
14.0 SUMMARY OF POTENTIAL EFFECTS

14.1 Introduction

14.1.1 This section of the Environmental Statement provides a summary of the potential environmental effects of the scheme under a series of headings, which reflect the assessment sections of this document.

14.2 Planning Policy

14.2.1 An assessment of the proposals against the relevant planning policy and guidance has demonstrated that the scheme meets the test of Section 38(6) of the Planning and Compulsory Purchase Act as it fully complies with the provisions of the statutory development plan and specifically Policy NE9 of the Lincolnshire Structure Plan and Policy C16 of the Revised Draft North Kesteven Local Plan, which relate to renewable energy development. In addition, a comprehensive assessment of other material considerations has not revealed any justification for determining this application other than in accordance with the development plan. In fact, the proposals have also been found to strongly accord with, and be supported by a range of other material factors, specifically planning policy and guidance (including the PPS1 Supplement, PPS22, Energy White Paper, the UK Biomass Strategy, the East Midlands Regional Energy Strategy and the emerging RSS), which is material to the determination of the planning application.

14.3 Traffic

14.3.1 Following a detailed review of anticipated future operational highway conditions and reference to appropriate guideline standards, it can be concluded that the development of the Sleaford REP will not result in a material change in operational or environmental capacity conditions over the local highway network. Development traffic flow increases will generally be low and it is considered that there is no requirement for development related off-site highway improvement works to support the scheme over and above the local improvements to deliver the proposed new site access junction at Boston Road.

14.3.2 Notwithstanding the conclusions of paragraph 14.3.2 above, at the request of the LHA, the Developer has investigated improvement options to the westbound merge layout at the junction of Boston Road and the A17 which would meet appropriate highway design standard as set out in DMRB guidance TD42/95. The Developer of the Sleaford REP scheme would be prepared to fund and implement these proposals if requested to do so by the planning authority as a condition of planning consent.

14.4 Landscape and Visual Impact

14.4.1 The findings of the Landscape and Visual Impact Assessment are as follows:

Landscape Impacts

Landscape Fabric

14.4.2 Although the development would involve the complete removal of landscape fabric, the landscape fabric affected is commonplace and is therefore relatively insensitive to such a change. Thus, while the magnitude of the impact is high, the significance of the impact would only be moderate adverse. Moreover, the development proposals include the introduction of substantial areas of locally appropriate landscape elements which it is considered more than compensate for these adverse impacts and result in a beneficial effect upon landscape fabric.

Landscape Character

14.4.3 The plant is located within an area exhibiting low quality landscape character. Thus, although there would be a high magnitude of change in the immediate vicinity of the REP, the resultant effect upon landscape character of would only be of moderate adverse significance. The introduction of five small copses in the area surrounding the facility would be beneficial to local landscape character.

14.4.4 Indirect impacts upon the wider landscape would have a medium magnitude of change to the low quality landscape character baseline and would result in a minor adverse significance of effect, rising to moderate adverse where worst

case atmospheric conditions for plume formation would increase magnitude of change to high.

Visual Impacts

14.4.5 Ten representative visual receptors were assessed and the results of this assessment were applied to the analysis of all relevant receptors. It is predicted that there would be major adverse impacts at approximately 18 residential properties. The impacts at 7 of these properties would be mitigated by off-site planting which will serve to break up or substantially screen views of the plant over time. Local footpaths would experience moderate and minor to moderate effects. The Sleaford Cycle Trail would experience a localised major effect. Finally, users of local transport infrastructure, workers (primarily agricultural) and people engaged in active recreation (principally football) would experience moderate or lower effects.

14.5 Ecology and Nature Conservation

14.5.1 The development site contains few features of significant nature conservation interest, although it lies adjacent to a woodland which has been designated as a non-statutory site of conservation importance. The hedgerow along the southern boundary has a high woody plant diversity, and would qualify as Important under the 1997 Hedgerow Regulations.

14.5.2 The predicted impacts of the development will involve the loss of most of the hedgerow along the site frontage, in order to provide road access to the site with appropriate visibility splays. This will also affect the current usage of the roadside by foraging bats.

14.5.3 The development will result in the displacement of one pair of skylarks and one pair of grey partridge, species listed under Section 74 of the 2000 Countryside and Rights of Way Act. However, it will not significantly or legally affect any species with special legal protection. The adjacent woodland will not be affected.

14.5.4 Mitigation, compensation and enhancement measures are proposed which involve:

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- planting locally-native scrub species to compensate for hedgerow loss; and
 - creating new wetland, grassland and woodland areas around the development

14.5.5 Based on currently available data, the development would result in a negative ecological impact of local significance. However, through the implementation of compensation and mitigation measures, this impact can be ameliorated to provide a positive impact of local significance through the creation of new habitats. Species which could benefit include reed bunting and linnet, while suitable habitat will be created for foraging bats as scrub and tree planting matures.

14.6 Flood Risk and Water Quality

14.6.1 The proposed development does not lie within an identified area of flood plain and the risks posed to the development from fluvial flooding sources are negligible.

14.6.2 Surface water runoff from the proposed buildings and hardstandings would be managed in such a fashion so as to ensure that the resulting flows are regulated to the equivalent 'green field' runoff rate. This, in turn, would ensure there is no adverse disturbance to the existing surface water regime local to the site.

14.6.3 The proposed development would not affect the water quality of the surrounding area as a result of the infrastructure that would be installed to service the site and the specific practices employed to manage runoff from the different parts of the development.

14.7 Noise

14.7.1 Existing daytime and night-time noise levels at receptors located around the Sleaford REP site have been determined through noise monitoring, the results of which have been compared with the predicted impacts on noise during the construction and operation of the facility.

14.7.2 For the construction phase, the noise levels would vary from day to day depending upon a number of factors including type of plant being used, type of activity, distance from the site boundary, screening, duration of activity and nature of activity. For the assessment of impact for the construction phase it is concluded that by adopting a number of proposed mitigation measures, the impact would result in a negligible to slight adverse effect albeit a temporary noise source.

14.7.3 During the operational phase, the noise assessment considers an example of mitigation that could be implemented to control noise from the site to achieve the noise criteria. There are a number of different ways in which the criteria can be achieved, for example, the use of noise control at source and/or the selection of different plant equipment which may be quieter can be investigated (i.e. by applying BAT techniques). When further detailed information is available on specific plant selection, it may be necessary to undertake a further noise assessment to check that the planning consent conditions would be achieved. The provision of appropriate mitigation measures within the detailed design would assist in minimising any noise impact and the level of risk is anticipated to be low. The residual impact from noise is therefore deemed to have a negligible effect or at worst a slight effect on noise levels at the nearest residential dwellings.

14.8 Air Quality

14.8.1 The methodology used in this assessment of the impact on air quality of the Sleaford REP uses a number of conservative assumptions. These include the following:

- it is assumed that the plant will continually operate at its maximum emission limits. In practice, this will not be the case and actual emissions will be less than the limits.
- the maximum ground level concentrations are considered in each case. These concentrations occur in small areas; in general, the concentration will be much lower.

14.8.2 Even with these conservative assumptions, the concentration of all pollutants is less than 10% of the short term air quality standard or guideline, with the

exception of sulphur dioxide for which the concentration is up to 13% of the air quality standard.

- 14.8.3 The concentration of most pollutants is less than 4% of the long term air quality standard or guideline.
- 14.8.4 The peak long and short term concentrations are combined with pessimistic background concentrations for comparison with air quality standards and guidelines. No breaches of any of the standards or guidelines are predicted.
- 14.8.5 It can be concluded that the impact on both the local community and the general population from the atmospheric emissions from the Sleaford REP is small.

14.9 Archaeology and Heritage

- 14.9.1 A desk based study and subsequent archaeological evaluation have been undertaken to assess the archaeological potential of the Sleaford REP site. The desk-based assessment covered all aspects of the study area, including existing built environment, sub-surface archaeological potential and associated cultural connections, such as important events or figures of national or local historic significance. This provided a baseline of known and potential archaeology, related to existing cultural values, against which the impact of the proposed development has been considered. The subsequent archaeological evaluation included the excavation of 17 trial pits, located by agreement with the North Kesteven District Council Heritage Officer following a geophysical survey of the entire site.
- 14.9.2 This work has concluded that there is nothing on site that should preclude its development, subject to an programme of excavation, recording and reporting to preserve the archaeology that is present (which is deemed to be of local and possibly regional significance). Such work could be managed by attaching appropriate conditions to any planning permission, and the applicant would ensure that this was completed before construction began on site.

14.9.3 The desk-based assessment also confirmed that there are no Scheduled Ancient Monuments, HER entries or Listed Buildings within the site boundary and the site is not within an archaeological priority zone or conservation area.

14.10 Geology and Hydrogeology

14.10.1 The potential effects of the proposed development on the geology and groundwater local to the site were assessed in Section 13.0. This assessment established that the study area has not previously been developed and has been used solely for agricultural purposes. Accordingly, the potential for mobilising pollutants during the construction phase of the development is extremely limited.

14.10.2 In the absence of any hazardous substances in the processes proposed at the REP, the risk of contamination of the local geology or groundwaters is considered to be negligible.

14.10.3 It has been predicted that any potential adverse environmental effects would occur predominantly during the construction phase and, specifically, in relation to excavation activities. Measures to mitigate these effects would be determined through appropriate ground investigation, together with the control of pathway creation through good site practice. No significant residual effects are predicted.

14.10.4 Although no significant effects are predicted during the operation of the proposed development, generic measures would be introduced to ensure effective site management including procedures for dealing with accidental oil and fuel spillage during the use of plant, equipment and machinery and these would be included as part of the Environmental Management System for the site.