

CONTENTS

10.0	ECOL	OGY	2
		Introduction	
	-	Legislation and Planning Policy Context	
	10.3	Assessment Methodology and Significance Criteria	4
	10.4	Baseline Conditions	. 28
	10.5	Development Design and Impact Avoidance	35
	10.6	Likely Impacts and Effects	37
	10.7	Mitigation and Enhancement Measures	49
	10.8	Residual Effects and Conclusions	52
	10.9	References	52

TABLES

Table 10.1: Relating CIEEM assessment terms to those used in other ES chapters	6
Table 10.2: Desk study area and data sources	8
Table 10.3: Ecological field surveys completed	9
Table 10.4: Consultation summary table	11
Table 10.5: Summary of key changes to Chapter 10 since publication of the PEI Report	28
Table 10.6: Determination of relevant ecological features	37



10.0 ECOLOGY

10.1 Introduction

- 10.1.1 This chapter of the Environmental Statement (ES) addresses the potential effects of the Proposed Development near Eggborough, North Yorkshire on ecology.
- 10.1.2 This chapter is supported by the following technical appendices provided in ES Volume III, with accompanying figures included with the relevant annexes:
 - Appendix 10A Legislation and Planning Policy;
 - Appendix 10B Ecological Impact Assessment Methodology;
 - Appendix 10C Preliminary Ecological Appraisal (PEA) Report;
 - Appendix 10D Mammal Survey Report;
 - Appendix 10E Great Crested Newt Survey Report;
 - Appendix 10F River Corridor and Aquatic Invertebrate Survey Report;
 - Appendix 10G Fish Survey Report; and
 - Appendix 10H Habitats Regulations Assessment (HRA) signposting.

10.2 Legislation and Planning Policy Context

10.2.1 The ecological impact assessment (EcIA) presented in this chapter has been undertaken within the context of relevant planning policies, guidance documents and legislative instruments. A summary is provided below and further details are provided in Appendix 10A (ES Volume III).

Legislative Background

- 10.2.2 The following legislation is potentially relevant to the Proposed Development:
 - Wildlife and Countryside Act (WCA) 1981 (as amended);
 - Countryside and Rights of Way (CRoW) Act 2000 (as amended);
 - Natural Environment and Rural Communities (NERC) Act 2006 (as amended);
 - The Conservation of Habitats and Species Regulations 2010 (as amended) (the Habitats Regulations);
 - Protection of Badgers Act 1992 (as amended);
 - The Hedgerow Regulations 1997 (as amended);
 - Eels (England and Wales) Regulations 2009 (as amended);
 - Salmon & Freshwater Fisheries Act 1975 (as amended);
 - The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 (WFD);
 - Animal Welfare Act 2006; and
 - The Aquatic Animal Health (England and Wales) Regulations 2009 (as amended).

Planning Policy Context

10.2.3 The overarching National Policy Statement (NPS) for Energy (EN-1) (Department for Energy and Climate Change (DECC), 2011) sets out national policy for energy infrastructure. Part 5.3 relates to biodiversity and states that where development is subject to EIA, the ES should clearly set out the effects on internationally, nationally and locally designated nature



conservation sites, on protected species and on habitats and other species identified as being of principal importance for the conservation of biodiversity. It also requires that the applicant shows how the project has taken advantage of opportunities to conserve and enhance biodiversity. This assessment has taken this into account and is compliant with EN-1.

- 10.2.4 The UK Government has committed to halting the overall decline in biodiversity, and planning requirements in support of this are specified in the National Planning Policy Framework (NPPF) published on 27th March 2012 (Department for Communities and Local Government (DCLG), 2012). The NPPF specifies the obligations that the Local Authorities and the UK Government have regarding statutory designated sites and protected species under UK and international legislation, and how this it to be delivered in the planning system.
- 10.2.5 Local planning policy relevant to ecology and nature conservation is set out in the following documents:
 - Selby District Core Strategy Local Plan (Selby District Council, adopted in 2013) policy SP18 sets out the district's approach to promoting effective stewardship of wildlife by safeguarding international, national and local protected sites for nature conservation from inappropriate development. The policy also sets out the requirement for retaining, protecting and enhancing features of biological interest.
 - Selby District Local Plan (Selby District Council, adopted in 2005) saved policies ENV9, 11, 12 and 13 set out the district's approach to assessing development proposals that have the potential to harm the wildlife value of local wildlife sites, ancient woodlands, rivers, streams and canal corridors, and ponds.

Other Guidance

- 10.2.6 In July 2012 the UK Post-2010 Biodiversity Framework was published (JNCC and Department for Environment, Food and Rural Affairs (Defra), 2012). This covers the period 2011 2020 and forms the UK Government's response to the UN Convention on Biological Diversity held in Nagoya in 2010. This contained five strategic goals ("Aichi" Goals). The Framework recognised that the UK Biodiversity Action Plan should now be delivered through strategies for each of the four countries comprising the United Kingdom and Northern Ireland. In England, this is embodied in "Biodiversity 2020, A strategy for England's wildlife and ecosystem services" (Defra, 2011). These country strategies replace the UK Biodiversity Action Plan (BAP) (JNCC, 1994), with the associated lists of priority habitats and species carried over into the newly defined lists of habitats and species of principal importance for nature conservation in England contained within Section 41 of the NERC Act. This latter list encompasses 56 habitats and 943 species.
- 10.2.7 The Selby BAP, published in 2004 (North Yorkshire County Council, Selby District Council and the Selby BAP Partnership, 2004), identifies priority habitats and species in the District and sets out the actions necessary to conserve these through a series of Habitat Action Plans (HAPs) and Species Action Plans (SAPs). See Appendix 10A (ES Volume III) for further details, and screening of priority habitats and species of potential relevance to the Proposed Development.
- 10.2.8 Standing Advice has been published by Natural England and Defra to guide decision-makers on the determination of proposals with the potential to affect protected sites, species and habitats. The guidance sets out responsibilities and minimum requirements for survey and



mitigation, including the need to engage with objectives for no net loss of biodiversity and provision of biodiversity net gain.

10.3 Assessment Methodology and Significance Criteria

Impact Assessment and Significance Criteria

- 10.3.1 The EcIA detailed in this chapter has been undertaken in accordance with best practice guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016). Full details of the approach applied are provided in Appendix 10B (ES Volume III), with an abridged over-view provided below. The aims of the ecology assessment are to:
 - identify relevant ecological features (i.e. designated sites, habitats, species or ecosystems) which may be impacted;.
 - provide a scientifically rigorous and transparent assessment of the likely ecological impacts and resultant effects of the Proposed Development. Impacts and effects may be beneficial (i.e. positive) or adverse (i.e. negative);
 - facilitate scientifically rigorous and transparent determination of the consequences of the Proposed Development in terms of national, regional and local policies relevant to nature conservation and biodiversity, where the level of detail provided is proportionate to the scale of the development and the complexity of its potential impacts; and
 - set out what steps would be taken to adhere to legal requirements relating to the relevant ecological features concerned.
- 10.3.2 The principal steps involved in the CIEEM approach can be summarised as:
 - ecological features that are both present and might be affected by the Proposed Development are identified (both those likely to be present at the time works begin, and for the sake of comparison, those predicted to be present at a set time in the future) through a combination of targeted desk-based study and field survey work to determine the relevant baseline conditions;
 - the importance of the identified ecological features is evaluated to place their relative biodiversity and nature conservation value into geographic context, and this is used to define the relevant ecological features that need to be considered further within the EcIA process;
 - the changes or perturbations predicted to result as a consequence of the Proposed Development (i.e. the potential impacts), and which could potentially affect relevant ecological features are identified and their nature described. Established best-practice, legislative requirements or other incorporated design measures to minimise or avoid impacts are also described and are taken into account;
 - the likely effects (beneficial or adverse) on relevant ecological features are then assessed, and where possible quantified;
 - measures to avoid or reduce any predicted significant effects, if possible, are then developed in conjunction with other elements of the design (including mitigation for other environmental disciplines). If necessary, measures to compensate for effects on features of nature conservation importance are also included;
 - any residual effects of the proposed development are reported; and
 - scope for ecological enhancement is considered.



- 10.3.3 It is not necessary in the assessment to address all habitats and species with potential to occur in the Study Area, and instead the focus should be on those that are "relevant". CIEEM (2016) makes clear that is no need to "carry out detailed assessment of ecological features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable". This does not mean that efforts should not be made to safeguard wider biodiversity, and requirements for this have been considered. National policy documents emphasise the need to achieve no net loss of biodiversity and enhancement of biodiversity.
- 10.3.4 To support focussed EcIA there is a need to determine the scale at which the relevant ecological features identified through the desk studies and field surveys undertaken for the Proposed Development are of value. The value of each relevant ecological feature has been defined with reference to the geographical level at which it matters. The frames of reference used for this assessment, and based on CIEEM guidance, are:
 - international (generally this is within a European context, reflecting the general availability of good data to allow cross-comparison);
 - national (Great Britain, but considering the potential for certain ecological features to be more notable (of higher value) in an England context relative to Great Britain as a whole);
 - regional (Yorkshire);
 - county (North Yorkshire);
 - district (Selby);
 - local (has value at the Site level); and
 - negligible (has very low value at the Site level and considered not to merit retention or mitigation).
- 10.3.5 In line with the CIEEM guidelines the terminology used within the EcIA draws a clear distinction between the terms 'impact' and 'effect'. For the purposes of the EcIA these terms are defined as follows:
 - impact actions resulting in changes to an ecological feature. For example, demolition activities leading to the removal of a building utilised as a bat roost; and
 - effect outcome resulting from an impact acting upon the conservation status or structure and function of an ecological feature. For example, killing/injury of bats and reducing the availability of breeding habitat as a result of the loss of a bat roost may lead to an adverse effect on the conservation status of the population concerned.
- 10.3.6 When describing potential impacts (and where relevant the resultant effects) consideration is given to the following characteristics likely to influence this:
 - beneficial/ adverse i.e. is the change likely to be in accordance with nature conservation objectives and policy:
 - beneficial (i.e. positive) a change that improves the quality of the environment, or halts or slows an existing decline in quality e.g. increasing the extent of a habitat of conservation value;
 - adverse (i.e. negative) a change that reduces the quality of the environment. e.g. destruction of habitat or increased noise disturbance.
 - magnitude the 'size', 'amount' or 'intensity' of an impact this is described on a quantitative basis where possible;



- spatial extent the spatial or geographical area or distance over which the impact/effect occurs;
- duration the time over which an impact is expected to last prior to recovery or replacement of the resource or feature.. Consideration has been given to how this duration relates to relevant ecological characteristics such as a species' lifecycle. However, it is not always appropriate to report the duration of impacts in these terms. The duration of an effect may be longer than the duration of an activity or impact;
- reversibility i.e. is the impact temporary or permanent. A temporary impact is one from which recovery is possible or for which effective mitigation is both possible and an enforceable. A permanent effect is one from which recovery is either not possible, or cannot be achieved within a reasonable timescale (in the context of the feature being assessed); and
- timing and frequency i.e. consideration of the point at which the impact occurs in relation to critical life-stages or seasons.
- 10.3.7 For each ecological feature only those characteristics relevant to understanding the ecological effect and determining the significance are described. The determination of the significance of effects has been made based on the predicted effect on the structure and function, or conservation status, of relevant ecological features, as follows:
 - not significant no effect on structure and function, or conservation status; and
 - significant structure and function, or conservation status is affected.
- 10.3.8 For significant effects (both adverse and beneficial) this is qualified with reference to the geographic scale at which the effect is significant (e.g. an adverse effect significant at a national level).
- 10.3.9 The CIEEM approach described in Appendix 10B (ES Volume III) broadly accords with the EIA methodology described in Chapter 2: Assessment Methodology. However, the matrix has not been used to classify effects as this deviates from CIEEM guidance. In order to provide consistency of terminology in the final assessment, the findings of the CIEEM assessment have been translated into the classification of effects scale used in other chapters of the ES as outlined in Table 10.1.

Effect classification terminology used in other ES chapters		Equivalent CIEEM assessment
Significant (beneficial) Major beneficial		Beneficial effect on structure/ function or conservation status at regional, national or international level.
	Moderate beneficial	Beneficial effect on structure/ function or conservation status at County level.
Non-significant	Minor beneficial	Beneficial effect on structure/ function or conservation status at Site or Local level.
Non-significant	Neutral	No effect on structure/ function or conservation status.
Non-significant Minor adverse		Adverse effect on structure/ function or conservation status at Site or Local level
Significant (adverse)	Moderate	Adverse effect on structure/ function or conservation

Table 10.1: Relating CIEEM assessment terms to those used in other ES chapters



Effect classification terminology used in other ES chapters		Equivalent CIEEM assessment
adverse		status at County level.
	Major	Adverse effect on structure/ function or conservation
adverse		status at Regional, National or International level

Key Parameters for Assessment

- 10.3.10 For the purposes of the ecological impact assessment it is assumed that the majority of the Site (with the exception of areas of vegetation that are to be retained and protected see Chapter 16: Landscape and Visual Amenity and the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10)) will be cleared, no matter what the final sizing and layout of the buildings and structures is. The Rochdale Envelope parameters (i.e. the maximum parameters for the Proposed Development and in particular its main buildings and structures) therefore do not affect the construction assessment of impacts on ecology.
- 10.3.11 During operation, given that a worst case is assessed in terms of building/ structure dimensions, the CCGT stack height is fixed (in m AOD) and the limits of deviation for each part of the Proposed Development are relatively constraining, the outcome of these assessments will not vary. Therefore, no further discussion of the Rochdale Envelope parameters is provided in this chapter.

Extent of Study Area

- 10.3.12 The Study Areas used in this assessment were defined with reference to the likely zone of influence over which the Proposed Development may have potential to result in significant effects on relevant ecological features. It is important to recognise that the potential zone of influence of the Proposed Development may vary over time (e.g. the construction zone of influence may differ from the operational zone of influence) and/ or depending on the individual sensitivities of the relevant ecological features.
- 10.3.13 This was taken into account when defining relevant Study Areas, and these are sufficient to address the potential worst case zone of influence of the Proposed Development on the relevant ecological features concerned. The extent of the Study Areas applied during the desk study and field surveys are detailed within Tables 10.2 and 10.3. In many cases, the actual likely zone of influence of the Proposed Development as finally conceived and designed will be much less than the precautionary area taken into account when conducting the original desk studies and field surveys for the Proposed Development.

Sources of Information/Data

10.3.14 The ecological baseline has been determined through a combination of desk study and field survey, as summarised below.

Desk Study

10.3.15 A desk study was carried out to identify nature conservation designations, protected and notable habitats and species potentially relevant to the Proposed Development. The desk study was carried out using the data sources detailed in Table 10.2 and is reported in detail in the Preliminary Ecological Appraisal (PEA) report in Appendix 10C (ES Volume III).



- 10.3.16 Protected and notable habitats and species include those listed under Schedules 1, 5 and 8 of the WCA; Schedules 2 and 4 of The Habitat Regulations; and species and habitats of principal importance for nature conservation in England listed under Section 41 (S41) of the NERC Act. Other habitats and species have also been considered and assessed on a case by case basis, e.g. those included in national Red Data Books and Lists but not protected by legislation. This is consistent with the requirements of relevant planning policy.
- 10.3.17 Records of non-native controlled weed species, as listed under Schedule 9 of the WCA, were also collated and have been taken into account when assessing the potential ecological effects of the Proposed Development. It would not be appropriate to attribute the same weight to these non-native weed species as has been applied to relevant ecological features when determining the likely significant effects of the Proposed Development, as the presence of such species is generally detrimental for ecology, and conversely the removal of such species would usually be considered desirable and beneficial for ecology. Requirements for control are also driven by the WCA and related legislation. Therefore, while the weed species concerned are not relevant ecological features for the purposes of EcIA, there is still a need to consider them in terms of their potential relevance to delivery of legislative compliance, for their potential to contribute to the amplification of any adverse effects arising from the Proposed Development, or their potential to conflict with objectives for ecological mitigation, compensation and enhancement.

Ecological Feature	Study Area	Data Sources	Date Accessed
Statutory nature conservation designations	10 km	Multi-Agency Geographic Information for the Countryside (MAGIC) website. Natural England website	July 2016
Non-statutory nature conservation designations	1 km	North and East Yorkshire Ecological Data Centre (NEYEDC)	August 2016
Protected and notable habitats and species	1 km	NEYEDC	August 2016
Ponds	250 m	1:25,000 Ordnance Survey maps Aerial photographs (Google Earth) MAGIC website	June 2016

Table 10.2: Desk study area and data sources

Field Surveys

10.3.18 The scope of works for necessary habitat and protected species surveys was determined following an initial Phase 1 Habitat survey of the existing coal-fired power station and accessible land within the Proposed Gas Connection and Proposed Cooling Water Connection areas in June 2016, as detailed within Appendix 10C (ES Volume III). This was followed by additional habitat surveys to cover areas not previously accessible and to address the refined Proposed Gas Connection route. The extent of the area surveyed for the Proposed Gas Connection was much larger than the area now included within the Site, as it included the wider Gas Connection Search Areas described in the EIA Scoping Report (an approximately



500 m wide corridor, which has now been narrowed to the c. 36 m Proposed Gas Connection corridor).

10.3.19 The scope of field surveys undertaken to inform the EcIA is summarised in Table 10.3 below. Full details of the scope and methodology for each survey are provided in the relevant technical appendices, which are cross referenced in Table 10.3 as appropriate.

Ecological survey	Technical appendix (ES Volume III)	Study area	Survey date
Phase 1 Habitat Survey	10C	Habitats within 50 m of the Site.	June – November 2016
Badger survey	10D	Suitable habitat for badger within 50 m of the Site.	June - November 2016
Preliminary bat roost assessment (buildings and trees)	10D	All buildings and trees within or directly adjacent to the Site that may be directly impacted (demolition / felling) or indirectly impacted (significant noise / light disturbance) by the Proposed Development. This did not include all buildings and trees within the Site boundary as many of these will not be impacted by the Proposed Development. The majority of operational buildings within the existing coal-fired power station, and associated trees within areas of screening plantation woodland, will be retained and protected during construction.	June – November 2016
Bat activity surveys (transects and automated surveys)	10D	Suitable bat foraging and commuting habitat within the Site that is likely to be impacted by the Proposed Development.	June – September 2016
Otter and water vole survey	10D	Suitable riparian habitat within the Site that will be impacted. Surveys of watercourses extended up to 50 m outside the Site boundary.	September – October 2016 and May 2017

Table 10.3: Ecological field surveys completed



Ecological survey	Technical appendix (ES Volume III)	Study area	Survey date
Great crested newt survey (Habitat Suitability Index and eDNA)	survey water bodies within the Site and within 250 m ¹ .		June 2016
Aquatic macro- invertebrate survey	10F	Suitable open water habitats to be directly impacted within the Site (River Aire, Ings and Tetherings Drain, lagoon within the existing coal-fired power station).	November 2016
River corridor survey, including consideration of aquatic flora	10F	River Aire between the existing abstraction and discharge points.	October 2016
Fish survey	10G	Suitable open water habitats to be impacted within the Site (River Aire and lagoon within the existing coal-fired power station).	November 2016

10.3.20 No further surveys were considered necessary in order to define the ecological baseline relevant to the Proposed Development. Information and rationale for surveys scoped out is provided in the PEA report provided as Appendix 10C (ES Volume III).

Consultation

10.3.21 Consultation undertaken during the preparation of this ES chapter is summarised in Table 10.4.

¹ At the time of the survey being undertaken; subsequent amendments to the Site boundary have resulted in some ponds being surveyed that are now slightly outside the 250 m study area. Any deviations are discussed in the relevant technical appendices (ES Volume III)



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
Natural England	5 th August 2016 (meeting prior to	The Proposed Development is not likely to have a significant effect on any internationally designated sites.	Comment only, no response needed.
	submission of EIA Scoping Report)	Every effort should be made to locate waterbodies within the survey area, and to obtain access for survey.	All water bodies within the Study Area were located and surveyed in 2016.
		We would consider bat surveys starting during the summer to be acceptable in this case, and would not consider it essential to carry out surveys earlier in spring.	Comment only, no response needed.
	10 th February 2017 (email response to consultation on PEI Report)	We do not consider that there are likely to be significant effects on any nationally or internationally designated nature conservation sites.	Comment only, no response needed.
		We note the suite of ecological field surveys that have been undertaken and welcome the proposed avoidance / mitigation measures and pre-construction checks.	Comment only, no response needed.
	12 th May 2017 (email response to consultation on Draft ES)	We are satisfied that the development is not likely to have a significant effect on river and sea lamprey.	Comment only, no response needed.
		As previously advised, we do not consider that there will be any likely significant effects resulting from air quality impacts on designated site features.	Comment only, no response needed.
		We support the proposed pre-construction surveys for badgers and for water voles.	Comment only, no response needed.
		It would be helpful if the distance of works to Waterbody 11 at the closest point can be clarified.	The Site (Proposed AGI and Gas Connection) is located 300 m from Water body 11 at its nearest point. This has been clarified in Sections 10.4 and 10.7,

Table 10.4: Consultation summary table



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
			including in relation to the need for Precautionary Working Methods at the AGI.
		We would advise that opportunities are sought for creation of suitable bat foraging habitat, and for biodiversity enhancements outside the development footprint where possible.	The Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) includes proposals for creation of new habitat and enhancements to existing habitats that will benefit foraging bats, including an attenuation pond managed for biodiversity benefit, improvements to the structure and diversity of existing plantation woodland, and creation of species rich grassland. Biodiversity enhancement proposals have been designed to offset impacts within the footprint of the Site. Enhancements off site are constrained by the intensive arable land use in the surrounding area; connecting habitat is generally limited to existing field boundary hedgerows.
North Yorkshire County	11 th August 2016 (email response to consultation on EIA	Protected species surveys adequately scoped, and efficient use made of eDNA surveys for great crested newt.	Comment only, no response needed.
Council (NYCC) and Selby District Council (SDC)	YCC) and Iby District	Grass snake may be found in association with ponds, ditches and hedgerows in the Proposed Gas Connection areas.	The potential for transitory presence of individual grass snakes has been considered. Precautionary mitigation for grass snake is included in Section 10.5 to



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
			address this.
		Possible effects on Sites of Importance for Nature Conservation (SINC) in close proximity to the site should be considered as part of the EIA process.	SINCs within 1 km of the Site have been considered; those further afield have been scoped out of the assessment, as per Section 10.6.
		Impacts of emissions on statutory sites within 10 km and non-statutory sites within 2 km may be an unduly conservative approach given the wide-ranging impacts of Atmospheric Nitrogen Deposition (AND). It is important to provide information on the effects of emissions on sites and habitats in the wider region.	Additional statutory designated sites beyond 10 km have been scoped into the EcIA (Section 0).
		The EIA should consider opportunities for ecological enhancement in accordance with NPPF.	Ecological enhancement proposals are summarised in Section 10.7 and set out in detail in the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10).
	17 th February 2017 (letter and email response to	I am satisfied with the scope and methodology used in the Habitat Regulations Assessment signposting document.	Comment only, no response needed.
	consultation on PEI Report)	The surveys and assessments have been undertaken using appropriate methods, in line with current guidance and best practice and the assessment of likely impacts is robust.	Comment only, no response needed.
		The Landscape and Biodiversity Strategy should look at management of existing plantation and seek opportunities for new planting which will provide	The Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) includes proposals to manage



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		connectivity from the development, out into the wider countryside.	existing plantations for the benefit of biodiversity.
			The focus of enhancements has been to improve the structure and diversity of existing habitats, and create new habitat where possible within the constraints of land ownership.
		Ings & Tetherings Drain may provide opportunities for incorporating biodiversity enhancements and should be looked at in the Landscape and Biodiversity Strategy.	The affected sections of Ings and Tetherings Drain will be fully re-instated on completion of the construction phase and bank / channel vegetation is likely to re- establish quickly (within 12 months). Opportunities for enhancements to the drain have been considered, but it is concluded that meaningful enhancements are unlikely to be feasible given the ongoing requirement for drain maintenance (strimming, dredging) to maintain drainage function, the small length of drain under the control / ownership of EPL and its location within intensively managed arable land.
		The Landscape and Biodiversity Strategy provides an ideal opportunity to put back species rich hedgerows in the wider area which will be of benefit to a variety of fauna.	The Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) includes proposals for replacing species poor hedgerows with species-rich hedgerows.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		I concur with the assessment that the impact upon foraging and commuting bats is unlikely to have an effect on the favourable conservation status of the species.	Comment only, no response needed.
		It would be beneficial to secure additional tree and hedgerow planting (on or off site) through the mitigation and enhancement plan in order to compensate for the loss of habitat of value to bats. Ideally new planting should seek to connect habitats on site with habitat networks in the local area. A lighting plan should seek to reduce any light spill onto semi natural habitats.	The Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) includes proposals for new tree planting and enhancements to the structure and diversity of existing plantations to compensate for habitat loss. It is also proposed to replace two species poor hedgerows to be impacted during construction of the Proposed Gas Connection with species rich hedgerows. An Indicative Lighting Strategy (Application Document Ref. No 5.11) has been prepared for the Proposed Development, which includes measures to mitigate the impact of lighting on ecological receptors, such as reducing light spill onto sensitive habitats. The Lighting Strategy will be further developed at the detailed design stage (in accordance with a Requirement contained in the draft DCO (see Schedule 2)), and will take account of the proposed biodiversity enhancements to ensure that lighting impacts are minimised as far as possible.
		Great crested newts are unlikely to be negatively affected by the development in terms of the favourable	Comment only, no response needed.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		conservation status of the species. However, the precautionary mitigation proposed in 10.7.4 is supported.	
		I agree with the conclusion that any impacts upon badger are not likely to have a negative impact on the conservation status of the species and support the mitigation measures proposed within 10.7.5.	No response needed in this chapter, but see also Appendix 10D in Volume III of ES.
		With regards to salmonids, it is proposed in Appendix 10G that work on the abstraction and discharge points should not take place during the main migratory period (Oct-Dec), however, this is not reflected in the main PEIR.	The installation and removal of temporary cofferdams at the cooling water abstraction and discharge points will be avoided between October and December to minimise impacts on migratory salmonids. Section 10.5 has been updated accordingly.
		The preparation of an invasive species management plan (ISMP) is supported in order to deal with these species during construction. However, there should also be longer term measures identified within the Landscape and Biodiversity Strategy that deals with on-going monitoring and management.	Long term measures to manage invasive species will be set out in the ISMP, which will be informed by an updated invasive species survey prior to construction. The final Landscape and Biodiversity Strategy (to be prepared prior to construction in accordance with a draft DCO Requirement) will be updated to include appropriate long term management prescriptions.
		I fully support the recommendation to prepare a Precautionary Working Method Statement to deal with the potential presence of grass snake (10.5.2). Consideration should be given to including measures to enhance habitats surrounding the development site and	The proposals for biodiversity enhancements outlined in Section 10.7 and detailed in the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) will benefit



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		pipeline for reptiles.	reptiles, including grass snakes.
		It should be made a requirement of the DCO that ecological surveys are carried out prior to decommissioning, such that any impacts can be avoided, mitigated or compensated in line with any legislative requirements at that time.	The draft DCO includes a Requirement relating to the decommissioning of the Proposed Development, which includes a Decommissioning Environmental Management Plan (DEMP) to cover all relevant environmental issues.
		It is proposed to prepare a Landscape and Biodiversity Strategy (LBS) as well as an Ecological Mitigation and Enhancement Plan (EMEP) – it is not clear how these two plans/strategies will work together.	An Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) has been prepared. A separate Ecological Mitigation and Enhancement Plan is not considered to be necessary – this has been removed from the chapter.
		It is assumed that the EMEP will deal with the avoidance and mitigation measures set out within 10.5.2 and 10.7 of the PEIR, whilst the LBS is associated with the delivery of measures to compensate and enhance with regards to biodiversity, along with management requirements.	All avoidance and mitigation measures, enhancements and management requirements will be included within the Landscape and Biodiversity Strategy to be prepared in accordance with a draft DCO Requirement. As noted above, the reference to the EMEP has been removed.
		In the current PEIR enhancement proposals and management prescriptions are not set out in any detail and I would recommend that this is addressed at the earliest opportunity. It would be useful if this could include a concept masterplan for the whole of the Eggborough Site. Whilst no significant environmental effects were identified within the PEIR enhancement	More detail on proposed enhancements is now included in Section 10.7. Further details are included within the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10). The Strategy does not include a concept masterplan for the whole of the



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		measures should link to the non-significant effects of the scheme.	Eggborough site as the decommissioning of the existing coal-fired power station is outside the scope of the Proposed Development and DCO. The proposed enhancements are designed to address the (non-significant) effects of the Proposed Development.
		The proposed Landscape and Biodiversity Strategy (one combined strategy rather than two separate strategies would be preferred) should be scoped and if possible a framework developed before DCO submission.	An Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) has been prepared and to accompany the DCO application.
		There could be justification for the Landscape and Biodiversity Strategy to encompass both long term on- site management, and also off-site compensation and enhancement. The latter could bring community benefits such as improvements to health and well-being through, for example, local green infrastructure and access improvement.	The proposed enhancements focus on creating new habitats and improving existing habitats within the Site.
		The Strategy could include a Concept Masterplan for the whole of the current Eggborough Power Station site and adjoining areas within the control of the applicant to help guide future site regeneration.	As noted above, the Strategy does not include a concept masterplan for the whole of the Eggborough Power Station site as this is outside the scope of the DCO.
		The Yorkshire & Humber Cross Country Carbon Capture Pipeline NSIP has now been refused by the Secretary of State (decision 17 th January 2017) and this may have implications for the area reserved for Carbon Capture adjacent to the proposed development. The Strategy	Following construction, land within the area set aside for CCR which does not comprise hard standing will be seeded with wildflower grassland to provide temporary biodiversity enhancements. The areas that



Date (method of onsultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
	could consider temporary use of the area for landscape and biodiversity mitigation and enhancement, including vegetation to support pollinators, which could be easily removed if needed.	 will be available for planting are not yet known. The requirement for land to be set aside for CCR is set out in the Carbon Capture Readiness (Electricity Generating Stations) Regulations 2013. This land must be available for future retrofit of CCS technology when its viability is proven by the UK Government. Government guidance states that land set aside for the purposes of CCR should not be used to compensate for loss of habitat to a power station development as its purpose is as a site for future carbon capture equipment and therefore it would not be available for long term mitigation. Therefore, the proposed seeding of areas of CCR land will be additional to the proposed biodiversity enhancements that have been designed to offset the nonsignificant effects of the Proposed Development in the long term (as summarised in Section 10.7 and detailed within the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10).
. nd May 2017 (email esponse to	It is considered that the surveys and assessments have been undertaken using appropriate methods, in line with	Comment only, no response needed.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
	consultation on Draft ES)	current guidance and best practice and that the assessment of likely impacts is robust.	
		There is a need to ensure consistency between the ES chapters and the ILBS in terms of biodiversity objectives, mitigation and protection measures.	Consistency between the ES chapter and ILBS has been checked.
		Enhancement measures off site (outside of the Eggborough CCGT site) but on land within EPL control should still be considered as it is felt that there is still a need to enhance connections between habitats on and off site in order to maximise the value of the enhancement measures to wildlife in the wider area.	The proposed enhancements are designed to address the (non-significant) effects of the Proposed Development and focus on enhancing / restoring habitats on site. Connectivity of habitats around the periphery of the site will be maintained and improvements in the quality of these habitats will enhance their function in connecting habitats in the landscape. Enhancements off site are constrained by the intensive arable land use. Connecting habitat is generally limited to existing hedgerows along field boundaries.
		The production of an Indicative Lighting Strategy which seeks to mitigate the impact of lighting upon ecological receptors, including bats, is welcomed.	Comment only, no response needed.
		Clarification is needed on how connectivity for badgers on and off site will be affected by the proposed development.	The likely impacts and effects of the Proposed Development on badger and proposed mitigation measures are provided within a confidential annex within Appendix 10D (ES Volume III).
		The production of a single Landscape and Biodiversity	Comment only, no response needed.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		Strategy to cover protection, mitigation and enhancement measures for biodiversity is welcomed as it will prevent duplication between documents.	
		The document has clarified that a master plan for the whole site is outside of the remit of this DCO. This is disappointing as it somewhat limits the opportunities for biodiversity enhancements, however this position is accepted and it is hoped that in future there will be opportunities to further link habitats when proposals for the decommissioning and re development of the existing coal fired power station site comes forward.	Comment only, no response needed.
Environment Agency	17 th February 2017 (letter response to consultation on PEI Report)	We would likely recommend that a condition is placed on the DCO ensuring that compliant fish screens are incorporated into the development.	The draft DCO Requirement regarding detailed design of the Proposed Cooling Water Connections includes specific reference to screens to be installed to meet the requirements of the Eel Regulations.
		The Water Framework Directive (WFD) should be referenced in Chapter 10 as it has specific requirements in relation to the status of fish and invertebrates within watercourses.	The Water Framework Directive is now referenced in Chapter 10 (Section 10.2) and Appendix 10A (ES Volume III).
		An assessment of the impacts of temperature changes on the river downstream of the site and the discharge point is needed.	An assessment of temperature changes in the River Aire during operation has now been included (see Section 10.6).
		Section 10.4.25 talks about the fish species present but makes no mention of lamprey	Paragraph 10.4.25 has been updated to include river and sea lamprey.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		There is no assurance that the scheme will not affect the effective operation of the fish pass at Chapel Haddlesey weir.	The potential impacts of the Proposed Development on the effective operation of the fish pass installed at Chapel Haddlesey weir has now been included (Table 10.6 and Section 10.6).
		Given that the Proposed Development is expected to operate for 30 years, the potential future nature conservation value of the fish assemblage in the river should be used when assessing likely impacts and effects and the need for mitigation.	The future fish assemblage has been assigned a higher nature conservation value as a precaution (paragraphs 10.4.25 – 10.4.26, Section 10.4).
		Future baseline conditions should take into account potential changes to species and habitats within the River Aire as a result of improved fish passage, as it is likely that the Aire will be fully passable to migratory fish species by 2037.	As above, the future baseline at operation has been updated to reflect changes to the fish assemblage and habitats (see paragraph 10.4.35).
		The discharge would also potentially need to be screened to prevent fish, especially eel and salmonid, from entering the discharge, depending on the siting and minimum/maximum discharge speeds. There is no detail about whether there are any technical challenges to installation of fish screening at the site.	The potential requirement for installation of a fish screen on the cooling water discharge structure has now been included in Section 10.5.2 Details will be confirmed at the detailed design stage in accordance with requirements in the draft DCO (Schedule 2). No technical challenges to the installation of fish screens at the abstraction and discharge structures have been identified at this stage.
		The report seems to discount the drain (Ings and Tetherings Drain) having any real value, but there must	Ings and Tetherings Drain and otters were both assessed as being of Local nature



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		be something drawing the otters to the drain. There may be scope to improve the habitat in consultation with the drainage board to mitigate for impacts on the river and lagoon.	conservation value and sound rationale has been provided in Appendices 10C and 10D (ES Volume III), as well as Section 0 of this chapter.
			Opportunities for enhancements to the Drain have been considered as set out above, but it is concluded that meaningful enhancements are unlikely to be feasible.
		Measures should be taken to ensure that otters can move along Ings and Tetherings Drain when active work is not in progress (i.e. at night and between active phases of work).	Additional impact avoidance measures for otter have been added in Section 10.5.
		The PEIR suggests that, as the lagoon in isolation from the woodland wouldn't support as many bats as is does, it is acceptable to remove the lagoon. The PEIR then justifies the removal of the woodland by saying that there weren't many bats foraging in the woodland, even though bats are being attracted to the lagoon. We would like see mitigation/habitat creation via the creation of water feature.	The wording in Section 10.6 has been amended to provide more clarity. The removal of the lagoon is not considered likely to adversely impact the favourable conservation status of the bat species present (mainly common pipistrelle) as they are not dependent on aquatic habitats.
			Removal of the woodland refers to the plantation broad-leaved woodland to the south of, and separate from, the lagoon, which was only found to support low level bat foraging activity.
			Biodiversity enhancement proposals outlined in Section 10.7 and detailed in the Indicative Landscape and Biodiversity



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
			Strategy (Application Document Ref. No. 5.10) include a proposed new surface water attenuation pond that will be managed for the benefit of wildlife.
		Any losses of bat habitat should be mitigated for on-site as the wider area is not necessarily protected.	The Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) includes proposals for enhancements to the structure and diversity of existing plantations which will benefit foraging bats. Other enhancement proposals, including the development of species-rich grassland and designing a surface water attenuation pond for the benefit of biodiversity, will provide further benefits for bats in order to compensate for the loss of habitat.
		We would welcome the opportunity to comment on the standalone ecological mitigation plan referenced in the PEIR. Where possible, any mitigation should be provided ahead of any losses. Where this is not possible, we would like clear timescales to be agreed upon and imposed.	An Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) has been prepared. This includes all proposals for ecological mitigation and enhancement.
		The environmental risks of silt pollution are inadequately addressed and insufficient mitigation has been proposed.	Silt pollution control measures have now been outlined in Section 10.5.2.
	5 th May 2017 (letter response to consultation on draft ES chapter)	The clarifications we sought in relation to the aquatic environment, biodiversity and WFD have been dealt with.	Comment only, no response required.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
Marine Management Organisation (MMO)	16 th February 2017 (by email, response to consultation on PEI Report)	When considering the works required to upgrade or replace the discharge point, the ES should have regard for potential impacts upon river navigation, marine ecology, hydrodynamics, recreational fishing, and other marine users.	Potential impacts on the ecology of the River at the discharge have been assessed in Section 10.6 (paragraphs 10.6.7 – 10.6.10).
		Any predicted impacts caused by a potential change to the water temperature flowing into the River Aire at the discharge point during the operation of the CCGT Power Station should be identified and assessed within the ES.	The impact of water temperature changes has been assessed in Section 10.6 (paragraph 10.6.44).
		Potential maintenance activities to the discharge point should be considered across the whole operation of the proposed development to ensure that impacts to the marine environment are appropriately assessed for the lifetime of the project.	Maintenance activities during operation have been assessed in Section 10.6 (paragraph 10.6.46).
Yorkshire Wildlife Trust (YWT)	16 th February 2017 (letter response to consultation on PEI Report)	The proposed development is less than 400 m from Lower Aire Valley Corridor Living Landscape and the gas pipeline corridor will pass through this Living Landscape. The Lower Aire Valley Corridor is an area identified by the Trust as important for wildlife and with the potential to be enhanced for biodiversity. Development in this area which provides enhancements for biodiversity and improves connectivity to the Living Landscape will be particularly valuable.	Enhancement proposals focus of improving the structure and diversity of existing and new habitats within the Site where it falls within the ownership and long-term control of EPL. Temporary land-take from third party land owners would be reinstated. At which point, the relevant land owners would continue to manage the land in accordance with their interests and responsibilities.
		The Trust is happy with the scope of the surveys on the site which appear to have been done thoroughly and show the biodiversity value of the site. The Trust is also	Comment only, no response required.



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		happy to accept the conclusions of the Habitats Regulations Assessment that there is unlikely to be Likely Significant Impacts on European sites in the area.	
		The Trust is concerned that there will be loss of habitat within the application site. The development site is very constrained and there does not appear to be sufficient space for any habitat creation to mitigate for the loss of woodland and the lagoon. For example species such as bats, which were present in high numbers foraging over the lagoon, will suffer from a loss of habitat. The Trust would like to see an overarching long term plan for the whole site including the existing coal fired power station which would give a clearer idea as to how no net loss of biodiversity can be achieved.	The Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) includes proposals for enhancements to the structure and diversity of existing plantations which will benefit foraging bats and other wildlife. Other enhancement proposals, including the development of species-rich grassland and designing a surface water attenuation pond for the benefit of biodiversity, will provide further biodiversity benefits in order to offset the loss of habitat.
			The Strategy does not include a concept masterplan for the whole of the Eggborough Power Station site as the decommissioning of the existing coal-fired power station is outside the scope of the DCO. The proposed enhancements are designed to address the (non-significant) effects of the Proposed Development.
		The works for installing the gas pipeline may provide opportunities for improvements in ditch habitat. This could be particularly valuable if ditches close to the application site could link more effectively to the Ings and Tetherings Drain and the River Aire corridor. Sustainable	As described above opportunities for enhancements to Ings and Tetherings Drain have been considered, but it was concluded that meaningful enhancements were unlikely to be feasible due to the IDB



Consultee	Date (method of consultation)	Summary of consultee comments	Summary of response/ how comments have been addressed
		drainage features to manage surface water, such as ponds, swales, green roofs, or reed beds should be considered within the design.	requirements for regular channel maintenance. There are no downstream ditches that receive water from Ings and Tetherings Drain before it outfalls to the River Aire. Enhancement proposals include the planting of a new surface water attenuation pond for the benefit of biodiversity.
		The application will require an Ecological Mitigation and Restoration Plan which would consider issues such as habitat creation, a lighting plan which does not impact wildlife and long term management of the site. Also a Construction Environmental Management Plan will give confidence that maximum opportunities can be taken to protect biodiversity during the construction phase.	Instead of an Ecological Mitigation and Restoration Plan, an Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) submitted with the DCO application sets out all ecological mitigation measures, enhancement proposals and management prescriptions to be applied.
			The Indicative Lighting Strategy (Application Document Ref. No. 5.11) considers measures to avoid lighting impacts on sensitive ecological features.
			A draft CEMP is included in Appendix 5A (ES Volume III).
			All three documents will be finalised prior to construction in accordance with requirements in the draft DCO (Schedule 2).



Summary of Key Changes to Chapter 10 since Publication of the Preliminary Environmental Information (PEI) Report

- 10.3.22 The PEI Report was published for formal (statutory) consultation in January 2017, allowing consultees the opportunity to provide informed comment on the Proposed Development, the assessment process and preliminary findings through a consultation process prior to the finalisation of this ES.
- 10.3.23 The key changes since the PEI Report was published are summarised in Table 10.5 below.

Summary of change since PEI Report	Reason for change	Summary of change to chapter text in the ES
Cofferdams have been confirmed as being required at the Proposed Cooling Water Connection abstraction and discharge locations – this was only discussed as a possibility in the PEI Report.	Updated design information regarding works required to the cooling water abstraction and discharge points – cofferdams are required to allow construction activities to take place safely within the river.	Impact avoidance measures discussed in Section 10.5, and impacts on the River Aire are assessed in Section 10.6.
Information provided on the biodiversity enhancements proposed as part of the Proposed Development.	Biodiversity enhancement proposals have been identified and an Indicative Landscape and Biodiversity Strategy (Application Document Ref. No.) has been prepared.	The proposed biodiversity enhancements described in Section 10.7 and furtherdetail is provided within the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10).
An assessment of temperature changes in the River Aire during operation has now been included.	Following comment on the PEI Report from the Environment Agency.	Assessment added in Section 10.6 (paragraph 10.6.44).

Table 10.5: Summary of key changes to Chapter 10 since publication of the PEI Report

10.4 Baseline Conditions

Existing Baseline

10.4.1 The ecological baseline relevant to the Proposed Development is summarised below. Full details of the findings of desk and field based studies, including evaluation of the relative nature conservation value of identified ecological features is provided in Appendices 10C – 10H (ES Volume III).



Statutory International Nature Conservation Designations within 10 km

10.4.2 The River Derwent Special Area of Conservation (SAC) is located 9.5 km to the east of the Site.

Additional Statutory International Nature Conservation Designations Scoped into Assessment

- 10.4.3 Following comments received on the Scoping Report from NYCC, the Study Area for international nature conservation designations was extended beyond the 10 km search radius commonly applied as the cut-off for relevance to EcIA. NYCC considered that the potential for impacts at a greater distance as a result of emissions to air from the new stacks needed to be specifically assessed. The following designations have been scoped into the assessment, as they are located downwind (of the prevailing wind) of the Proposed Development and have qualifying habitats that are sensitive to changes in air quality:
 - Skipwith Common SAC 10.5 km north-east of the Site;
 - Thorne Moor SAC 14 km south-east of the Site;
 - Hatfield Moor SAC 19 km south-east of the Site;
 - Humber Estuary SPA/ SAC/ Ramsar/ SSSI 15 km east of the Site;
 - Strensall Common SAC approximately 35 km north of the Site; and
 - North York Moors National Park SAC 60 km north of the Site.

Statutory National Nature Conservation Designations within 10 km

- 10.4.4 The following Sites of Special Scientific Interest (SSSI) were identified within the Study Area:
 - Burr Closes, Selby SSSI 6 km north of the Site;
 - Forlorn Hope Meadow SSSI 7 km south of the Site;
 - Eskamhorn Meadows SSSI 8 km east of the Site;
 - Brockadale SSSI 8 km south-west of the Site; and
 - Went Ings Meadows SSSI 9 km south-east of the Site.

Non-statutory Nature Conservation Designations within 1 km

- 10.4.5 Two non-statutory designations (Sites of Importance for Nature Conservation (SINC)) of county nature conservation value were identified within the Study Area as follows:
 - Selby Canal and Towpath SINC 300 m north-west of the Site; and
 - Burn Disused Airfield SINC 600 m east of the Site.

<u>Habitats</u>

- 10.4.6 The habitats associated with the Site are summarised below. The full results of the Phase 1 Habitat survey are provided in the PEA report, which also includes a habitat map (see Appendix 10C (ES Volume III)). Information on freshwater habitats is also given in Appendix 10F (ES Volume III), which provides supplementary information on the River Aire and Ings and Tetherings Drain.
- 10.4.7 The existing coal-fired power station is dominated by operational buildings, plant, infrastructure and associated hard standing and bare ground areas. Semi-natural habitats include blocks of plantation woodland on screening bunds around the periphery, as well as a



large water storage reservoir (lagoon) and a pond to the east of the cooling towers. All of the semi-natural habitats associated with the existing coal-fired power station have established or been created since its construction in the 1960s. The surrounding area predominantly comprises intensively managed arable farmland with species poor hedgerows and drainage ditches along field boundaries.

- 10.4.8 The Proposed Cooling Water Connections cross intensively managed arable farmland and a drainage ditch (Ings and Tetherings Drain) between the existing coal-fired power station and the River Aire to the north.
- 10.4.9 The Proposed Gas Connection passes through an intensively managed arable landscape, characterised by large arable fields bounded by dry ditches. Species poor hedgerows and/or scattered trees occur locally.
- 10.4.10 No protected, rare or notable flora was identified during the surveys and none would be expected given the nature of the predominant habitats present, which comprises intensively managed arable farmland, hardstanding and built infrastructure, and dense landscape plantings of trees and shrubs and associated grassland and ruderal vegetation. None of the habitats associated with the existing coal-fired power station represent relicts of long-standing historic vegetation. Instead all of these habitats are of no more than 40 years age, having been planted or established after construction of the existing coal-fired power station. No notable aquatic plant species were recorded in association with the River Aire, ditches or the lagoon within the existing coal-fired power station.
- 10.4.11 Three invasive non-native plant species listed in Schedule 9 of the WCA 1981 were identified during field surveys. Himalayan balsam (*Impatiens glandulifera*) was found throughout the Site, in association with the River Aire, drains, plantation woodland and areas of bare ground within the existing coal-fired power station. A single stand of giant hogweed (*Heracleum mantegazzianum*) was located on the south bank of the River Aire near the existing cooling water discharge point. Nuttall's waterweed (*Elodea nuttallii*) was found to be abundant within Ings and Tetherings Drain.
- 10.4.12 The following habitats recorded within or directly adjacent to the Site are considered to be of value at a Local level (as defined in Appendix 10B (ES Volume III)) and will be taken forward in the impact assessment.
 - semi-natural broad-leaved woodland;
 - plantation woodland (broad-leaved, coniferous and mixed);
 - pond within the existing coal-fired power station (Water body 2);
 - Ings and Tetherings Drain;
 - River Aire; and
 - hedgerows.
- 10.4.13 All of the other habitats within the potential zone of influence of the Proposed Development are considered to be of negligible value (as defined in Appendix 10B (ES Volume III)) and therefore they are not relevant ecological features and do not require impact assessment.



Protected and Notable Species

- 10.4.14 Consideration of protected and notable plant species has been provided above, in the habitats section. The following protected or notable faunal species have been identified as present, or potentially present, within the Site. Full results of targeted species surveys, including the assessment of their relative nature conservation value, are provided in Appendices 10C 10G (ES Volume III).
 - bats;
 - great crested newt (*Triturus cristatus*);
 - badger (*Meles meles*);
 - otter (*Lutra lutra*);
 - fish;
 - grass snake (*Natrix natrix*); and
 - breeding birds.

Bats

- 10.4.15 High levels of bat foraging activity were found in association with the lagoon (Water body 1) within the existing coal-fired power station. It was estimated that between 10 and 20 individual bats were foraging around the lagoon at any one time during bat activity surveys. The vast majority of activity was by common pipistrelle bats (*Pipistrellus pipistrellus*), but soprano pipistrelle (*Pipistrellus pygmaeus*) was also frequently recorded. Other species recorded very occasionally include noctule (*Nyctalus noctula*), leisler (*Nyctalus leisleri*) and unidentified bats within the *Myotis* genus (*Myotis* sp.). No activity by Daubenton's bat (*Myotis daubentonii*), which specialises in foraging over water, was observed or recorded at the lagoon.
- 10.4.16 The lagoon appears to be a focal point for bats within the existing coal-fired power station as low levels of foraging activity were recorded in association with all other suitable habitats (mainly plantation woodland).
- 10.4.17 The buildings that may be affected by the Proposed Development, mostly associated with the existing coal-fired power station, provide no suitable roosting opportunities for bats. Among the trees that will potentially be affected by the Proposed Development, eight were appraised to have low suitability for roosting bats. In accordance with best practice guidance (Collins, 2016), no further surveys were required on these trees to determine roosting status. All other trees to be potentially affected by the Proposed Development were appraised as having negligible suitability for roosting bats, due to an absence of suitable features, such as cavities.
- 10.4.18 The bat assemblage using the Site is assessed as being of Local nature conservation value (see Appendix 10D, ES Volume III).

Great Crested Newt

10.4.19 Great crested newt is present in one pond (Water body 11) relevant to the Proposed Gas Connection and AGI at the north end of the Site. The great crested newt population within this pond is assessed as being of District nature conservation value (see Appendix 10E, ES Volume III).



10.4.20 The pond is located within 250 m of the wide corridor that was being considered for the Proposed Gas Connection at the time of survey (known as the Gas Connection Search Area within the EIA Scoping Report). However, the design of the Proposed Development was subsequently modified to take account of this species (see Section 10.5), and the final location of the Proposed Gas Connection and AGI is now 300 m from the pond at its nearest point. As explained in Appendix 10E (ES Volume III), great crested newt is unlikely to be a relevant ecological feature at a distance of more than 250 m from the Proposed Development, and adverse effects are unlikely.

Badger

10.4.21 Baseline information on badger is presented in the confidential annex to Appendix 10D (ES Volume III). Recognising that badgers are potentially vulnerable to persecution, and in accordance with good practice, information on the relative status and distribution of badgers is omitted from this chapter.

Otter

- 10.4.22 Otter spraint (droppings) was found along Ings and Tetherings Drain within the Proposed Gas Connection area, indicating that the drain forms part of an otter territory. Otter are also likely to use the River Aire nearby to the north, although no field signs were found along the river. Within and in proximity to the Proposed Gas Connection area, otter activity is likely to be restricted to foraging only. Otters are unlikely to use habitats in association with or in proximity to the Proposed Gas Connection area for breeding or for refuge as the associated and adjacent river and drain banks are open and lack sufficient cover of trees or scrub to shelter otter. As the surrounding land is under intensive agricultural management there are no other habitats nearby that are suitable for establishment of holts or refuges. Otters typically have large home ranges, in the order of 11 to 18 km of a main river and its associated tributaries, so any activity associated with the Site is likely to be very transitory.
- 10.4.23 Given the Site is only likely to support transitory use by otters, and given it only represents a very small part of the likely extent of the relevant otter territory, the otter presence at the Site is assessed as being of Local nature conservation value.

Fish

- 10.4.24 The River Aire at the existing cooling water abstraction and discharge points was found to support a range of common coarse fish, including roach, perch, gudgeon, pike, three-spined stickleback, tench and bullhead. Dace and flounder were also found at the discharge point, which is within the tidal reach. Fish densities were low at both survey locations on the river.
- 10.4.25 Based on historical data of fish catches along the Aire (near the Site and in the wider area) the following notable species could also be present within the reach affected by the Proposed Development: European eel, brown trout, Atlantic salmon, allis shad, twait shad, smelt, river lamprey and sea lamprey. The relevance of these species may increase over time, as a fish pass has been installed on the weir at Chapel Haddlesey that will facilitate movement of these species along the River Aire. Therefore, the characteristics of the fish assemblage present has potential to change (improve) over time and this is relevant to the potential impacts of the Proposed Development.



- 10.4.26 Currently, the resident fish populations associated with the Site are considered to be of no more than Local nature conservation value. This is on the basis of the low fish densities recorded, and consideration of the habitats present which are representative of the lower Aire Valley and uniform in character over long distances. Similar fish populations can be expected to occur more widely and beyond the zone of influence of the Proposed Development. Should there be an improvement in the assemblage of migratory fish due to the recent installation of the fish pass at Chapel Haddlesey weir, as is the long-term objective, then the Site may be considered of functional importance for these species and this would merit application of a higher nature conservation value to the fish assemblage.
- 10.4.27 The lagoon within the existing coal-fired power station is stocked with coarse fish including rudd, tench, perch, crucian carp and common carp. Common carp is a non-native species and, outside the context of managed fisheries, its presence would be considered detrimental for ecology. Accordingly, this species is not a relevant ecological feature but legal considerations remain. All of the other species recorded are native to Great Britain but all are common and widespread, and none are subject to specific legal protection. Given the stocked origin of these fish, they are considered to be of negligible value and do not require specific impact assessment. Legal requirements remain and are identified later in this chapter.

Grass Snake

10.4.28 This species has been recorded along Selby Canal within the desk study area and is thought to be widespread in farmland south of Selby, as noted in the NYCC consultation response. There is potential for transitory use of habitats to be impacted by the Proposed Development, such as drains crossed by the Proposed Gas Connection and the banks of the River Aire to be affected by the Proposed Cooling Water Connections. Any grass snakes present are unlikely to be dependent upon habitats within the Site for their survival or for maintenance of the wider local population. Accordingly, any grass snakes present are considered to be of negligible nature conservation value. Legal requirements remain and are identified later in this chapter.

Breeding Birds

- 10.4.29 Habitats within the Site, such as river banks, woodland, scrub, grassland and arable farmland, have potential to be used by a range of bird species for nesting and as foraging habitat. No suitable breeding habitat for specially protected (Schedule 1) bird species, such as barn owl (*Tyto alba*) was identified within the Site.
- 10.4.30 The habitats present within the Site are all common in Selby District and are all of relatively recent origin. The limited availability of dead wood, lack of old trees, and relatively uniform structure of the plantations mean they are unlikely to support any notable assemblages of woodland birds. Other habitats, including recently planted hedges and dry ditches, are typical of arable farmland locally and are not considered to be sufficiently diverse or extensive to support assemblages of importance at more than Site level. On this basis, the breeding bird assemblage associated with the Site is not likely to be of more than Local nature conservation value.



Future Baseline

Construction (2019-2022)

- 10.4.31 The ecological baseline in 2019-2022 is likely to be very similar to the existing baseline, although it is possible that demolition of the existing coal-fired power station may have started by 2019. If demolition progresses this will remove built infrastructure but this is unlikely to result in a substantive increase in semi-natural vegetation in the lead-in period to Construction, particularly if areas of hardstanding are not removed.
- 10.4.32 Habitats within the Site are all managed to a greater or lesser degree and this land management is unlikely to change in the short term. All existing habitats are likely to continue to be present, although some minor changes in habitat extent, composition and structure might occur as a result of ecological succession e.g. the gradual establishment of tree and shrub seedlings, or as a consequence of demolition of the existing coal-fired power station. Even if habitat management ends at demolition, the resultant gradual changes in vegetation structure are unlikely to materially alter the ecological baseline in the lead-in to Construction. Therefore the habitats and species present are very unlikely to undergo significant change prior to 2019.
- 10.4.33 Changes in the distribution of some species would be likely to occur in line with changes in habitats as a result of ecological succession or other natural processes, but over the short term any such changes would be relatively minor.

Operation (2037)

- 10.4.34 Based on available information, there are no grounds to expect that there would have been any marked change in local land management practice and the habitats associated with this at 2037. Habitats such as plantation woodland will be more mature, but are likely to support a broadly similar species assemblage. The nature conservation designations identified within the existing baseline are likely to still be present at 2037.
- 10.4.35 The assemblage of migratory fish and the quality of in-channel habitats for fish within the River Aire at the Site is likely to have improved by 2037 following installation of the fish pass at Chapel Haddlesey weir, the removal of other barriers to fish migration upstream, and general improvements to the quality of the River due to WFD requirements. The WFD requires all waterbodies to achieve 'good ecological status' by 2027, which is defined by a number of quantifiable parameters (ecological, hydromorphological, physio-chemical and chemical), and to experience no deterioration in status. The nature conservation value of the fish assemblage present by 2037 is therefore likely to be higher, and the section of river within the Site is likely to be of higher functional importance for migratory fish trying to access spawning grounds upstream, or trying to migrate downstream towards the sea. However, there are many factors that may influence the future fish assemblage within the river and therefore confidence in the likely nature conservation value in 2037 is low. Assuming best case circumstances, stocks of migratory fish may have increased and consequently the functional importance of the section of river within the Site for migratory fish will also have increased. The wider River Aire may therefore be considered of regional value for fish at this time. This does not mean that the Site in isolation would support a fish population of regional value, as it would still encompass only a very small part of the fish habitat within the River Aire. But the consequence of any adverse



impacts from the Proposed Development on habitat use and passage of migratory fish may be relatively higher if these impacts coincided with key migration periods.

10.4.36 It is possible that after demolition of the existing coal-fired power station, the cleared footprint will be released for new development. The nature of the development would represent a change in land-use, but the built context would be unchanged. Implementation of planning policy may mean that future adjacent developments incorporate features of value for biodiversity, resulting in small to moderate improvements in the future baseline at 2037.

Decommissioning (2047)

10.4.37 The future baseline conditions at 2047 are likely to be similar to those at 2037, although habitats such as plantation woodland would have matured further.

10.5 Development Design and Impact Avoidance

- 10.5.1 The design process for the Proposed Development has included consideration of ecological constraints and has incorporated, where possible, measures to reduce the potential for adverse ecological effects in accordance with the 'mitigation hierarchy' and relevant planning policy. The measures identified and adopted include those that are inherent to the design of the Proposed Development, and those that can realistically be expected to be applied as part of construction environmental best practice, or as a result of legislative requirements.
- 10.5.2 The development design and impact avoidance and reduction measures that have been, or will be, adopted include:
 - recognition that the design of the Proposed Development needs to deliver compliance with industry good practice and environmental protection legislation during both construction and operation e.g. prevention of surface and ground water pollution, fugitive dust management, noise prevention or amelioration. Potential for environmental pollution has been scoped out of the impact assessment because of the need to comply with relevant legislation that prohibits this;
 - in support of the above, a commitment to prepare and agree a Construction Environmental Management Plan (CEMP) detailing all requirements for environmental protection and legal compliance. The CEMP will be secured through a draft Requirement and be prepared by the contractors. However, a framework CEMP is included within this ES (Appendix 5A (ES Volume III));
 - measures to comply with relevant legislation regarding fish welfare will be implemented prior to and during the draw-down of the lagoon, as well as during any necessary dewatering operations in the River Aire, during construction. Health checks will be completed on fish in the lagoon, where necessary (fish health checks are necessary where they are to be introduced into rivers, canals and lakes connected to open waters; the requirement for this will be determined in advance of fish mitigation works commencing), and an appropriate receptor site will be sourced, subject to satisfactory health of the fish (an Environment Agency permit will be obtained prior to any movement of live fish to receptor site(s));
 - the installation and subsequent removal of temporary cofferdams required to enable construction works at the cooling water abstraction and discharge points will be completed outside of the main salmonid migratory period (October to December inclusive) to minimise potential impacts on migrating fish;

 new fish screens will be installed during upgrade works to the existing cooling water abstraction (and if necessary discharge) structure(s) to achieve compliance with the Eels (England and Wales) Regulations 2009 and other relevant legislation. No technical challenges to the installation of fish screens have been identified at this stage. Details will be approved in accordance with a draft DCO Requirement;

Eggborough

- the Proposed Power Plant will be constructed largely within existing areas of bare ground/ hard standing within operational areas of the existing coal-fired power station, thus minimising requirements for land take from semi-natural habitats of potential ecological value. Accordingly, the pond immediately to the east of the cooling towers (Water body 2) will be retained and requirements for loss of plantation woodland have been minimised;
- potential for disturbance of habitats and species associated with the River Aire has been reduced through a commitment to use directional drilling to allow the Proposed Gas Connection to cross beneath the River. Impacts to the River cannot be avoided during works associated with the Proposed Cooling Water Connections; however, as the existing abstraction and discharge points will be used, this reduces the requirement for new land take, therefore also reducing the magnitude of the potential impact;
- appropriate silt control measures (silt curtains) will be used during the installation and removal of temporary cofferdams in the River Aire, and during works within Ings and Tethering Drain and Hensall Dyke;
- measures will be put in place at construction compounds on Ings and Tethering Drain to prevent obstructing the movement of otters along the drain at night;
- the Proposed Gas Connection route has been designed to avoid habitat boundary features, such as hedgerows and trees, wherever possible. Where the construction corridor affects hedgerows or trees, their removal will be minimised as far as possible. Retained hedgerows and trees will be protected by clearly defined root protection areas to prevent damage/ compaction of roots by plant and other machinery. The two sections of hedgerow that must be removed will be replanted upon completion of construction works;
- precautionary working methods to avoid accidental killing or injury of grass snakes will be implemented during construction of the Proposed Gas Connection and Proposed Cooling Water Connections. These include initial clearance of potentially suitable vegetation down to a height of 30 cm, followed by dismantling of any suitable features, such as log piles, tree stumps) under ecological supervision. Vegetation will be cleared to ground level once no risk of grass snake presence remains. Vegetation within working areas will be kept short during construction to discourage grass snakes from entering the Site. A Precautionary Working Method Statement will be produced to guide the process;
- to ensure legislative compliance in relation to nesting birds, all clearance of suitable vegetation during site preparation will be undertaken outside the breeding season (typically March-August inclusive for most species), where possible. In situations where this is not possible, an ecologist would check the working area for nests before works commence. If nests were discovered, appropriate mitigation would be implemented to ensure that they are not disturbed or destroyed before any works can commence in that area. This would include imposing exclusion zones between the works and nest(s) and suspending vegetation clearance works within the area until any young had fledged.
- all habitats subject to temporary disturbance for the Proposed Development will be appropriately reinstated, and given the affected habitat is primarily arable farmland this can be delivered with certainty of success;
- following the identification of a great crested newt pond within 250 m of Gas Connection Search Areas identified at the EIA Scoping stage, the location of the Above Ground



Installation (AGI) at the northern end of the Proposed Gas Connection was moved further from the pond to provide increased confidence that there will be no adverse impact on great crested newt. The proposed location of the AGI is now 300 m from the great crested newt pond, and therefore outside the 250 m distance within which an adverse effect on nature conservation status is likely based on Natural England guidance (Natural England, 2016); and

 an Indicative Lighting Strategy (Application Document Ref. No. 5.11) has been prepared, setting out how lighting impacts on sensitive ecological receptors have been considered and addressed.

10.6 Likely Impacts and Effects

- 10.6.1 This section describes the impacts and potential effects of the Proposed Development on relevant ecological features in the absence of any mitigation over and above that which is inherent to the design (as described in Section 10.5 above).
- 10.6.2 Relevant ecological features are those that are considered to be important, and have the potential to be affected by the Proposed Development (CIEEM, 2016). An initial screening of potential impacts and effects arising from the construction and operation phases of the proposed development is provided below as Table 10.6, to set the requirements for the more detailed impact assessment that follows.
- 10.6.3 Decommissioning impacts are considered separately below. These have been scoped out of detailed assessment because of the lack of pathways for effects on ecological features.

Ecological Value feature	Screening for Potential impacts / effects	Scoped into ecological impact assessment?	
International nature conservation designations	International	Construction: There is no reasonable likelihood of impacts during the construction phase (see Chapter 8: Air Quality and Chapter 11: Flood Risk, Hydrology and Water Resources).	No
		Operation: Potential adverse effects on interest features as a result of increased nitrogen and acid deposition from emissions to air during operation.	Yes
National nature conservation designations	National	Construction: There is no reasonable likelihood of impacts during the construction phase (see Chapter 8: Air Quality).	No
		Operation: Potential adverse effects on interest	Yes

Table 10.6: Determination of relevant ecological features



Ecological feature	Value	Screening for Potential impacts / effects	Scoped into ecological impact assessment?
		features as a result of increased nitrogen and acid deposition from emissions to air during operation.	
Non- statutory nature conservation designations	County	Construction: With the implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, there are no likely pathways by which the Proposed Development could adversely affect SINCs within or beyond the Study Area.	No
		Operation: There are no pathways which could result in operational effects.	No
Semi-natural broad-leaved woodland	Local	Construction: Construction effects are unlikely. There is a single, small broad-leaved woodland copse (0.1 ha) adjacent to a proposed access track for the Proposed Gas Connection. Tree protection measures would be implemented in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction. Therefore there are no pathways for impact.	No
		Operation: There are no pathways which could result in operational effects.	No
Plantation woodland	Local	Construction: Approximately 4 ha of semi-mature plantation woodland will be cleared to facilitate construction of the Proposed Power Plant and accommodate the Proposed Construction Laydown.	Yes
		Operation: There would be no adverse effects from operation, but landscaping implemented at the end of construction will mature and start to compensate for the loss of plantation at construction.	No



Ecological feature	Value	Screening for Potential impacts / effects	Scoped into ecological impact assessment?
Pond (Water body 2)	Local	The pond within the existing coal-fired power station, located to the east of the cooling towers, together with its surrounding terrestrial habitat, will be retained during the Proposed Development. No further consideration is therefore given to this habitat.	No
River Aire	Local	Construction: Works associated with construction of the Proposed Cooling Water Connections will impact on the River and its banks. This may result in some release of sediments into the River, but this will be controlled as outlined in Section 10.5. Cofferdams are anticipated to be needed to create dry works areas, resulting in temporary impacts to channel form and function. There is potential for Schedule 9 weed species to be encountered and spread during bank works. The Proposed Gas Connection will not directly affect the River as the gas pipeline will be routed beneath the River channel by directional drilling.	Yes
		Operation: There will be no adverse effects on the River from operation (given that the cooling water abstraction and discharge points are already used for the existing coal-fired power station and abstraction and discharge volumes will be reduced).	No
Ings and Tetherings Drain	Local	Construction: Works associated with construction of the Proposed Cooling Water Connections and the Proposed Gas Connection will impact on the drain and its banks at the crossing point, resulting in temporary ground and habitat disturbance. There is potential for Schedule 9 weed species to be encountered and spread during these works.	Yes



Ecological feature	Value	Screening for Potential impacts / effects	Scoped into ecological impact assessment?
		Operation: There are no pathways which could result in operational effects.	No
Hedgerows	Local	Construction: The route of the Proposed Gas Connection avoids hedgerows wherever possible. However, construction will require severance of two species poor hedgerows along the route to accommodate the construction corridor. Habitats will be reinstated on completion of works.	Yes
		Operation: There are no pathways which could result in operational effects.	No
Bats	Local	Construction: Loss of bat foraging habitat during construction as a result of the loss of the lagoon and 2 ha of plantation woodland. Temporary lighting during construction may disturb bats foraging within and adjacent to the Site and reduce the quality of foraging habitat. This is considered in the Indicative Lighting Strategy (Application Document Ref. No. 5.11).	Yes
		Operation: Permanent lighting during operation may disturb bats foraging within and adjacent to the Site and reduce the quality of foraging habitat. This is considered in the Indicative Lighting Strategy (Application Document Ref. No. 5.11).	Yes
Great crested newt	District	No likely adverse impacts from construction or operation due to sensitive siting of the Proposed Gas Connection and AGI as detailed in Section 10.5.	No
Badger	See Appendix 10D (ES Volume III)	See Appendix 10D (ES Volume III).	



Ecological feature	Value	Screening for Potential impacts / effects	Scoped into ecological impact assessment?
Otter	Local	Construction: Construction of the Proposed Gas Connection and Proposed Cooling Water Connections might have a temporary disturbance impact on otter foraging and habitat use, resulting in short-term exclusion from small areas of watercourse habitat.	Yes
		Operation: There are no pathways which could result in operational effects.	No
Fish	Local	Construction: No likely adverse impacts on fish during construction with the implementation of the impact avoidance measures outlined in Section 10.5. These address fish welfare risks associated with in-channel works in the River Aire and draw-down of the lagoon. Impacts on migrating salmonids on the River Aire will also be avoided through timing of cofferdam installation and removal outside the main migratory period. Installation of a cofferdam at the existing abstraction point is expected to have minimal impacts on the flow regime of the River (see Chapter 11: Flood Risk, Hydrology and Water Resources) and therefore no impacts on the effective operation of the fish pass on Chapel Haddlesey weir are anticipated. No adverse impacts on fish spawning habitats within the River Aire are anticipated. The aquatic macro- invertebrate community (see Appendix 10F, ES Volume III) along this section of the River is characteristic of silted river reaches, and therefore the fish assemblage will also be representative of such conditions. Even if there is a minor release of silts into the River during bank works for the Proposed Cooling Water Connections this would be unlikely to	No



Ecological feature	Value	Screening for Potential impacts / effects	Scoped into ecological impact assessment?
		impact the quality of riverbed substrates for fish along the affected reach.	
		 Operation: Potential impacts on fish during operation could arise from: water temperature changes downstream of the discharge point on 	Yes
		 the River Aire; and changes to river flow regimes / volumes as a result of abstraction, which could affect the operation of the fish pass at Chapel Haddlesey weir. Potential impacts on fish as a result of entrainment in the cooling water system will be avoided with the installation of compliant fish screens during upgrades to the existing cooling water abstraction (and if necessary discharge) structure(s) (see Section 10.5). 	
Grass snake	Negligible	Construction: There will be no impact on grass snake as the Proposed Development will apply the impact avoidance measures outlined in Section 10.5 to deliver legislative compliance. This addresses the potential for injury of grass snake during construction works for the Proposed Gas Connection and Proposed Cooling Water Connections.	No
		Operation: There are no pathways which could result in operational effects.	No
Breeding birds	Local	Construction: There will be no impact on breeding birds as the Proposed Development will apply the impact avoidance measures outlined in Section 10.5 to deliver legislative compliance. This addresses the potential for impacts on birds and their nests from vegetation clearance and earth works during construction of the Proposed	No



Ecological feature	Value	Screening for Potential impacts / effects	Scoped into ecological impact assessment?
		Development.	
		Operation:	No
		There are no pathways which could result in operational effects.	

Construction

Impacts and Effects on Plantation Woodland

- 10.6.4 Approximately 4 ha of semi-mature plantation woodland will be cleared to allow construction of the Proposed Power Plant and to accommodate the Proposed Construction Laydown. This will include approximately 3 ha of broad-leaved plantation dominated by non-native tree species, and approximately 1 ha of non-native conifer plantation. The plantations are 30 to 40 years old, having been planted in the 1970's as part of landscaping works for the existing coal-fired power station. The age and composition of the plantations mean that they could be readily substituted or replaced with habitats of greater ecological value. Plantation woodland of this age and composition is not of high nature conservation interest on its own merits. Instead its ecological value relates to the habitat that it provides for wildlife of local nature conservation value (foraging bats and badger, and nesting birds).
- 10.6.5 When viewed in the context of the wider extent of plantation woodland resource across the existing coal-fired power station, the proposed loss of plantation will be unlikely to impact the structure or function of the wider plantation woodland resource for wildlife. Currently, there is approximately 15 ha of plantation woodland within the existing coal-fired power station. The plantation to be removed is not particularly functionally important within the context of the wider extent of plantation to be retained as it does not connect areas of woodland, or other habitats, and therefore there will be minimal habitat severance as a result of its removal.
- 10.6.6 No adverse effect on the structure/ function or conservation status of the wider resource of plantation woodland of local nature conservation value is predicted. The predicted permanent effect is therefore **neutral and not significant**.

Impacts and Effects on River Aire

10.6.7 Works associated with the Proposed Cooling Water Connections will impact on the River and its southern bank. The north bank of the River is considered unlikely to be disturbed by construction works (see Chapter 11: Flood Risk, Hydrology and Water Resources). Existing structures will be replaced and there will be associated bank disturbances requiring additional temporary and permanent land take of adjacent species-poor grassland and ruderal vegetation. Cofferdams will be used to create temporary dry works areas, resulting in localised impacts on channel form and function through diversion of flows around the cofferdam and exposure of sediments within the cofferdam. In a river of this type, which has a relatively uniform morphology and modified un-natural channel and bank profiles, the consequence of such localised impacts are likely to be trivial and of short duration. Typical habitats and



processes would reasonably be expected to re-establish quickly following restoration of flows and riverbanks.

- 10.6.8 Any very small new losses of riverbank vegetation, even if not replaced, would have no impact on the structure and function of the river corridor for wildlife. None of the vegetation present is rare or specifically notable. Accordingly, there is also no conflict with relevant local planning policy.
- 10.6.9 There is potential for seeds of giant hogweed to be disturbed and transferred to new sites as a result of construction activities. Transfer could be direct e.g. on vehicles and machinery, or indirect through release of soils containing seeds into the river which would transmit them downstream. This is primarily a matter for legal compliance, with the spread of the species being an offence. Any ecological consequences, while undesirable, would be unlikely to alter habitat structure and function. Giant hogweed would not materially exclude native vegetation or species.
- 10.6.10 No adverse effect on the structure/ function or conservation status of a section of the River Aire of local nature conservation value is predicted. The predicted temporary effect is therefore **neutral and not significant**.

Impacts and Effects on Ings and Tetherings Drain

- 10.6.11 Works associated with the Proposed Cooling Water Connections and Proposed Gas Connection will impact on the drain and its banks, as open-cut techniques will be used when crossing the drain. Bank and channel substrates within the works area will be excavated, stored, and then reinstated on completion of works. Bank and channel vegetation will re-establish, probably within a maximum of 12 months. Therefore the required works are localised in extent, of short duration, and any resultant effect would be temporary.
- 10.6.12 The affected section of drain is representative of the wider Ings and Tetherings Drain, and the habitats and vegetation present is not of specific note. The proposed works are broadly comparable with routine drain maintenance works undertaken by the Internal Drainage Board, which involve periodic dredging and removal of channel substrates and associated bank and channel vegetation. In the case of the proposed works, the substrates will be excavated to greater depth, but the potential ecological consequences would be comparable to the existing baseline.
- 10.6.13 There is potential for propagules of Nuttall's waterweed to be transferred to new sites on construction vehicles and machinery. This is primarily a matter for legal compliance, with the spread of the species being an offence. Any ecological consequences are unlikely as this species is already very widespread and can be encountered in most watercourses. Nuttall's waterweed is abundant in Ings and Tetherings Drain, so even if construction results in downstream dispersal this would not constitute spread, as the species is already present. Given this species is already widespread and abundant there is no reasonable likelihood of dispersal materially impacting habitat structure/ function or conservation status. Legal requirements necessitate the application of measures to reduce the risk of spread, and with such measures impacts adverse effects are unlikely.
- 10.6.14 No adverse effect on the structure/ function or conservation status of a section of Ings and Tetherings Drain of local nature conservation value is predicted. The predicted temporary effect is therefore **neutral and not significant**.



Impacts and Effects on Hedgerows

- 10.6.15 The Proposed Gas Connection route crosses two species-poor hedgerows and removal of sections of hedgerow may be required within the construction corridor, which will be 36 m wide. The total length of hedgerow to be affected will therefore be up to 72 m. However, the hedgerows that may be affected are not well maintained and contain frequent gaps. While the required works would result in hedgerow severance, this would be in the context of hedgerows that are already fragmented. Therefore, while increased habitat fragmentation is ecologically undesirable it is unlikely to substantively change the baseline integrity of these hedgerows.
- 10.6.16 Impact avoidance measures would be used to minimise requirements for hedgerow loss i.e. micro-siting towards existing gaps where possible. Wider impacts are not anticipated as the Proposed Development would need to comply with *British Standard 5837:2012 Trees in relation to design, demolition and construction*. There is a commitment to reinstate habitats subject to temporary disturbances, including hedgerows. Reinstatement could potentially be used to increase species-richness and this would be ecologically beneficial at the local level.
- 10.6.17 No adverse effect on the structure/ function or conservation status of two fragmented hedgerows of local nature conservation value is predicted. The predicted temporary effect is therefore **neutral and not significant**.

Impacts and Effects on Bats

- 10.6.18 The Proposed Development is considered unlikely to result in an adverse effect on the conservation status of bat populations of local nature conservation value. The predicted temporary effect is therefore **minor adverse and not significant**.
- 10.6.19 The rationale behind this assessment is presented below with reference to potential impacts that may arise from habitat loss, and reduction in habitat quality from light spill and glare.

Removal of Foraging Habitat

- 10.6.20 Construction of the Proposed Development will require the removal of the lagoon and associated coniferous plantation woodland within the Proposed Construction Laydown area. This habitat was found to support relatively high levels of foraging activity, predominantly by a moderate number of common pipistrelle bats, in a local context.
- 10.6.21 The attractant value of the lagoon for bats is considered in large part a function of the sheltered environment created by the surrounding plantation woodland. The sheltered conditions provide an optimal microclimate for flying invertebrates, which in turn attract and are exploited by foraging bats. This makes the lagoon a focal point for bats within the existing coal-fired power station as low levels of foraging activity were recorded in association with all other habitats.
- 10.6.22 No activity by bats species dependent on open water for foraging (i.e. Daubenton's bat) was recorded either during transect surveys or static monitoring of the lagoon area. Therefore there will be no habitat loss for bats that are dependent on foraging habitats associated with open water for the maintenance of their population. This reduces the likely significance of the habitat loss for the local bat population and needs to be taken into account when assessing the potential consequences of the habitat loss.



- 10.6.23 A further 3 ha of broad-leaved plantation, dominated by non-native trees species, will be removed within the Proposed Power Plant Site. This habitat was found to support low levels of bat activity, predominantly by small numbers of common pipistrelle bats.
- 10.6.24 Common pipistrelle is a widespread and common species, and there is evidence that its population is increasing nationally. Therefore its current nature conservation status is favourable, and the localised habitat loss from the Proposed Development is not reasonably expected to have a meaningful effect on the local status or distribution of common pipistrelle. There will be no loss in wider habitat connectivity and accessibility to bats as a result of the localised habitat losses to the Proposed Development. The majority of the screening woodland around the power station will be retained and there will remain an abundance of suitable foraging habitat in the wider local area that will provide alternative foraging habitat for bats displaced from the Proposed Development site.
- 10.6.25 Habitat loss for the Proposed Development is considered unlikely to have an adverse effect on the conservation status of common pipistrelle bats, or any other bat species, of local nature conservation value, and is assessed to give rise to a **minor adverse** effect on foraging bats that is **not significant**.

Disturbance to Foraging Bats

- 10.6.26 Construction will commence after vegetation clearance works are complete, at which point there will be no habitats of likely specific attractant to bats within the construction footprint. However, bats will continue to use adjacent retained habitats for foraging and there will be potential for indirect adverse impacts on bat habitat use and habitat quality.
- 10.6.27 Construction lighting has the potential to disrupt bat foraging activity through light spill and glare if this falls onto habitats of value to bats. However, the baseline conditions of the existing coal-fired power station include existing lighting and the bat population is using the site despite this pre-existing lighting disturbance. The majority of areas within the existing coal-fired power station to be affected by construction of the Proposed Development are currently subject to light disturbance, including tall floodlighting columns around the coal stockyard area. Common pipistrelle bat, the main species using the site, is known to be a light tolerant species, and this was demonstrated during the surveys. In this context, any additional temporary lighting of the Proposed Development in the vicinity of the existing coal-fired power station.
- 10.6.28 The screening woodland around the coal stockyards will be retained, and this will screen habitats that may be used by foraging bats to the east and south of the Proposed Development.
- 10.6.29 Lighting associated with the Proposed Development is unlikely to have an adverse effect on the conservation status of bat populations of local nature conservation value and is assessed to give rise to a **neutral** effect on foraging bats that is **not significant**.

Impacts and Effects on Badger

10.6.30 See Appendix 10D, Confidential Annex E (ES Volume III).



Impacts and Effects on Otter

- 10.6.31 Construction works associated with the intake and outfalls of the Proposed Cooling Water Connections have the potential to affect river and riparian habitats of value to otter for foraging and movement. However, in the context of a typical otter territory size of 11 to 18 km of main river plus connected tributaries, any habitat impact will be very small and localised.
- 10.6.32 The surveys undertaken for the Proposed Development have identified no high risk habitats suitable for otter holts or refuges, so habitat use in the vicinity of the Site will be largely transitory in nature. The required construction works will not obstruct the River Aire, and will only affect localised stretches of the southern bank, so there will be no impact on the ability of otter to use the River as a movement corridor.
- 10.6.33 Disturbance of otters using the River is unlikely, as this species is largely nocturnal so will be active outside construction hours, so the construction works will not restrict otter movement or prevent them from accessing favoured foraging areas. Even if there was a minor deterrent effect from the construction works on otter, this would likely be of short duration, localised and temporary, and therefore would not impact the favourable conservation status of the species or the individual otters concerned.
- 10.6.34 Construction works along Ings and Tethering Drain are unlikely to directly impact or disturb otters as the habitat is not suitable for daytime refuge. Measures will be put in place to prevent obstructing movement of otters along the drain during construction.
- 10.6.35 The Proposed Development would be unlikely to result in an adverse effect on the conservation status of otter of local nature conservation value. The predicted temporary effect is therefore **neutral and not significant**.

Operation

Impacts and Effects on Statutory Nature Conservation Designations

- 10.6.36 Chapter 8: Air Quality assesses potential effects on the identified statutory nature conservation designations. The impact of process emissions from the operational phase on ecological features has been assessed through comparison of the maximum predicted process contributions, at any of the identified sensitive habitat features. The Critical Levels used as the basis for assessment are derived from the Air Pollution Information System (APIS) database with respect to each designated site.
- 10.6.37 For the operational phase, the annual average NOx, nutrient nitrogen deposition and acid deposition from process contributions are expected to be less than 1% of the Critical Load / Level for all relevant designations. The above changes to nutrient and emission deposition levels at all ecological features are predicted to result in very minor magnitude changes to the concentrations and acidity of the most sensitive receptors, which are assessed as imperceptible in the Air Quality Assessment (see Appendix 8A). For the most part they represent <=1% additional emissions which do not threaten to exceed CLPVE.
- 10.6.38 In assessing potential consequence for air quality, the planned closure of the existing coal-fired power station should be emphasised. This will result in a beneficial lowering of the emissions to air relative to the existing baseline. The Proposed Development will not become operational before the existing coal-fired power station has ceased operation. Emissions to air from the



Proposed Development would be less than those of the existing coal-fired power station, meaning that at worst the Proposed Development can be considered neutral to the existing air quality baseline, and in all likelihood would represent an improvement on the existing air quality baseline conditions.

10.6.39 No adverse effect on the conservation status of statutory nature conservation designations of national and international nature conservation value is predicted. The predicted permanent effect is therefore **neutral and not significant**.

Impacts and Effects on Foraging Bats

- 10.6.40 Lighting disturbance during the operational phase of the Proposed Development has the potential to disrupt bat foraging activity. While the operational Site will represent poor habitat for bats, there will be potential for an impact on habitats outside the immediate footprint of the Proposed Development that may be of higher value to foraging bats.
- 10.6.41 Any lighting disturbance must be considered in context with the current lit environment within the existing coal-fired power station. The existing coal-fired power station is currently lit 24 hours a day, including the Proposed Power Plant Site (currently the coal stockyard), and therefore bats foraging in habitats outside the existing coal-fired power station footprint, but within close proximity, are present in the context of this current lighting regime. The baseline bat surveys indicated that usage within the power station site but outside the lagoon area was low. Further, any additional lighting in the Proposed Power Plant Site will not result in any substantive changes to the lighting regime in this area, and the installation of newer more efficient lighting columns will reasonably be expected to further minimise light spillages outside the Site.
- 10.6.42 The screening woodland around the coal stockyards will be retained, and therefore this will provide visual screening of new permanent lighting from habitats that may be used by foraging bats to the east and south of the Proposed Power Plant site.
- 10.6.43 Operational lighting of the Proposed Development is unlikely to result in an adverse effect on the conservation status of bat populations of local nature conservation value. The predicted permanent effect is therefore **neutral and not significant**.

Impacts and Effects on Fish

- 10.6.44 The Proposed Development will abstract less than half the volume of cooling water than the current coal-fired power station abstraction limit and the water discharged to the River will have a temperature limit of a maximum of 10°C above the temperature of the water abstracted from the River. The current coal-fired power station Environmental Permit allows water to be discharged at a maximum temperature of 30°C. The Proposed Development will therefore have a smaller impact on the River in terms of water temperature changes when compared to the current situation, which is likely to have no effect on the conservation status of fish and other aquatic wildlife downstream of the discharge point.
- 10.6.45 Abstraction of river water during operation of the Proposed Development has the potential to affect the flow regime or volume of water in the River Aire, and in turn the effective operation of the fish pass installed on Chapel Haddlesey weir. However, the volume of water that will need to be abstracted during operation will be less than half that which is currently permitted to be abstracted for the existing coal-fired power station. Therefore, changes to flow regime



and volumes of water within the River are expected to be minimal and the operation of the fish pass is unlikely to be affected. No impact on the conservation status of fish populations in the River is predicted.

- 10.6.46 No regular maintenance activities are anticipated to be required at the abstraction and discharge structures during operation (as per the current situation for the existing structures). Any major maintenance or repair works would be no more impactful than activities required to upgrade the structures during construction. As effects on the River and fish population during construction are not predicted to be significant, it follows that no significant effects are likely as a result of any maintenance activities during operation.
- 10.6.47 On the basis of the above, operational impacts of the Proposed Development are unlikely to have an adverse effect on the conservation status of fish populations in the River Aire and the effect is therefore **neutral and not significant**.

Decommissioning

- 10.6.48 Given that decommissioning activity is unlikely to take place within a timeframe that can be reasonably assessed by this EcIA, it will be inappropriate to comment on this phase in detail. The ecology of the Site has the potential to change in the time period leading up to decommissioning, although this will be constrained to a large extent by the industrial context of the existing coal-fired power station site.
- 10.6.49 Decommissioning works will be undertaken in accordance with the requirements of an approved Decommissioning Method Statement, which will be agreed at a relevant point in time prior to Decommissioning. This will address all relevant ecological features present at the time of these works, and will be prepared to ensure compliance with the legislation and planning policy relevant at that point in time.
- 10.6.50 Ecological effects of decommissioning are likely to be less significant than those during construction due to the presence of existing hardstanding and road networks which can be used as works areas. Below-ground infrastructure, which includes the gas connection pipeline, cooling water abstraction pipeline and the abstraction and discharge structures on the River Aire, are expected to remain *in-situ* (as removal would have a greater environmental impact). There is therefore no pathway by which decommissioning could give rise to adverse effects on the river or its faunal assemblage due to surface water pollution. No adverse effects on the structure/ function and/ or conservation status of relevant is ecological features is likely. Therefore the potential effects would be **neutral and not significant**.

10.7 Mitigation and Enhancement Measures

10.7.1 In this section, mitigation measures are identified to address significant effects on ecology (i.e. major or moderate adverse effects) or otherwise to address specific protection afforded to relevant protected species. In addition, a summary of proposals for ecological enhancement is provided. An Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) has also been prepared to support the DCO application.

Construction

10.7.2 No significant adverse effects are predicted so there is no requirement for specific mitigation. However, good practice precautionary mitigation measures are still required on the grounds of



animal welfare or to ensure works are undertaken in a manner that provides certainty of compliance with relevant legislation. These requirements are summarised below and are included in the Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10), with relevant requirements carried into the draft CEMP (Appendix 5A, ES Volume III) also.

General Animal Welfare during Construction

10.7.3 Construction excavations have potential to trap wildlife and may result in offences under animal welfare legislation. This will be avoided through implementation of simple precautionary mitigation. All excavations deeper than 1m will be covered overnight, or where this is not practicable a means of escape will be fitted e.g. battered soil slope or scaffold plank, to provide an escape route should any animals (e.g. badger, otter, hedgehog) stray into the construction site and fall into an excavation.

Great Crested Newt

A Precautionary Working Method Statement (PWMS) for great crested newt will be 10.7.4 implemented during works associated with construction of the Proposed AGI, which at its nearest point is located 300 m from Water body 11, the only pond found to support this species. The PWMS is required to address the low residual risk of great crested newt being injured or disturbed during construction, although the potential for injury or disturbance is low and an offence is unlikely. Measures will include a pre-construction walkover by an ecologist prior to commencement of vegetation clearance and tool box talks for construction personnel. The preparation of a PWMS for great crested newts is considered sufficient to ensure compliance with the WCA and Habitats Regulations. Accordingly, there is no legal requirement for the Proposed Development to apply for a European Protected Species Mitigation Licence. It is not considered necessary to implement a PWMS during works outside the AGI, i.e. those associated with construction of the Proposed Gas Connection to the east, because these will be approximately 450 m away from Water body 11 within intensively managed arable land, which represents very poor terrestrial habitat for the species, and as a result there is a negligible risk of adverse effects on great crested newt.

Badger

10.7.5 See Appendix 10D (ES Volume III).

Water Vole

10.7.6 Although no water voles were identified on the stretches of ditch and River Aire to be directly impacted by the Proposed Gas Connection, this species is known to be widespread in this part of Yorkshire and may be present in the wider local area. Given the time between the granting of the DCO and the commencement of construction, the status of these ditches in respect of the presence/ absence of water vole may change. A precautionary pre-construction check for water voles will therefore be undertaken of the sections of ditch to be directly impacted. Should the presence of water voles be confirmed, a development licence would be obtained from Natural England and an appropriate mitigation strategy implemented for the temporary impacts on water vole habitat.



Fish

- 10.7.7 In order to comply with legislation protecting fish, the lagoon would not be drawn down and infilled until all fish have been captured and removed in accordance with legal requirements. This carries with it a number of specific requirements for animal welfare, licensing, fish health checks, and agreement of what to do with the removed fish. A Fish Management Plan will be prepared prior to the lagoon being drained and agreed with relevant stakeholders.
- 10.7.8 The Fish Management Plan will also identify working requirements during construction of the Proposed Cooling Water Connections, to protect the welfare of fish in the works area. Mitigation requirements will be less complex for these works, as there is not a requirement to remove and relocate fish. Any fish trapped behind cofferdams would be returned to the main channel of the River.

Invasive Non-Native Plants

10.7.9 An invasive species management plan (ISMP) will be prepared to set out the measures that will be necessary during construction to prevent the spread of the invasive plants identified within the Site. This will include measures to address giant hogweed, Nuttall's waterweed and Himalayan balsam. A repeat survey will be made prior to Construction to determine the current location and extent of invasive plant stands.

Operation

10.7.10 No significant operational effects are predicted so there is no requirement for mitigation.

Decommissioning

10.7.11 There are no significant effects anticipated as a result of the decommissioning phase of the Proposed Development. Any necessary mitigation requirements would be determined and agreed at a future date prior to decommissioning. The Applicant will provide a Decommissioning Environmental Management Plan, prior to the commencement of decommissioning works. An ecological walkover will be undertaken to inform the development of the working method statement, to update the baseline ecology conditions. Necessary ecological mitigation would be detailed in the method statement.

Biodiversity Enhancement

- 10.7.12 An Indicative Landscape and Biodiversity Strategy (Application Document Ref. No. 5.10) has been prepared to support the DCO application. This sets out biodiversity mitigation measures, enhancement proposals and habitat management prescriptions. The proposed biodiversity enhancements are summarised below:
 - infill planting to areas of existing tree planting within the Site;
 - establishment of an understorey and planting of woodland ground flora in existing areas of tree planting within the Site;
 - biodiversity enhancements to a proposed new surface water attenuation pond in the Proposed Construction Laydown area, including the establishment of marginal aquatic vegetation, as well as species rich grassland and scrub in surrounding areas;



- development of areas of species rich grassland to improve the diversity of existing areas of grassland within the Site;
- replacement hedgerow planting and diversification within the Site;
- planting new trees, scrub and grassland around the AGI compounds; and
- seeding areas of land set aside for CCR with grassland and wildflowers.

Limitations or Difficulties

10.7.13 There are no limitations to this EcIA. Baseline conditions and relevant ecological features have been determined using appropriate methods. Sufficient data has been collected to allow identification and assessment of the likely impacts and effects of the Proposed Development on ecology.

10.8 Residual Effects and Conclusions

10.8.1 The residual effects are those that will remain after the implementation of mitigation measures. As no significant adverse effects have been predicted in relation to the construction, operation or decommissioning phases, requirements for mitigation are minimal and relate primarily to requirements to comply with good practice and relevant legislation. Accordingly, no significant residual effects on ecological features are predicted.

10.9 References

CIEEM (2016) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, second Edition.* Chartered Institute of Ecology and Environmental Management, Winchester.

Department for Communities and Local Government (2012) National Planning Policy Framework

Department for Energy and Climate Change (2011) National Policy Statement for Energy (EN-1)

Department for Environment, Food and Rural Affairs (2011) *Biodiversity 2020, A strategy for England's wildlife and ecosystem services*

Joint Nature Conservation Committee (1994) UK Biodiversity Action Plan

Joint Nature Conservation Committee and Defra (2012) UK Post-2010 Biodiversity Framework

Multi-Agency Geographic Information for the Countryside (MAGIC) website: www.magic.defra.gov.uk [accessed multiple times between July and November 2016]

Natural England and Department for Environment, Food and Rural Affairs (2014 and subsequent updates) *Protected Species: How to Review Planning Applications* Available at: <u>https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications</u> [accessed December 2016]

Natural England (2016) *Great Crested Newt Method Statement for EPS Licence Application*. <u>https://www.gov.uk/government/publications/great-crested-newts-apply-for-a-mitigation-licence</u> [accessed December 2016]



North Yorkshire County Council, Selby District Council and the Selby BAP Partnership (2004) *Selby Biodiversity Action Plan*

Selby District Council (2005) Selby District Local Plan

Selby District Council (2013) Selby District Core Strategy Local Plan