

3 Ecology and Nature Conservation

Introduction

- 3.1 This chapter appraises the likelihood of ecological impacts of the proposed FAB Link HVDC converter station development near Exeter Airport. This chapter draws on relevant topic guidance and consultation to inform the appraisal and sets out the proposed measures to mitigate any potential adverse impacts.
- 3.2 This assessment considers the ecological receptors at the site and those recorded within 2 km of the site (5 km for particularly mobile species and statutorily designated sites for nature conservation).

Assessment Methodology

- 3.3 The assessment was carried out using the principles identified by the Chartered Institute of Ecology and Environmental Management (CIEEM) in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal* (Second Edition) (CIEEM, 2016).
- 3.4 The following key principles are set out in this guidance:
- **Avoidance:** Seek options that avoid harm to ecological features (for example by locating on an alternative site).
 - **Mitigation:** Adverse effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example through a condition or planning obligation.
 - **Compensation:** Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
 - **Enhancements:** Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

Policy and Guidance

- 3.5 The assessment takes into account the following legislation, policies and guidance:
- Wildlife and Countryside Act 1981 (as amended) (WCA).
 - Countryside and Rights of Way Act 2000 (CRoW).
 - Natural Environment and Rural Communities Act 2006 (NERC).
 - Conservation of Habitats and Species Regulations 2012 (CHSR).
 - Protection of Badgers Act 1992 (PBA).

- Hedgerows Regulations 1997 (HR).
- United Kingdom Biodiversity Action Plan (UK BAP).
- National Planning Policy Framework (NPPF) (DCLG, 2012).
- East Devon Local Plan 2013 (approved 2016) (EDLP).
- The Nature of Devon – A Biodiversity and Geodiversity Action Plan (Devon BAP).
- Devon Great Crested Newt Consultation Zones Guidance for Planning (February 2016) (Devon County Council and the Devon Local Nature Partnership, 2016)..

Consultation

3.6 Details of the consultation undertaken for the converter station are provided in Table 3.1 below.

Table 3.1: Consultation Responses Relevant to this Chapter

Date	Consultee and Issues Raised	How/ Where Addressed
2 nd July 2015	<p>Natural England (Meeting)</p> <ul style="list-style-type: none"> • Natural England was given an overview of process of selecting onshore converter station and associated consultation with East Devon District Council (EDDC). • FAB Link Ltd stated intention to select converter station site of approximately 5 hectares by end of July, followed thereafter by request for formal pre-application consultation with East Devon District Council. • RPS noted that Natural England were not consulted on previous advice from EDDC, however Natural England may be asked to input to EDDC at the point of screening opinion request at end of 2015. • Natural England noted that sieve mapping exercise had screened out proximity to nature conservation sites, however Natural England would provide standard advice for ecology surveys that may be required for preferred converter station site. 	Current proposed location is the result of sieve mapping exercise and is set out in the HVDC Converter Station Site Selection Process Report (RPS, 2015)
28 th September 2015	<p>Natural England (Meeting)</p> <ul style="list-style-type: none"> • From information available, Natural England considered it unlikely that there would be particular conservation interest on the site, subject to the outcome of the Phase 1 survey. • If there were particular features of interest, Natural England wished to be contacted to discuss further. Otherwise, they were content to wait until further consultation as part of the pre-application/EIA screening process later in the year. 	Nature conservation value of the site is addressed in this chapter.
28 th September	<p>Devon Wildlife Trust (DWT)(Meeting)</p> <ul style="list-style-type: none"> • DWT noted that hedges may be suitable for dormice and bat flight lines and also 	Comments on suitability of

Date	Consultee and Issues Raised	How/ Where Addressed
2015	<p>recommended that roofing of converter station should not be seeded (e.g. sedum matt) as this could attract birds such as breeding seagulls, which in turn would be an issue with respect to proximity to Exeter Airport.</p> <ul style="list-style-type: none"> • DWT noted that converter station should have appropriate lighting regime to ensure no impact on flight lines for birds. • DWT noted that DBRC can provide data on an annual update basis. DWT also noted unconfirmed sightings should be taken into consideration. 	<p>hedges for protected species noted and addressed in this chapter.</p> <p>During operation, (unmanned), there would be no lighting in or around the facility. Low level down lit lighting would only be activated during maintenance visits.</p> <p>DBRC data utilised in desk study for this chapter</p>
5th November 2015	<p>RSPB (Meeting)</p> <ul style="list-style-type: none"> • FAB Link Ltd noted that the design and location of the converter station has been discussed with Exeter Airport in so far as the roof of any buildings should not be designed to attract birds. RSPB noted that the biggest concern to the airport is the population of birds in the Exe Estuary 	Comments noted.
22 nd January 2016	<p>East Devon District Council (Letter)</p> <ul style="list-style-type: none"> • Screening Opinion confirmed that the development does not require an Environmental Impact Assessment (EIA) but that an Ecology and Tree Survey should support the planning application. 	Comments noted.

Methodology

3.7 The assessment used the following material to establish the ecological baseline at the site:

- FAB Link Interconnector HVDC Converter Station Ecology Appraisal (December 2015.) This included desk study with a study area of 2 km radius around the site, extending to 5 km radius for statutorily designated sites and individual records of bats. Data from Devon Biological Records Centre (DBRC), Devon Bat Group (DBG) and the MAGIC interactive map Website (www.magic.gov.uk) were used to identify relevant data. It also included an extended Phase 1 habitat survey of the site and its immediate surroundings (available at Appendix 3.1).
- FAB Link Interconnector: Habitat Suitability Index (HSI) Survey of Ponds Near Exeter Airport (December 2015) (Appendix 3.2).
- FAB Link Interconnector. HVDC Converter Station Ecology Great Crested Newt Survey (May 2016) (Appendix 3.3).
- FAB Link Interconnector. HVDC Converter Station Ecology Bat Roost Appraisal (March 2016) (Appendix 3.4).
- FAB Link Interconnector. HVDC Converter Station Ecology Bat Activity Survey (Appendix 3.5) (Not yet available – survey work currently ongoing 12/07/2016).

- 3.8 Information from the above sources was used to determine the importance of the ecological resources at the proposed site. This was done based on a hierarchical approach, considering statutorily designated sites, such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs), Sites of Special Scientific Interest (SSSIs), National and Local Nature Reserves (NNRs and LNRs) as of highest priority, followed by locally-designated sites, such as County Wildlife Sites (CWS), Other Sites of Wildlife Interest (OSWI) and Unconfirmed Wildlife Sites (UWS). This was followed by considering individual habitats, features or species against their protected status in legislation, or any other indication of importance, such as appearing in national or local biodiversity action plans.
- 3.9 Only those receptors determined to be important were considered in the assessment. Important receptors were identified as:
- any statutorily designated site (SACs, SPAs, SSSIs, etc.);
 - any locally designated or other site (County Wildlife Sites, RSPB reserves, etc.);
 - any habitat occurring in a UK or Devon BAP priority list;
 - any species specifically protected by UK legislation, or habitat/features which specifically support them; or
 - species identified by other means as under threat (such as red list species or UK or Devon BAP priority species).
- 3.10 The following features, habitats and species were identified to be present (or potentially present) on the site and considered important using the above criteria:
- Habitats: Hedgerows (Hedgerows Regulations, UK BAP priority habitat, Key Wildlife feature in Devon).
 - Features: Mature oak trees (potential bat roosts).
 - Species: bats (Conservation of Habitats and Species Regulations 2012, Wildlife and Countryside Act 1981, soprano pipistrelle is a UK BAP priority species, subject to the final results of the ongoing bat activity survey, so far no Devon BAP bat species have been identified using the proposed development site).
 - Species: dormice (Conservation of Habitats and Species Regulations 2012, Wildlife and Countryside Act 1981, UK BAP priority species, Devon BAP priority species).
 - Species: Badger (Protection of Badgers Act 1992).
- 3.11 Potential impacts resulting from the proposed development were assessed by considering the receptor to be affected, its importance, abundance and fragility, and the likelihood of loss or damage to habitats, or injury or disturbance to individuals. The characteristics of potential impacts were considered against the following criteria:

- positive or negative;
- extent (area affected);
- magnitude (amount of effect);
- duration (temporary or permanent, takes into account species life cycle for example);
- frequency and timing (taking into account seasonal issues for example); and
- reversibility (whether a receptor would recover from a specific impact).

Limitations of the Assessment

- 3.12 The assessment obtained a good level of baseline information for the site, especially considering its current status as intensively arable ground, which simplified the habitat identification required. The existing land use reduced the likelihood of the site supporting a number of groups which would otherwise require consideration.
- 3.13 One species (dormouse) was assumed to potentially be present in low numbers. This assumption was made on the basis that dormice are known to occur in the vicinity of the site, and are now known to utilise hedgerows more frequently than had previously been considered. Hedgerow condition at the site was considered much less than optimal for dormice, being generally very heavily managed and tightly trimmed. However, it was not possible to completely discount the presence of dormice within these hedges, and it was considered that their presence at very low levels may well not be verified by normal survey effort. Given the nature of the potential impacts on this species (discussed in detail in later paragraphs), it was considered appropriate to assume a possible presence.
- 3.14 Guidance on great crested newts in Devon was followed (Devon County Council and the Devon Local Nature Partnership, 2016) and as a result of the Habitat Suitability Index (HSI) survey and detailed presence/absence survey in those ponds requiring it, there was high confidence in the conclusions that no great crested newts are present in locations which might be affected by the proposed scheme.
- 3.15 Overall there were few limitations that would affect the robustness of the assessment.

Assessment of Construction Impacts

- 3.16 This section includes a brief description of the baseline conditions present at the site and provides a brief assessment of those which are considered important. A brief review of construction impacts on these habitats is provided and these are reviewed in more detail in relation to the important receptors identified.

Baseline

- 3.17 The baseline description of the site and its ecological receptors was based on the previous reports identified above (Appendices 4.1-4.5). In each case, the ecological value of the features/habitats is discussed.

Designated Sites

- 3.18 The nearest statutorily designated sites are the East Devon Heaths SPA, SAC and SSSI, which lies some 3.51 km to the south of the site. This is the only statutorily designated site within 5 km of the converter station site. East Devon Heaths is a site of national and international importance. It is a nationally important representative of the inland Atlantic-climate, lowland heathlands of Britain and north-west Europe. It supports Northern Atlantic wet heaths and European dry heaths with a number of very important species such as southern damselfly, Dartford warbler and European nightjar. This site was considered important in a national and international basis.
- 3.19 There were 11 locally designated sites within 2 km of the site, the nearest of which was Beautiport County Wildlife Site (CWS), designated for the small ponds with amphibian interest. Also close by were Great Covert Unconfirmed Wildlife Site (UWS) which is an area of secondary woodland, and Exeter Airport Other Site of Wildlife Interest (OSWI), which supports marshy grassland. These sites were considered to be important in a local context.

Habitats Present on Site

Arable Land

- 3.20 The site and its immediate surrounds were dominated by arable fields under intensive crop rotation. A cereal crop had been removed from the fields last year and this year it was planted with a maize fodder crop. Adjacent fields were all in similar arable production. Field headlands were minimal and of little value to wildlife. While "Farmland" is a "key wildlife feature in Devon", based on the Devon BAP, the flora and fauna species indicated were unlikely to be encountered on the site, due to its intensive management. The ecological value of this habitat was therefore assessed as very low, and it was not considered to be an important ecological receptor.

Hedgerows

- 3.21 The site was bounded by well managed Devon hedgerows with earth banks and a reasonable number of woody species. Basal vegetation was rather sparse within the fields, primarily due to the closeness of arable management. The hedges were regularly managed by flail trimming. There were a number of mature standard oak trees predominantly along the Long Lane Road hedge and the hedge which forms the western boundary. A matrix of similar hedgerows bound adjacent fields and is typical of the area. As hedgerows are listed in Section 41 of the NERC Act and appear on the UK and Devon BAP, they were considered to be an important ecological receptor.

Protected and Otherwise Notable Species

- 3.22 The potential was considered for the following species and groups of protected or otherwise notable species to occur on or near to the site:

Plants and Habitats

- 3.23 No records of protected or notable plants were provided within 2 km of the site from the desk study. No rare or notable plants were noted during the Phase 1 habitat survey.

3.24 Due to the intensive management of the majority of the habitats present and the low diversity of floral species identified, the potential for any protected or notable flora to occur was low and notable plants and habitats were not considered to be important ecological receptors.

Birds

3.25 The hedges and plantation woodland present within the survey area offer nesting opportunities for common farmland species. The intensive arable production is likely to limit the value of the site for ground nesting birds and even for arable specialists. The field was ploughed and extensively cultivated throughout April and early May in 2016 to plant a maize crop, for example.

3.26 The birds recorded during the desk study could potentially forage on the site and it was originally reported that barn owl, house sparrow and kestrel could potentially find nest sites in the mature trees and hedgerows on the site.

3.27 No features likely to be used by barn owls were noted during the bat roosting inspections. Potential for barn owl foraging at the site was very limited due to the intensive arable management leaving little opportunity for substantial small mammal populations.

3.28 The potential for nesting by many common farmland species along the hedges, however, is considered an important ecological receptor.

Reptiles and Amphibians

3.29 One record of a reptile; grass snake was provided in the 2 km radius desk study.

3.30 The survey area offers no realistic opportunities for reptiles due to the intense arable production in the area. The arable habitats are intensively managed and extend close to the field boundaries leaving no margins of sufficient size to support reptiles.

3.31 Great crested newts are not a common species in Devon, but they have also been under-recorded. As a result, Devon County Council and the Devon Local Nature Partnership have produced guidance on when and how they should be surveyed for in Devon (Devon County Council and the Devon Local Nature Partnership, 2016).

3.32 The advice given on great crested newt consultation zones in Devon was followed and all ponds within 500 m of the proposed development, which were not isolated from it by substantial natural barriers, were subject to a HSI survey (Appendix 3.2). This identified two ponds with suitability indices of more than 0.6, indicating average habitat suitability or above, and one with an index very close to 0.6. These three ponds were subject to standard presence/absence survey, following standard Natural England guidance (English Nature, 2001) (see Appendix 3.3). No great crested newts were found to be present, although other common amphibian species, such as common frogs, smooth newts and palmate newts were identified. These species are protected under the WCA against sale only. The GCN Survey at Appendix 3.3 concludes that the development proposals are unlikely to have any significant impacts on ponds or terrestrial habitats likely to be utilised by the amphibians.

3.33 On the basis of the above, reptiles and amphibians were not considered to be important ecological receptors.

Dormice

- 3.34 Dormice were recorded in one location 1.9 km from the proposed development site and this population is unlikely to extend as far as the site due to the presence of roads acting as barriers preventing dispersal.
- 3.35 The hedgerows in the survey area were not good dormouse habitat on their own due to heavy management which would reduce their potential as a foraging resource for dormice and would make nest-building difficult.
- 3.36 Dormice are relatively common in Devon, however, and their presence cannot be completely discounted in hedgerows of this nature. As a result of the difficulty in completely discounting their presence, they were considered as important ecological receptors.

Badgers

- 3.37 A badger sett was found to be present in the south of the survey area along a field boundary, one field south from Long Lane (shown at TN16 on Figure 9, Confidential Appendix 3.1). Badger foraging activity was also identified across part of the site.
- 3.38 The principal aim of the PBA legislation was badger welfare and not conservation, as they are a common species whose population and range in the UK has expanded over the past four decades. As badgers are quite mobile and are known to excavate and occupy new setts within and beyond their existing territories, there is always some risk that additional setts may occur in areas which could be affected by the proposed development.
- 3.39 Simply as a result of the above, badgers were considered to be an important ecological receptor.

Bats

- 3.40 The bat roost tree survey (Appendix 3.4) identified three trees with high potential to support bat roosts, all of which occurred in hedges on the boundary of the converter station site. A further ten trees were identified with moderate potential, five of which occurred on the hedge boundary between the proposed site and Long Lane. The remainder occurred on other parts of Long Lane and on the boundaries of the field immediately to the west of the proposed development site, identified as a lay-down area.
- 3.41 The bat activity surveys (Appendix 3.5) are currently ongoing. Initial survey visits showed that a number of bat species utilise the hedges around the proposed development site as a foraging resource. Species identified included common pipistrelle, soprano pipistrelle, noctule, serotine and an unidentified *Myotis* species. These are relatively common species and although all protected under the CHSR and WCA, other than soprano pipistrelle, they are not UK BAP or Devon BAP species.
- 3.42 From survey visits undertaken so far, levels of activity tended to commence sometime after sunset, suggesting that the bats were not roosting in the trees immediately adjacent to the site. In addition, a number of bats recorded during both the walked transect surveys and the automated survey carried out over a minimum of three nights per month varied significantly from night to night.

- 3.43 Again from survey visits undertaken so far, observations during the walked survey tended to suggest that foraging activity focussed on those areas with large mature standard oak trees, reflecting the value of these individual features, irrespective of their potential for roosting.
- 3.44 Based on survey results obtained so far, it was concluded that the site forms a useful foraging resource for common bat species, but may not represent a major flight route, particularly in a westward direction, as levels of activity to the west along Long Lane were noticeably lower than those at or to the east of the existing Environment Agency compound. This compound had security lighting remaining lit overnight, which serves to attract some species such as pipistrelles, but may act as a deterrent to other species such as horseshoe bats (which were not recorded during the surveys).
- 3.45 Bats and the individual mature standard oak trees which seem to benefit them were therefore assessed as important ecological receptors.

Important Receptors

- 3.46 The following receptors are considered to be important and impacts upon them resulting from the proposed development should be avoided or otherwise mitigated. Impacts on this group of receptors are considered below.
- Nationally and internationally designated sites: East Devon Heaths SAC, SPA and SSSI.
 - Locally designated sites: Beautiport CWS, Great Covert UWS and Exeter Airport OSWI.
 - Hedgerows.
 - Individual Oak Trees.
 - Birds.
 - Bats.
 - Dormice.
 - Badgers.

Construction Impacts

- 3.47 The proposed development design would retain the majority of hedgerows forming the site boundary and retain all the mature oak standard trees associated with the hedges.
- 3.48 Construction activities without mitigation could include a number of potential impacts on important ecological receptors, including:
- Temporary and permanent habitat loss, particularly potential permanent loss of hedgerow for access along and from Long Lane, and temporary hedgerow loss for cable access into and out of the site;
 - Temporary disturbance to wildlife using features on the site from increased human activity;

- Temporary disturbance to wildlife using features on the site from construction noise levels;
- Temporary disturbance to wildlife using features on the site from construction lighting;
- Potential for long term impacts to adjacent areas of habitats (particularly hedgerows or ditches) resulting from inappropriate storage or handling of toxic or otherwise deleterious construction materials;
- Potential for temporary effects on ditches and water-courses resulting from inappropriate management of temporary works drainage during the construction period (and the risk of this acting as a pathway for further contamination in the event of a spillage of material as described above);
- Potential for injury to individual animals by falling into open trenches and becoming trapped.

Specific Construction Impacts on Important Ecological Receptors

3.49 The following paragraphs consider how construction is likely to impact the important ecological receptors, taking into account the mitigation measures outlined later in this chapter.

Nationally Designated Sites – East Devon Heaths SSSI

3.50 The proposed development site is some distance from the East Devon Heaths area. There would be no direct impacts in terms of land take or disturbance from noise or light or increased human activity.

3.51 It is considered unlikely that the construction of the proposed development would generate sufficient changes to air quality to have any impacts upon the heathlands. In accordance with guidance from the Institute of Air Quality Management, ecological impacts have been scoped out of the air quality assessment in Chapter 7 on the basis that there are no ecological designations within 50 m of the site boundary or within 50 m of site traffic routes for a distance of up to 500 m from the site entrance.

3.52 Accidental contamination incidents resulting from spillages or inappropriate storage of fuel or other chemicals on site would also be unlikely to affect the heathlands due to the rising topography which would prevent a water-borne contamination pathway from occurring. As outlined in Chapter 10, the potential for localised contamination of the soil and possibly groundwater (where permeable layers of the Secondary B Aquifer are present) would be controlled by the employment of pollution prevention measures during construction and from the drainage design during operation of the converter station.

3.53 Construction of the proposed development would therefore have no impacts on the East Devon Heathlands designated areas.

Locally Designated Sites

3.54 Construction impacts on locally designated sites are also considered to be limited. There would be no direct land take, and disturbance from noise, light or increased human activity would be unlikely factors.

- 3.55 There was some risk that air-borne pollutants (most likely small particulates from construction dust) could be deposited on the closer sites, although assuming good construction practice methods outlined below are adopted, this is unlikely to occur.
- 3.56 Similarly, the inclusion of good construction practice in the temporary drainage and water-management of the construction site would prevent the discharge of silts into the local drainage system which could potentially become a contamination pathway to the locally designated sites.
- 3.57 Linked to this is the requirement for good practice in handling and storage of fuels and other potentially toxic chemicals, which should prevent the possibility of any potential spillages or other accidents from contaminating areas beyond the site.

Hedgerows and Individual Oak trees

- 3.58 Formation of two new entrances off Long Lane along the southern boundary of the proposed development site will avoid the existing mature standard oak trees.
- 3.59 Although hedges are to be largely retained there is some risk of inadvertent damage during construction either by direct impact with machinery, storing soils or other materials on top of the hedges, or simply by compaction of roots, particularly relating to the mature trees.
- 3.60 A plan to protect the retained hedgerows and trees will be put in place, which means that serious impacts on the retained hedges and trees would be avoided. Additionally this protective zone created by protective fencing would also serve to reduce construction disturbance to wildlife which may be sheltering or otherwise utilising the hedges.

Birds

- 3.61 Clearance of vegetation during the nesting season would be likely to disturb nesting birds and possibly damage their nests and or eggs. This would constitute an offence under the WCA. The vegetation of primary importance for the site would be the hedgerows, but ground-nesting birds might also nest on the field at the site, if left fallow for a full season before commencement. However, timing site clearance to avoid the nesting season would prevent such issues, and the construction of the proposed development would be unlikely to cause other impacts to birds in the area.

Bats

- 3.62 The design of the proposed development avoids the need to remove any trees with moderate or high potential for bat roosting, and the hedges which were used by bats as flight-lines and foraging routes would be retained. Impacts from these elements would therefore be unlikely.
- 3.63 There is some potential for disturbance to possible roosts as a result of construction activity, particularly from noise and possibly from construction lighting, if required. A sensitive noise management plan and appropriate temporary lighting design, if required, would assist in reducing these impacts to acceptable levels.
- 3.64 There is also some risk of disturbance to bats using the hedges and trees for commuting or foraging if construction activity is regularly carried out at night and particularly if it was using lighting which over-spills onto the retained boundary hedges and road adjacent to the site. Measures to implement a sensitive construction lighting scheme and ideally avoid night working,

particularly in the period from April to October when bats are most active, will reduce these potential impacts on bats to a negligible level.

Dormice

- 3.65 Activities which directly affect or disturb the hedgerows would be the only ones with potential to directly affect dormice, if they were present.
- 3.66 This would include the construction of a new entrance from Long Lane, and any temporary hedge removal for cable connection to the site. These would be relatively small gaps in the hedges and would constitute much less than the size of a dormouse's home range which is estimated at 300 m of hedgerow in the Dormouse Conservation Handbook (Natural England, 2006). Such gaps could cause some severance from the remainder of the dormice's home range if undertaken suddenly when dormice are active.
- 3.67 There would also be some risk of injury to a dormouse, should it be occupying a hibernation nest in the clearance area. Hibernation nests are usually built at ground level in sheltered, cool, slightly damp locations, such as in the root zones. When active, dormice spend most of their time off the ground in the canopy, and summer nests are built in vegetation above ground.
- 3.68 Increased human and machinery activity immediately adjacent to hedgerows from the construction would also potentially increase levels of disturbance to dormice, above that which is currently generated by agricultural use of the field.
- 3.69 However, measures to protect the hedges and trees from construction damage, along with measures to phase clearance of any gaps required in the hedges (whether temporary or permanent) would reduce impact levels on any dormice (if present) to very low levels.

Badgers

- 3.70 It is unlikely that the proposed development would have significant impacts on the badger foraging territory, and would not be sufficiently close to the sett to damage or disturb it in a way which would require licensing under the Protection of Badgers Act 1992.

Assessment of Operational Impacts

- 3.71 Operational impacts without mitigation could result in the following negative impacts:
- permanent regular disturbance due to ongoing permanent lighting or regular night working at the site;
 - potential for run-off from the hard-standing of the converter station to modify and affect local ditches and watercourses, with the possibility that this could become a pathway for contamination in the event of a spillage or other incident occurring during operation (see Chapter 9: Hydrology and Flood Risk); and
 - reduction in value of habitats due to inappropriate management of existing hedge features and woodland buffer planting.

Specific Operational Impacts

- 3.72 The following paragraphs considered how operational impacts were likely to affect the important ecological receptors, taking into account the mitigation measures outlined below.

Designated Sites

- 3.73 Operation of the converter station would be very unlikely to have any impacts on the nationally or internationally designated areas identified.
- 3.74 Any risks associated with contamination incidents would be managed with an emergency plan as described below, and while there is a theoretical contamination pathway which could make contact with the Beautiport CWS and Exeter Airport OSWI, there is little opportunity for contact with the East Devon Heaths sites.
- 3.75 On this basis, impacts on designated sites from operation would be unlikely.

Hedgerows

- 3.76 The impact of operation on hedgerows is likely to result in a net long-term beneficial impact as a result of closing existing gaps and implementation of an improved management regime (see Figure 2.7: Landscape Plan).

Individual Oak Trees

- 3.77 As the oak trees would be retained, there would be no negative impacts on this feature from the operation of the converter station.

Birds

- 3.78 Operation of the converter station would result in a net medium to long-term beneficial impact as a result of less disturbed hedgerow and as increasingly valuable woodland buffer strip planting becomes established over time, offering additional nesting habitats.

Bats

- 3.79 Similarly, the effects of operation on bats would result in a net medium-long-term beneficial impact as a result of retention of the existing oak trees, coupled with the establishment of increased foraging areas associated with the woodland buffer planting areas.

Dormice

- 3.80 The effects on dormice, if present, during the operation of the converter station would also be positive, with the establishment of the woodland buffer strips offering increased areas of useful dormouse habitat.

Badgers

- 3.81 Operation of the converter station would be unlikely to have any impacts on badgers, which may enter the new woodland planting strips, although these strips are unlikely to offer a substantial increase in foraging value over the existing arable field for this species.

Proposed Mitigation Measures

- 3.82 Mitigation measures were devised to address potential impacts on the individual important ecological receptors, although in many cases they are interlinked and likely to be of benefit to more than one species/group. The mitigation measures here refer to mitigation required both during the construction period and in the longer term during the operational phase.

Nationally and Locally Designated Sites

- 3.83 Mitigation measures during construction which will manage any potential impacts on both local and nationally designated sites relate specifically to good construction working practice to ensure that sound environmental practice is in place. This will include the following measures.
- 3.84 Dust generated during construction would be suppressed by the use of damping using bowsers or other measures. These measures are described in more detail in Chapter 7.
- 3.85 Construction would require an appropriate temporary drainage plan, designed to ensure that any run-off or other waters generated during construction were suitably contained and treated prior to discharge. These measures are described in more detail in Chapter 9. This would prevent the deposition of water-borne solids onto designated areas (and possibly ponds) through the local field ditch system.
- 3.86 The ditch system was not particularly strongly defined in the area around the proposed development site, and is unlikely to be a well-defined pathway for water-borne contamination. However, it will be important to ensure that good housekeeping measures particularly relating to storage and use of fuels and other toxic substances are in place and adhered to. These measures are described in Chapter 7.
- 3.87 A suitable emergency plan relating to unexpected spillages, ruptures or other contamination incidents will be in place, and all operatives and contractors would be briefed on the appropriate actions to take.
- 3.88 During operation of the converter station, a similar plan detailing how fuels or any other toxic materials should be handled and stored would be detailed. An emergency procedure plan will be in place which includes details of the appropriate action chain necessary in the event of a serious contamination incident.

Hedgerows

- 3.89 All temporary gaps in hedgerows will be replaced on a like for like basis (i.e. with full hedge bank reinstatement and appropriate planting with suitable species of local provenance). As shown on Figure 2.7: Illustrative Landscape Plan proposed additional buffer planting alongside the existing hedges would consist of locally-occurring woodland species of local provenance.
- 3.90 All excavations and earthworks for the construction of the converter station will be carried out outside of the canopy area to prevent damage to mature standard trees within the hedges. Such protective strips will be fenced off to prevent accidental encroachment during the works.
- 3.91 Existing gateways at the south west corner and midway along the northern boundary hedge of the proposed converter station will be infilled with hedge-bank and appropriate locally-occurring planting to compensate for creation of new permanent access gates from Long Lane. Timing of

these operations should comply with the phased approach for dormice described below. Details of hedgerow reinstatement should follow the guidance set out in Natural England's Technical Information Note 039 (Natural England, 2008) and guidance from the Devon Hedge Group (Devon County Council and Devon Hedge Group, 1998).

- 3.92 Planting of internal woodland buffer areas will be done in a sensitive manner and include a diverse mix of appropriate locally-occurring species, of local provenance.
- 3.93 A simple management plan should be created to ensure ongoing appropriate management of hedgerows and that new woodland buffer planting is maintained. This should include as a minimum the following measures:
- regularly trim hedgerows on a biannual basis (more frequently may be required for hedgerow along Long Lane for safety reasons);
 - carry out maintenance to ensure that new woodland planting establishes well, including careful spot-spraying or brush-cutting to ensure new planting establishes and thinning/guard removal as required;
 - prevent encroachment of woodland planting onto operational areas; and
 - undertake trimming and management outside of the regular bird nesting period of March-August inclusive.

Individual Oak Trees

- 3.94 The individual oak trees will be avoided during construction and so no specific mitigation is required, other than root protection as outlined above.

Birds

- 3.95 Any site clearance of vegetation should avoid the bird nesting season, which runs approximately from March-August inclusive (although nesting birds and their eggs are protected at any time under the WCA).
- 3.96 This should include any clearance associated with hedgerows (assumed to be limited to new access point and cable entry and exit points).
- 3.97 However, if the field itself is left fallow for a farming cycle prior to commencement of construction works, it should also be considered as potential bird-nesting habitats. For example, if a crop is removed from the field in September of the previous year and it is then left un-managed until April of the following year, it should not be assumed to be free of nesting birds, as such conditions may attract some species of ground-nesting birds.
- 3.98 Where initial site clearance within the bird nesting season cannot be avoided, it will be necessary to carry out detailed inspections by suitably experienced ecologists to ensure that no nests are present. Should active nests be encountered, suitable exclusion zones would need to be set up (advised by the ecologist on the basis of the nest location and species of bird involved).

Bats

- 3.99 Retention of individual trees and hedgerows (including reinstatement of existing gateways) would be of benefit to bats as these are the features currently used by all species present in the area.
- 3.100 If temporary works lighting and night works are required during the period March-October when bats are likely to be most active, a temporary lighting design should be developed and agreed between the contractor and a suitably experienced bat ecologist to limit the extent of light spill onto the boundary hedges. Although lighting attracts some species of bats, it deters others, and the aim should be to maintain similar lower lighting conditions to that presently in place in an area which is somewhat over-lit already due to the presence of the Environment Agency storage compound, nearby A30 and airport runway and other facilities.
- 3.101 Permanent operational lighting will not be required and that a similar lighting state to that currently in the area would be maintained, which would therefore have no impact on bats (for the same reasons described above). If occasional lighting is required during the operational phase, the lighting design will be low level down-lit and would only be used during operational visits. This would avoid light spill onto the existing hedgerows and, as far as possible, on the new woodland planting buffers (which would increase screening of light as they develop in any case).
- 3.102 Although not required for the construction of the proposed development, should any of the trees identified with moderate or high potential for bat roosts require removal, either unexpectedly as a part of the construction works, or in the longer term, they should be thoroughly assessed for the presence of bat roosts by a suitably qualified, experienced and licensed bat ecologist, prior to these works. Sufficient time should be allowed to obtain a licence under the CHSR for the closure of a bat roost, should this be required. As with all wildlife mitigation licenses, a detailed mitigation method statement demonstrating how all measures outlined can be achieved would be required to accompany any application.

Dormice

- 3.103 The presence of dormice is unlikely, but cannot be completely ruled out. As a precautionary measure, where the proposed development requires hedgerow removal, whether temporary or permanent, it should be carried out following a phased approach as set out in the Dormouse Conservation Handbook (Bright *et al*, 2006).
- 3.104 This indicates that it is appropriate to remove upstanding vegetation (trees and shrubs) during the period November to March while dormice would be in hibernation, utilising hibernation nests located on the ground at base of trees etc. On awakening in April or May, dormice would be persuaded to move into adjacent uncleared areas which would still be within their home range (averaging 50 m), avoiding potential issues of conflicts between dormice which are strongly territorial. Clearance of upstanding vegetation during this period has the additional benefit that it is done during the period when birds are unlikely to be nesting.
- 3.105 Clearance of the ground levels (including hedgebanks) can then be undertaken in the period June-September, when any dormice present would be active and living within the hedge canopy.
- 3.106 Prior to each phase of clearance the area should be inspected by a suitably experienced dormouse ecologist to ensure that no dormice are present which could be injured by the

clearance works. These should inspect all basal areas prior to commencement of winter vegetation clearance to ensure no hibernation nests are present.

Badgers

- 3.107 Although badgers are not considered to be at risk of impacts as a result of the proposed development, measures have been included here to ensure that the status of badgers has not changed prior to commencement of the proposed development.
- 3.108 Badgers are quite dynamic and may excavate and occupy new setts within their existing territory, or occupy neighbouring territories, it will be necessary to ensure the current status is checked and confirmed again prior to commencement of construction. A pre-commencement badger survey by a suitably experienced badger surveyor should be undertaken no more than 6 months prior to commencement of construction to ensure that no new setts have been excavated in any location which would be damaged or badger using it disturbed by the works. Should any such setts be identified, an appropriate licence under the PBA should be sought from Natural England. Any such application would need to be accompanied by a suitably robust and demonstrably deliverable mitigation scheme.

Future Monitoring

- 3.109 Monitoring of the site should be undertaken to inspect establishment and condition of habitats created such as any hedgerow reinstatement and the woodland buffer strips.
- 3.110 Monitoring of these habitats should be at regular monthly intervals for the first two years, reducing to quarterly in the third year and annually thereafter. Ongoing monitoring of habitats should be undertaken by those who will be responsible for long term management of the site.
- 3.111 If any licences are required under the CHSR or PBA, one of the requirements of these licenses is likely to be ongoing monitoring of mitigation and possibly the population affected, and these measures will need to be complied with and reported as required.

Summary

- 3.112 The construction and operation of the converter station at this location would have the potential for limited short term negative impacts on a number of important ecological receptors, the impacts of which could be reduced by simple mitigation measures.
- 3.113 There are longer-term benefits which would be likely to occur particularly to local wildlife species and groups such as birds and bats, resulting from the retention and maintenance of existing hedges and mature trees, reinforced by the planting of woodland buffer strips.

References

- Bright, P., Morris, P. and Mitchell-Jones, T, (2006) The Dormouse Mitigation Handbook (2nd Ed.) English Nature, Peterborough
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd Ed. CIEEM, Winchester
- Department for Communities and Local Government (2012) National Planning Policy Framework.
- Devon County Council and Devon Hedge Group. (1998) Devon's Hedges: Conservation and Management. Tiverton, Devon Books
- Devon County Council and Devon Local Nature Partnership (2016) Devon Great Crested Newt Consultation Zones Guidance for Planning, February 2016.
- Devon Local Nature Partnership (1998) The Nature of Devon – A Biodiversity and Geodiversity Action Plan (Devon BAP) Revised 2004 Devon County Council and the Devon Local Nature Partnership
- East Devon District Council (2013) East Devon Local Plan 2013-2031 adopted 28th January 2016
- English Nature (2001) Great Crested newt Mitigation Guidelines. English Nature, Peterborough
- Natural England (2006) Dormouse Conservation Handbook (Natural England).
- Natural England (2008) Technical Information Note 039: Devon Field Boundaries: Restoration Standards for Agri-Environmental Schemes (Natural England)
- RPS (2015) France-Alderney-Britain (FAB) Interconnector: HVDC Converter Station Site Selection Process Report, Second Edition – August 2015.