised in a boiler to create steam which drives a steam turbine to produce electricity and heat. It is a clean, modern and hi-tech approach to producing energy, with a proven track record.

14.9.3 The development will have the capacity to process up to approximately 150,000 tonnes of waste per annum. As well as the RDF the feed stock will include using non-recyclable residual commercial and industrial waste (CIW) together with an element of municipal solid waste (MSW) i.e. residual waste where all the practicable recycling has been completed. Initial research has indicated that this material would comprise waste from across the wider Warwickshire area. The plant will not accept hazardous or clinical waste.

14.9.4 The power produced from this facility will have a capacity of 14.5MW/hr gross of electricity. The gasification technology employed at Hams Hall Energy Centre will involve a two-stage system, which initially gasifies the waste to produce synthetic gas. This gas is then transferred to a second stage where it is combusted in a high efficiency boiler to produce steam which drives a steam turbine to produce electricity. The process allows for efficient control of emissions and improved performance generally as an energy solution.

14.9.5 Gasification is classed as an Advanced Conversion Technology (ACT) as the biomass element of waste qualifies for Contract for Difference (CFD). CFDs provide long-term price stabilisation for low carbon plants, allowing investment to come forward at a lower cost of capital and therefore at a lower cost to consumers but enables advanced renewable technology to be developed.

14.9.6 The proposed REC is made up of the following principal elements:

- **A main building** – this will house the majority of the process plant and will have a number of silos to the rear and a flue stack to the west of the building, all waste material will be unloaded inside the building. At its highest point, the main body of the building will be 24m high and 87.96m long x 72.7m wide with a floor area of 5,725m². The flue stack contains a walk around platform for continual air quality monitoring access and consists of a metal framework. The flue stack will have a height of 52m and a diameter of 2.8m;
- **Waste Reception Bunker (located in main building)** - Wastes are deposited into an 8m deep waste bunker within the building, with a capacity of 820m³ where shredding and separating takes place to prepare the fuel for the gasification process, and any ferrous material is taken out which will be removed for recycling;
- **Prepared Fuel Storage Bunker** – the prepared fuel will be deposited in storage bunker within the building (which has 4 days of waste storage thus complying with fire regulations and stopping build-up of heat from waste gasses), which has a capacity of c6,000m³.
- **Turbine Room** – this will be a smaller separate building 15.6m high, with a base of 30m x 15m. A short section of pipe line will connect the main building and the turbine generator building;
- **Air cooled condenser fans** – have a height of 23.4m with a footprint of 39.62m x 15.76m;
- **Bottom Ash bunker** – the bottom ash is stored in a bunker measuring 10m x 12m x 5m with a capacity of 600m³. This material is inert and can be reused as an aggregate or used for an engineering material in landfill. It complies with current European legislation;
- **Fly Ash Silo** – the fly ash silo framework stores the residue from the flue gas cleaning system and measures 10.5m x 5.15m and 19.5m high. The ash is removed in a safe manner by attaching an umbilical hose to a tanker and can be either reused /recovered or disposed of at licensed landfills. The handling, storage, treatment and reuse/disposal of this material is highly regulated;
- **Fire Water Tank** - a fire water tank would be included next to the south of REC building. The tank has a 17m diameter and a height of 6.75m with a 1 million litre capacity;
- **Pump Room** – the pump house is next to the fire water tank and has a height of 3.2m with a footprint of 6.09m x 4.59m; and
- **Technical / Control room and Workshop** – will be located within the east side of the main building.

14.9.7 In addition, the external site areas will include:

- Two weighbridges (both in and out) with an office measuring 4.85m x 3m x 2.95m high;
- Site entrance and circulation roads;
- 18 car parking spaces plus 2 disabled bays;
- Provision for 14 cycling spaces.

14.10 Process Description

14.10.1 The plant employs a two stage system that first gasifies (heats) the waste to produce a synthetic gas which is then transferred to a second stage where it is oxidised. Changing the waste to a gas fuel, means the combustion environment can be finely controlled, dioxins thoroughly destroyed and Nitrogen Oxides (NOx) emissions minimised which can achieve emissions levels that are compliant with the Industrial Emissions Directive (IED) (Directive 2010/75/EU of the European Parliament and the Council on industrial emissions).

14.10.2 The key stages of the process are as follows:

- Waste Reception Hall;
- Fuel bunker and transport system;
- Thermal conversion;
- Heat recovery steam generator
- Energy utilisation system;
- Flue gas cleaning system; and
- Control and monitoring system.

14.11 Grid Connection

14.11.1 The Applicant has held discussions with Western Power Distribution (the responsible DNO) and an application has been submitted. Once this has been returned a point of connection can be assessed.

14.12 Design Approach

14.12.1 Many industrial sites are designed with a typical 'form follows function' approach. From the outset it was deemed important that the external appearance of the plant should be appropriate for the area.

14.12.2 In terms of architectural detailing and materials, both follow a similar palette, albeit simplified for the smaller industrial warehouse unit and consist of mainly a coloured cladding system.

14.12.3 Due to the REC plant building being a large mass, it was important to use a smooth lightweight architectural cladding system that would achieve the functional needs, as well as aesthetic ones too. A simple palette of materials was proposed consisting of a neutral grey-green colour and represented in bands becoming increasingly pale towards the top of the building. The aim of the introduction of the banding is to reduce the perceived massing of the building. The stack will be faced in a muted grey metal which will sit and almost blend into the typical overcast skyline of the UK. External equipment will be faced in a grey coated metal to blend into the colour palette of the main plant.

14.12.4 A tree belt was integrated on the southern boundary with Faraday Avenue to screen visible elements and enhance the visual environment.

14.13 Construction Duration

14.13.1 Subject to the grant of planning permission, it is anticipated that the construction of the proposed REC would commence in 2017. Construction on site would last for 24 months, after which there would be a commissioning period. Furthermore, construction would normally take place during the hours of 0700 to 1800 (Monday to Friday) and 0800 to 1300 (Saturday). No construction would take place on Sundays or bank holidays.

14.14 Operating Hours

14.14.1 The REC will operate continuously; 24 hours a day, 7 days per week. Operational staff would be required to operate the Plant on a 3 shift pattern (each of 8 hours). During weekdays the facility will be open for deliveries between the hours of 0700 and 1900 and between the hours of 0700 and 1400 on Saturdays. There will be no waste received on Sundays. It is expected that HGVs importing and exporting materials from the site will do so evenly throughout the 12 hour period and there is unlikely to be a peak in movements associated with these operations.

14.15 Construction and Environmental Management

14.15.1 A Construction Environmental Management Plan will be prepared and adopted and will include sections on: noise, vibration, air quality, water quality, surface quality (prevention of contamination of ground surface), site transportation and traffic management, visual intrusion and waste management. The appointed contractor will also be required to register with the Considerate Construction Scheme.

14.15.2 A Site Waste Management Plan will be prepared and all relevant contractors will be required to seek to minimise waste arising at source and, where such waste generation is unavoidable, to maximise its recycling and reuse potential. Recycling of materials will primarily take place off-site where noise and dust are more easily managed.

14.16 Consents

14.16.1 In addition to planning permission, other consents will be required to enable the Proposed Development to proceed. Of particular importance to this development is the need for an Environmental Permit from the Environment Agency that will control all operations associated with the plant based upon various risk assessments. Information presented in this ES will be used in the preparation of the Permit.

14.17 Scheme Benefits

14.17.1 The benefits of the REC include:

- Proven technology with outstanding operational and environmental performance and very low emissions;
- Conversion of non-recyclable, non-hazardous waste into renewable energy, displacing landfill and fossil fuels;
- Reducing greenhouse gas emissions;
- Job creation across a variety of skills and levels of expertise with employment opportunities for local people;
- Transforming a vacant plot within an existing industrial site and enhancing with landscape planting;
- Production of lower cost renewable energy for local businesses with connections to local energy users via underground cable;
- Clear progression in the transition to a low-carbon economy with grid carbon offset; and
- Compliance with Government policy and the EU Waste Framework Directive to provide sustainable, renewable energy production close to use.

14.18 Air Quality

Introduction

14.18.1 The potential effects of the proposed REC on local air quality have been assessed. Following discussions with North Warwickshire Borough Council and Warwickshire County Council, the potential effects on human health, ecology and amenity arising from the plant construction and subsequent operation were identified as requiring investigation. The assessment included consideration of discharges to atmosphere from the plant stack; dust arising from construction activities, bioaerosol and odour releases during plant operation; additional traffic arising from the plant construction and subsequent operation and the effects of any other planned developments in the area.

14.18.2 These potential effects have been investigated using standard techniques including air dispersion modelling and following accepted guidance to determine their significance and if appropriate mitigation measures.

Baseline Conditions

14.18.3 North Warwickshire Council has investigated air quality within its area as part of its responsibilities under the LAQM regime. In March 2001 an AQMA was declared for exceedences of the annual mean nitrogen dioxide objective that covered an area of Coleshill bounded by Stonebridge Road, Coleshill Heath Road, the M42 Motorway, M6 Motorway and junction 4 of the M6. This AQMA was revoked on 1st February 2013, when it was identified that the objective was no longer being exceeded at relevant locations; there are currently no AQMAs in the borough.

14.18.4 North Warwickshire Council operated one automatic monitoring station within its area, located approximately 5 km south of the Proposed Development; however this site was decommissioned in 2012. The Council also operates a number of nitrogen dioxide monitoring sites using diffusion tubes prepared and analysed by Gradko International Ltd (using the 20% TEA in water method). These include one deployed in a rural background area in Kingsbury, one on Farthing Lane in Curdworth, one at Water Orton and one in Gilson. Data for these sites have been provided by North Warwickshire Council.

14.18.5 The odour risk assessment has demonstrated that the odour effects for most local receptors will be negligible, although there is a risk of slight adverse effects at two locations. However, the odour assessment is founded on conservative assumptions, and the overall impact of the Proposed Development is judged to be insignificant.

14.18.6 The qualitative bioaerosol assessment has demonstrated that the Proposed Development will have an insignificant effect on local receptors.

14.18.7 In terms of emissions from the facility's stack, the assessment has demonstrated that there will be an insignificant change to concentrations at all local sensitive receptor locations, for all pollutants, and all averaging periods. For nitrogen dioxide, impacts are predicted to be negligible at all of the worst-case locations assessed.

Likely Significant Effects

14.18.8 The releases of all regulated pollutants released from the plant stack are considered insignificant in terms of their ambient effect on human health and protected nature conservation sites and pose no threat to the attainment of applicable environmental standards.

14.18.9 The effect of dust arising from construction activities is considered to be Low

falling to Negligible with the implementation of designed in mitigation measures.

14.18.10 The effects of odours and bioaerosols were considered to be Slight and Insignificant respectively at most of the close residential locations falling to Negligible and Insignificant at all residential locations when designed in mitigation measures were considered.

14.18.11 The impact of additional traffic resulting from the construction activities and subsequent operation of the proposed plant is estimated to be Neutral.

14.18.12 It is not considered that releases from the proposed plant pose a threat to human health or amenity based on accepted environmental standards.

Mitigation and Enhancement

14.18.13 The proposed plant has a range of mitigation measures incorporated in the construction plan and process design. Measures to control the effects of dust arising from construction activities are industry standard practices and well proven.

14.18.14 The plant will operate using pollution abatement measures which must meet the industry sector best available techniques and perform to the expected levels. These are techniques with a history of reliably meeting performance requirements to ensure compliance with set regulatory emission limits.

14.18.15 The control of bioaerosols and odours is based on standard industry practice and is known to be effective from experience at a wide range of other waste treatment plants.

14.18.16 It is expected that with mitigation measures already designed into the proposal will effectively control releases to air such that the significance of effects is reduced to Negligible for all activities considered. It is not considered that any further mitigation measures will be necessary.

Conclusion

14.18.17 The assessment concludes that with designed in mitigation measures in place the significance of the effect of releases to air on local air quality is Negligible for all of the effects considered. It is not considered that releases from the proposed plant pose any threat to human health, protected nature conservation sites or amenity based on accepted environmental benchmarks.

14.19 Landscape and Visual

Introduction

14.19.1 The landscape and visual impact assessment has assessed the likely effects of the Proposed Development on landscape character, landscape features and elements within and in the immediate vicinity of the Proposed Development, and on local visual amenity. The assessment has been undertaken with regard to best practice. Particularly the Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (2013), as published by IEMA and the Landscape Institute.

Baseline Conditions

14.19.2 The Application Site is not subject to any statutory or non-statutory landscape designation.

14.19.3 The Application Site falls within the Hams Hall Distribution Park, an industrial area located either side of Faraday Avenue. It is currently owned by the National Grid and contained once a large scale substation infrastructure, associated with the Hams Hall coal-fired power station, demolished in the 1990s. The majority of this infrastructure, except for the pylons, have been recently removed. Electricity pylons are the most visible element within and adjacent to the Application Site. They connect with a small scale substation, which is the only remaining part of the once more extensive infrastructure, and is located near its north eastern corner. Relatively tall lighting columns with flood lights are located in the plot adjacent to the north.

14.19.4 The south eastern and south western perimeter of the Application Site, and along Faraday Avenue, is secured by an approximately 2.4m high solid concrete wall, which restricts views in. The access gate and the fence to the left of it is a palisade fencing and allows for restricted views into and across the Application Site. This boundary is further secured by additional barbed wire fencing atop the wall and palisade fencing giving it a strong industrial and unsettled character. Palisade fencing continues along the north western boundary. A low earth bund follows the southern perimeter of the Application Site, sloping from its south eastern corner and meeting the ground levels near the access gate.

14.19.5 The surface is partially tarmacked with some loose rubble / gravel and being gradually colonised by pioneer species, mostly grass. Part of the Application Site is used as a car park. There are no notable areas of shrub or tree vegetation. Mature trees are however present outside and adjacent to the boundaries of the Application Site. There are no obvious or notable water features within or adjacent to the Application Site.

14.19.6 Topographically, the Application Site appears level with little change to the contours across the site. Its south eastern corner is located at approximately 79.22m Above Ordnance Datum (AOD) with the contours rising to approximately 81m AOD in the south western corner, near the existing access gate. The north eastern boundary is located slightly lower and between 79.80m to 78.60m AOD.

14.19.7 Views in and out are restricted by the perimeter wall and tree vegetation in the adjacent plots. Large scale and relatively tall industrial buildings, located to the east restrict views further. The Application Site feels isolated with no inter-visibility except for views of Faraday Avenue, through the access gate.

14.19.8 There are no Public Rights of Way (PRoWs) within or adjacent to the Application Site. A public highway, which is located to the north west leads to a car park and has a restricted access.

Likely Significant Effects

14.19.9 The assessment has not identified any significant landscape effects which would arise as a result of the Proposed Development, when considered in isolation. All identified visual receptors and the majority of the selected viewpoints have been assessed as subject to not significant visual effects. Receptors at only one identified location, at Viewpoint 7, have been assessed as experiencing significant visual effects due to proximity and inter-visibility with the Proposed Development.

Mitigation and Enhancement

14.19.10 Mitigation measures (such as minimising the height of the stack and the main building, and the use of cladding of variable colours and shades so as to minimise the perceived massing of the buildings) have been incorporated into the design of the Proposed Developed as part of the iterative design process. The measures are therefore an integral part of the development and no further additional mitigation is considered necessary from a landscape and visual perspective.

Conclusion

14.19.11 The nature of the Proposed Development, together with the context provided by the land uses surrounding the Application Site, would mean that the Proposed Development is considered to be appropriate to the setting and townscape character of the site and the Hams Hall Distribution Park. The introduction of the Proposed Development would not result in any significant effects on local landscape or townscape features or elements, or the character of the landscape / townscape within and around it.

14.19.12 Effects upon visual amenity would also be generally not significant with only one location assessed as subject to significant visual effects. Such higher degree of effects reflects close proximity and relatively open views towards the Proposed Development.

14.20 Traffic and Transportation

Introduction

14.20.1 The traffic and transport assessment has considered the environmental impacts of traffic to include pedestrian amenity, highway safety and driver delay in the context of the relative change in traffic flows. The assessment has been informed by the technical analysis contained within the accompanying Transport Assessment.

Baseline Conditions

14.20.2 The application site lies approximately 1.65 kilometres to the south-east of Junction 9 of the M42 Motorway, as well as connections to the M6 Toll Road. The site is located within an established industrial area and is bound to the east by industrial units and to the south by Faraday Avenue, which provides direct access to the site. The western edge of the site is bound by airport parking business, while the application site abuts undeveloped brownfield land to the north.

Likely Significant Effects

14.20.3 Operational phase impacts have been determined with reference to the trip generation calculations contained within the Transport Assessment. The operational phase of the project is, at worst, categorised as Negligible.

14.20.4 Construction phase impacts would be generated from the arrival and departure of construction workers and associated HGV traffic and will not be more than the operational phase. The construction phase is, at worst, categorised as Negligible.

Mitigation and Enhancement

14.20.5 Given the application site's current land use and the resulting impact of the Proposed Development, it is considered that the surrounding highway network is of a suitable standard and will not require further mitigation to accommodate movements associated with the operational phase.

14.20.6 It is proposed that a Construction Traffic Management Plan (CTMP) would be prepared and submitted to the Local Planning Authority prior to the commencement of on-site works. The purpose of the CTMP would be to ensure appropriate environmental management practices are followed during the construction of the project.

Conclusion

14.20.7 The Proposed Development can be accommodated without any unacceptable detriment to the environmental effects of traffic. The inclusion of mitigation measures at

both construction and operational phases reduces the effects and impacts of the development.

14.21 Hydrology and Flood Risk

Introduction

14.21.1 An assessment has been undertaken of the likely significant effects that the Proposed Development would have on the water environment. The effect of the Proposed Development on local flood risk and water quality of nearby watercourses has been assessed and mitigation measures proposed. This assessment is supported by a detailed Flood Risk Assessment.

Baseline Conditions

14.21.2 The Application Site is currently in brownfield use and consists of cleared and consolidated land, surrounded by the Car Storage Compound to the west and some of industrial plots to the east.

14.21.3 The Environment Agency's Flood Map shows the site lies entirely within Flood Zone 1, which indicates the land assessed as having less than 1 in 1,000 annual probability of river or sea flooding (<0.1%) and is the lowest rating used by the Environment Agency. The Strategic Flood Risk Assessment contains no records of historic flooding from watercourses in the vicinity of the application site. The risk of other forms of flooding affecting the development site has been assessed as low.

Likely Significant Effects

14.21.4 The construction of the Proposed Development will temporarily disrupt the onsite surface water drainage.

14.21.5 Potentially polluting activities and accidental spillages and leakages may occur during the construction and operation of the Proposed Development which could have an effect on local water quality.

Mitigation and Enhancement

14.21.6 Good site management, adequate contingency planning, application of pollution prevention principles and best practice construction techniques will reduce the risk of a significant water pollution event occurring.

14.21.7 The surface water drainage system will incorporate stormwater storage and will be discharged at a reduced flow into an onsite ditch. The system will provide a degree of flood risk betterment during these storm events.

14.21.8 The surface water drainage system will incorporate specific measures to intercept oil and silt and other pollutants from the site and relevant plant will be designed to minimise pollution risk (e.g. bunded).

Conclusion

14.21.9 Adopting best practice construction site management and provision of a suitably designed surface water drainage system incorporating pollution control and stormwater storage minimises the effect of the Proposed Development on local flood risk and water quality in nearby watercourses.

14.22 Hydrogeology and Ground Conditions

Introduction

14.22.1 A qualitative assessment of the effects of the proposed development arising from likely ground conditions has been completed. The assessment has considered the extent and methods of foundation construction, the anticipated degree of disturbance of the ground, the final form of the development, and the relevant national policies for contaminated land assessment and management.

Baseline Conditions

14.22.2 The baseline ground conditions at the site have been assessed by a Phase 1 Desktop Study.

Likely Significant Effects

14.22.3 Prior to mitigation, a number of likely significant effects have been identified relating to the risk of the effects of contaminated land on construction workers, end users and controlled waters.

Mitigation and Enhancement

14.22.4 The following mitigation measures have been recommended:

- Undertake a Detailed Unexploded Ordnance Threat and Risk Assessment prior to carrying out intrusive site investigation works (and development).
- Undertake a Phase 2 Geo-environmental Ground Investigation prior to development to provide an assessment of the ground conditions on the application site with respect to geotechnical properties and any potential contamination (including hazardous gases) in the underlying soils and/or groundwater.
- Application of appropriate measures during the construction phase to protect construction workers, site neighbours and the environment more generally, from exposure to any contaminated material which may be encountered (e.g. dust control measures, containment of soil and groundwater arising from works in the ground, use of appropriate PPE).
- If piling through the Secondary A aquifer is required as part of the development, a Report on Piling and Risks to Groundwater should be completed to the satisfaction of the Environment Agency (EA). The piling technique should be chosen to mitigate risks to controlled waters.
- The safe stockpiling, containment and testing of material displaying visual or olfactory evidence of contamination during the construction works. Based on the results of subsequent testing, the stockpiled soils should be re-used, treated or disposed of off-site.
- A 'clean' and inert soil cover layer should be placed over in-situ soils in areas of new landscaping. The cover soils should be validated prior to placement.
- Building slabs and membranes should be designed to mitigate the Characteristic Gas Situation classification for the site; ground gas monitoring should be undertaken to classify the gas regime, as described within BS 8485 and C665.

- The concrete used within the proposed development should be designed in accordance with the concrete classification for the site (assessed using BRE Special Digest 1).
- The local water supply company should be consulted regarding the pipe material and backfill specification of potable water supply pipes.
- Operation on sealed hard standing would ensure any oils/lubricants or wastes are not able to penetrate into the underlying natural ground and controlled waters.
- Develop systems in line with the plant/facility Environmental Permit to ensure all potential contamination issues associated with the operation of the facility would have been satisfactorily controlled.

Conclusion

14.22.5 Following the implementation of the recommended mitigation measures the residual effect of the proposed development with respect to all receptors is assessed to be Neutral, as either ground contamination sources or transport pathways to receptors will have been removed.

14.23 Noise and Vibration

Introduction

14.23.1 A noise assessment has been carried out for the Proposed Development. The assessment has taken account of potential effects during the construction and operation of the Proposed Development, upon surrounding residential receptors. It has considered factors such as piling during construction and additional traffic movements once the site became operational.

Baseline Conditions

14.23.2 In order to ascertain the existing noise environment at noise sensitive receptors surrounding the Application Site and to inform the design of the Proposed Development, a noise monitoring exercise was carried out between 15 – 21 March 2016. The survey comprised an unattended noise survey, carried out at one location within the land adjacent to the closest dwelling, with simultaneous sample noise measurements taken adjacent to the church.

14.23.3 The monitoring positions were chosen to enable the typical background noise levels to be determined at the potentially most affected dwellings.

14.23.4 The baseline conditions in terms of energy-equivalent sound pressure level and some statistical parameters were determined for standard time periods for both weekdays and weekends.

Likely Significant Effects

14.23.5 The Proposed Development is located some distance from the surrounding noise sensitive receptors. An assessment of the noise levels associated with the construction of the Proposed Development indicates that noise associated with the works would result in a negligible effect.

14.23.6 Noise levels associated with the operation of the Proposed Development are anticipated to be low and below a level which would result in any significant adverse noise

impacts, with noise associated with the operation resulting in a negligible effect at surrounding properties.

14.23.7 There would be regular deliveries made to the site throughout the day. The small numbers of additional vehicles would result in no noticeable change in road traffic noise levels on roads surrounding the Proposed Development, with a negligible effect identified.

Mitigation and Enhancement

14.23.8 No additional noise mitigation measures have been identified in addition to those which would be incorporated as standard into the design of the Proposed Development.

Conclusion

14.23.9 In summary, the construction and operation of the Proposed Development would not give rise to any adverse noise impacts at surrounding properties.

14.24 Ecology and Nature Conservation

Introduction

14.24.1 The assessment establishes the likely presence of protected or notable species, identifies statutory designated sites for nature conservation in the vicinity of the Proposed Development and evaluates the overall conservation status of the Application Site. The potential effects on identified ecological features including designated sites and protected and notable species is assessed in line with current guidance, and appropriate mitigation and enhancement measures are described.

Baseline Conditions

14.24.2 An Extended Phase 1 habitat survey was undertaken on the Application Site in February 2016. The survey recorded habitats within the Application Site and aimed to establish the presence or potential presence of protected and notable species.

14.24.3 Statutory designated sites were identified within a 5km radius of the Application Site (extended to 20km for SPAs and Ramsars) using the Multi Agency Geographic Information for the Countryside (MAGIC) website, along with the Joint Nature Conservation Committee (JNCC) and Natural England (NE) websites. WBRC (Warwickshire Biodiversity Record Centre and EcoRecord (the Ecological Database for Birmingham and the Black Country) provided records of protected and notable species, locally designated sites and habitats within a 2km radius of the approximate centre of the Application Site.

14.24.4 The Application Site comprised an area of gravel hardstanding, bounded by concrete perimeter walls and was in use as an industrial storage area. Opportunities for wildlife were therefore extremely limited, although semi-natural habitats are present in the wider landscape.

14.24.5 No evidence of protected or notable species was identified during the Phase 1 habitat survey. The hardstanding land was considered unsuitable for protected and notable species, although nearby land may provide some foraging interest for bats. The presence of a mammal path indicated the potential movement of badger or foxes across the Application Site. The potential for black redstart to be present in the local area is possible as there is suitable derelict land to the north. The Application Site in its current state is however not suitable for nesting birds.

14.24.6 The overall importance of the Application Site habitats and to protected and

notable species is assessed to be very low, with local features of greater biodiversity interest adjacent to the Site being retained as part of the Proposed Development.

Likely Significant Effects

14.24.7 No significant effects are anticipated on statutory or non-statutory designed sites or habitats. No significant effects are anticipated on protected species, including birds, bats, badger, dormouse, amphibians and reptiles and invertebrates.

Mitigation and Enhancement

14.24.8 Mitigation and enhancement measures will include the following:

- Pollution prevention and control measures employed during construction;
- Appropriate lighting design to avoid light spill onto adjacent habitats; and
- A pre-construction badger survey.

Conclusion

14.24.9 The Proposed Development will have no significant effects on Ecology or Nature Conservation either individually or in combination with other developments. Residual effects of the Proposed Development will be negligible and not significant in relation to all identified ecological receptors.

14.25 Archaeology and Cultural Heritage

Introduction

14.25.1 The archaeology and cultural heritage assessment has considered the likely significant effects of the Proposed Development and has been informed by a staged process of heritage survey including 'desk-based' research and an assessment of the 'setting' of heritage assets.

Baseline Conditions

14.25.2 No designated heritage assets are situated within the Application Site. The Site is located on an area of Second River Terrace gravels. Areas of River Terrace gravels were favoured locations for prehistoric activity. However, none is recorded in the immediate vicinity of the Site. Cropmarks c. 650m north-west of the Site are potentially of prehistoric origin, although a modern origin has also been suggested. The desk-based assessment has not identified any evidence to indicate significant activity focused within the Site. And previously present below-ground archaeological remains are likely to have been removed by the two-phases of sub-station construction in the earlier and mid-20th century respectively.

14.25.3 The western boundary of Hams Hall park, as mapped on the First Edition Ordnance Survey, crossed eastern area of the Site. Extant park features within and in the immediate vicinity of the Site were removed in the 20th century. No park features of heritage interest remain within the Site.

14.25.4 An earlier 20th-century sub-station is visible extending into the Site area on 1930s aerial photographs. This was replaced in the late 1950s, with a new sub-station with a different footprint. The late 1950s sub-station was largely dismantled, within the last 10 years. The boundary wall, which defines the parcel of land within which the Site is situated, is on the same alignment at the late 1950s sub-station boundary wall. The boundary wall associated with the late 1950s phase of construction at Hams Hall Power station is not

considered to be a heritage asset.

14.25.5 The closest designated heritage assets are the Grade II Listed Church of St John the Baptist and associated Grade II Listed Cross c. 650m north-east of the Site. These are designated heritage assets of less than the highest significance.

Likely Significant Effects

14.25.6 The Proposed Development will not result in physical impacts on any identified heritage assets.

14.25.7 A Settings Assessment with regards to designated heritage assets is included as part of the Environmental Statement submitted with this application. The Proposed Development will not result in any adverse significant effects on designated heritage assets.

Mitigation and Enhancement

14.25.8 In the absence of any evidence for significant, focused activity within the Application Site prior to the establishment of the power station and given the disturbance associated with the two-phases of sub-station construction, it is considered that the current assessment provides a proportionate level of information regarding the potential below-ground archaeological resource, as required by paragraph 128 of NPPF, sufficient to determine the planning application, and no subsequent mitigation works are proposed.

Conclusions

14.25.9 The assessment has not identified evidence for focused, significant activity within the site prior to the establishment of the power station in the earlier 20th-century.

14.25.10 The proposed development will not result in any adverse impacts on the significance of designated heritage assets as a result of alteration to setting. As such it will be in keeping with the requirements of the Planning (Listed Building and Conservation Areas) Act 1990, NPPF, and Local Planning Policy pertaining to the setting of designated heritage assets.

14.25.11 The Proposed Development is consistent with the objectives of the Framework regarding heritage assets. In particular it is consistent with Paragraph 126 which requires that LPAs, with regard to heritage assets, 'conserve them in a manner appropriate to their significance'. The information supplied with the application is consistent with the requirement of Paragraph 128 which requires an applicant 'to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.' No harm to heritage assets has been identified, and thus no weight regarding harm to heritage has been identified to be put in the planning balance (as per Paragraphs 134 and 135 of the Framework). Appropriate mitigation has been recommended, as per the advice set out in Paragraph 141 of the Framework.

14.26 Socio-Economics

Introduction

14.26.1 The socio-economic assessment considers effects of the Proposed Development during both the construction and operational phases. This assessment considers the provision of the following aspects of the Proposed Development:

- The provision of circa 20 jobs in the operational phase; and
- The offer of competitively priced sustainable energy to local businesses.

14.26.2 The Application Site is within North Warwickshire and lies within the Ward of Curdworth. Some information is only available for the Lower Super Output Area (LSOA), North Warwickshire 004B or Middle Level Super Output Area (MSOA) North Warwickshire 004 and these are used in these instances. The assessment considers the appropriate area/s in regard to different issues.

Baseline Conditions

14.26.3 The 2012 subnational population projections identify the factors that make up the projected population change. Within North Warwickshire, 100% of the growth arises from net migration.

Likely Significant Effects

14.26.4 The key socio-economic effects of the Proposed Development can be summarised as follows:

- Provision of circa 100 to 130 additional jobs during the construction phase in the construction sector;
- Provision of 20 jobs during the operational phase;
- The jobs will include elementary jobs during both the operational and construction phases which responds to the type of jobs being sought by the unemployed in Curdworth Ward currently;
- Investment in construction, operation and maintenance all of which will provide for indirect effects including generating work for local tradesmen;
- Additional £2.3M GVA per annum for the local economy including an increase of the local disposable income (for employees of the facility and tradesmen) which will have induced effects on local economy;
- The provision of lower priced sustainable energy for local businesses, reducing business costs which may be used to expand or enhance businesses (including new jobs and/or increased wages); and
- Potential minimal increases in commuting flows.

Mitigation and Enhancement

14.26.5 There are no identified negative effects associated with the Proposed Development in socio-economic terms and so no mitigation has been identified.

Conclusion

14.26.6 Overall the Proposed Development is considered to provide for minor positive effects and will prevent around 150,000 tonnes of residual waste going to landfill, utilising it as a valuable resource.

14.27 Summary

14.27.1 The technical chapters which make up this ES which assesses the REC at Hams Hall Energy demonstrate that there are no overriding environmental constraints or planning policies which would preclude the development of the Application Site.

14.27.2 The Planning Statement which forms a separate part of the planning application demonstrates significant weight for both Planning Policy and Waste Policy which demonstrates the need for and benefits of the scheme. The Proposed Development is in accord with the relevant policies of the Development Plan and other material planning considerations including the principle of sustainable development.

14.27.3 The proposal has also been shown to be in compliance with national strategic level planning policies contained within the National Planning Policy Framework and the National Planning Policy for Waste, and guidance set out in the Waste Management Plan for England and both EN-1 and EN-3. These documents are significant material considerations in the planning process and indicate this proposal is acceptable.

14.27.4 The above considerations demonstrate that upon considering the significant benefits associated with the scheme against the relatively minor impacts, the proposal, on balance, falls well within the scope of acceptability as the benefits would indeed outweigh any limited harm.