

# The Wrexham (Gas Fired Power Station) Order

## 6.2.19 Volume 2: Environmental Statement Chapter 19: Mitigation summary

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**Planning Act 2008** The Infrastructure Planning  
(Applications: Prescribed Forms and Procedure) Regulations 2009

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## Chapter 19◆ Mitigation Summary

### INTRODUCTION

- 19.1 Environmental mitigation measures are inherent in the design development process for the Scheme, and as such are already included in the base description of the Scheme on which this ES has been prepared. Such inherent mitigation includes, for example, the illustrative landscape and ecological mitigation masterplan (Document reference 2.9.1).
- 19.2 Table 19-1 presents a summary of the mitigation measures or management actions, above and beyond those that are inherent in the proposed design for the Scheme. This includes:
- Measures to be undertaken during the construction stage – construction management controls delivered through the Construction Environmental Management Plan (CEMP), a draft of which is presented in Appendix 19.1 (Document reference 6.4.13) to this ES. Requirement 4 in Schedule 2 to the draft Order (document reference 3.1) requires that the final CEMP must be submitted to and approved by the relevant planning authority prior to commencement of construction and details what the final CEMP must include. A Construction Traffic Management Plan (CTMP, Appendix 7.5) (Document reference 6.4.2) will also be submitted to and approved by the relevant planning authority prior to commencement of construction.
  - Management actions to be undertaken following the completion of the Scheme – as part of the operation of the Scheme including requirements of its Environmental Permit (EP).
- 19.3 The mitigation measures listed below will be reviewed during detailed design of the Scheme and will also be included with the final CEMP to be submitted to and approved by the relevant planning authority prior to commencement of construction of the Scheme.

**Table 19-1: Mitigation Summary**

<b>Discipline / Aspect</b>	<b>Effect</b>	<b>Mitigation Proposed</b>	<b>Implementation Measure</b>
Traffic: Construction / decommissioning	Residential and pedestrian amenity, driver delay and risk of accidents	A HGV booking / management system – A management system for vehicles 10T and over, which will require drivers to book pre-determined time slots for deliveries, will be implemented to ensure there are no peaks during the construction period. This will ensure that arrivals and departures are spread evenly over the course of the working day. The arrival of materials in the morning and afternoon highway peak periods (07:30 – 09:00 and 16:30 – 18:00) will be avoided as far as possible. It is acknowledged that road conditions and delays that are not foreseen may cause drivers to miss their allotted time slot on occasion; however, an effective management system will ensure that significant peaks in the day do not occur	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The construction working day will be arranged between 07:00 – 19:00, allowing staff to stagger start and finish times	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		All construction plant and vehicles will be parked on-site and not on the public highway.	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		<p>A wheel wash facility will be provided for all construction vehicles leaving the site. This will help minimise the level of dust and dirt being transferred onto the public highway. The site entrance and adjacent public highway will be monitored and swept clear if required.</p>	<p>authority prior to commencement of construction CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>A member of construction site staff will be made available to members of the public to report any issues or concerns relating to the construction activities. This will allow non-compliance with agreed access routes and inappropriate driving to be reported and addressed. A 24hr contact number will be provided.</p>	<p>CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>Temporary signage will be installed to warn motorists of vehicles entering and exiting the site and to alert the construction traffic vehicles to the appropriate site access (including Oak Road, if necessary). The exact location of these signs would need to be discussed in more detail with the Local Highway Authority, and agreed in the full CTMP. The temporary site access points on</p>	<p>CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		Oak Road will require appropriate signage and temporary traffic management, while the field access points are in use (anticipated to be approximately 2 weeks).	
		Deliveries involving abnormal loads will be notified to the authorities. These will be identified in advance to allow liaison with interested parties. The use of vehicle escorts, where required, and temporary road closures will be used where required.	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The use of an on-site concrete batching plant will be considered to reduce the number of HGVs requiring access to the site during construction of the foundations for the Power Station Complex.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Develop and implement a construction travel management plan to minimise vehicle impact on local network from travel to work for staff and contractors, including vehicle sharing, car parking, public transport and cycling strategies and local recruitment policy.	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		HGV trips to and from the site will be evenly spread during the day. The spreading of trips will minimise the impact of HGV traffic and make the best use of the space on site.	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		In order to reduce the impact of the construction phase on congestion and potential delays, arrivals of materials in the AM and PM highway peak periods (07:30 – 09:00 and 16:30 – 18:00) will be restricted	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Inbound and outbound vehicles will be efficiently loaded in order to minimise vehicle numbers.	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The full CTMP will contain details of the site layout such as access points, welfare facilities, site storage, site boundaries, wheel and vehicle wash facilities and temporary signage. Swept path analysis to demonstrate how abnormal loads will safely access the site will also be included.	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Construction equipment and materials for the Gas Connection will be stored at the Power Station Complex or on the Gas Connection Route and transported along the route itself where suitable to minimize movements on the local highway network.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Air Quality: Construction / decommissioning	Emissions to air and effect on air quality	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Implement complaint and incident recording	CEMP to be secured through a Requirement in the Order

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		and investigation system	and which is to be approved by the relevant planning authority prior to commencement of construction
		Undertake regular site monitoring, increased during high-dust generating potential activities.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		No bonfires or burning of waste materials	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Prevent mud on surrounding roads by providing wheel wash and using considerate construction practice	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Encourage vehicle sharing between construction workers travelling to the site to reduce vehicle emissions.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Ensure all vehicles switch off engines when stationary - no idling vehicles	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Enclose vehicles containing dusty materials	CTMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Use well designed and maintained concrete	To be secured through EP and CEMP. CEMP to be



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		batching plant, if such plant is taken forward by WPL. Use well designed and maintained mobile crushing and screening plant (if required) with valid local authority permit to control emissions of dust.	secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Ensure effective water suppression is used during demolition operations.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems;	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate;	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Use enclosed chutes and conveyors and covered skips	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Minimise drop heights from conveyors, loading shovels, hoppers and other loading or	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		handling equipment and use fine water sprays on such equipment wherever appropriate	authority prior to commencement of construction
		Bagging and removing any biological debris, or damp down such material before demolition.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		NRMM used on site should be fitted with a type approved engine, which meets relevant emission standards.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Air Quality: Operation	Emissions to air and effect on air quality	CCGT technology is inherently clean when using natural gas. Plant design will meet the BAT requirement from the relevant process guidance note, as part of the EPR environmental permit issued by NRW.	Design of the Scheme and the EP
Noise and vibration – construction / decommissioning	Residential amenity	Unless otherwise approved by the relevant Planning Authority, restrict working hours during construction between 07:00-19:00 Monday to Friday and 07:00-13:00 on Saturdays and Public Holidays.	Secured through a Construction Hours Requirement in the Order.
		Selection and design of quieter plant and methods.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Switch off plant when not in use, and provide regular plant maintenance.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Increase the distance between the plant and	CEMP to be secured through a Requirement in the Order

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		the nearest noise-sensitive receivers, where possible.	and which is to be approved by the relevant planning authority prior to commencement of construction
		Use silencers where practicable.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Use acoustic enclosures, walls or building element/barrier where practicable.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Implement a complaint and incident recording and investigation system.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The use of an on-site concrete batching plant will be considered to reduce the number of HGVs requiring access to the site during construction of the foundations, as described in Traffic and Access above.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Noise and vibration – operation	Residential amenity	Selection of plant and equipment through the procurement process to meet pre-defined noise emission levels.	Design of the Scheme and the EP
		Potentially noisy fixed items of process plant will be housed within buildings.	Design of the Scheme and the EP
		The large distances between the noise sources and receptors, and the intervening soft ground, will attenuate the propagation of noise and vibration.	Design (as shown on Works Plans)

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		Plant and equipment will be fitted with silencing equipment (e.g. enclosures, baffles, attenuators) where required and practicable.	Design, the EP and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Design of the power station building material to include high standards of insulation and avoid gaps and weaknesses, to provide an overall Rw of 43dB or greater.	Design of the Scheme and the EP
		Undertake preventative maintenance of plant or equipment whose deterioration may give rise to increases in noise, for example bearings or integrity of noise attenuation enclosures.	EP
		When not in use, any roller shutter doors will be kept closed.	EP
		Mechanical ventilation systems for supply or extraction of air to and from the process buildings will be designed to minimise noise emissions.	Design of the Scheme and the EP
		Regular monitoring and investigation of noise complaints will be undertaken throughout the life of the Scheme	EP
Landscape and Visual – construction /	Impact on landscape and visual amenity	Implement tree protection fencing for retained vegetation prior to construction commencing and establish construction	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
decommissioning		exclusion zones and methods of working adjacent to retained vegetation at tool box contractor talks.	
		The use of solid hoardings to aid in visually screening the construction activity.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Implement good housekeeping measures, including covering of stockpiles.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Landscape and Visual – operation	Impact on landscape and visual amenity	Rendering the built form of the Power Station Complex to aid in perceptually reducing the mass and scale of the buildings and integrating them within existing views of vegetation.	Secured through a Detailed Design Requirement in the Order.
		Minimise visual impact of the Scheme taking into account stack heights and designing the layout to minimise impact, and minimise obtrusive lighting.	Secured through a Detailed Design Requirement in the Order.
		The security fencing used will be selected to be unobtrusive and have minimal impact on views and the character of the Power Station Complex Site.	Secured through a Fencing and other means of enclosure Requirement in the Order.
		The internal Power Station Complex road layout will be designed to minimise the	Secured through a Detailed Design Requirement in the Order.

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		amount of traffic signage that is required.	
		Implement a landscape and ecological mitigation scheme to ensure the establishment of the new planting and to manage existing and replacement habitats.	Secured through a Requirement in the Order for a written landscaping and ecological mitigation scheme to be submitted to and approved by the relevant planning authority prior to commencement of construction
Ecology – construction / decommissioning	Impacts on ecological receptors	Adoption of industry standard working practices to avoid pollution, including adoption of guidance found within the EA Pollution Prevention Guidance (PPG),	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		All invasive species within the WEC Site boundary will be identified and managed appropriately in accordance with best practice prior to and during construction. A management plan for the ongoing identification and eradication of invasive species will be developed and implemented should they exist on site, paying heed to the EA Japanese knotweed Code of Practice.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		In order to avoid the risk of Chalara dieback being imported, ash trees should not be specified in the landscaping scheme.	Design of the Scheme
		Checks must be made for evidence of Phytophthora on all plant stocks to be used on site, prior to them leaving the nursery.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		In order to avoid the risk of Chalara dieback	CEMP to be secured through a Requirement in the Order

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		being exported (although note that no evidence of Chalara was found on Site), ash trees should not be exported from site.	and which is to be approved by the relevant planning authority prior to commencement of construction
		Wear footwear and outerwear that can be easily kept clean.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Clean footwear and outerwear regularly; ensure they are visually free from soil and organic debris.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Clean vehicles regularly; do not let mud and organic debris accumulate on tyres, wheels or under wheel arches.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Restrict the equipment taken onto a site – on only what is needed for the task.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Ensure all tools and equipment are clean, serviceable and free from organic debris	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Undertake site inductions - all construction personnel will receive briefings about the presence and protection of ecological features present within the Order Limits and the wider environment	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Impacts on	Toolbox talks to be presented by a licensed

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
	great crested newts	ecologist to all staff involved in the construction of the Scheme.	Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The erection of ring-fencing around the pond which will be lost to the Scheme;	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The erection of temporary exclusion fencing around the perimeter of the Site to exclude great crested newts from construction activities.	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The provision of a receptor area within the Site, allowing great crested newts access to three existing great crested newt ponds (the receptor area will not be subject to any construction or landscape activities);	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The erection of drift fencing within the Site to increase trapping effort. All fencing will be	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010



Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		erected during the winter immediately prior to the spring trapping season;	(as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Pitfall trapping (in combination with the use of refuges) for a minimum of 30 days (with at least 5 'clear' trapping days before the Site can be declared 'clear' of great crested newts), using a spacing of alternate traps and refuges every 5 m. The trapping array will be located either side of the ring-fencing and drift fencing and around the interior perimeter of the exclusion fencing. Trapping will commence at the earliest opportunity during the spring migration to breeding ponds, i.e. February to May, and will be dependent on local weather conditions (trapping will not be undertaken when night air temperatures are below 5°C);	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The area required for the creation of three new ponds (to compensate for the loss of an existing great crested newt pond) will be fenced and trapped first to ensure that the new ponds will be built and suitable for receiving great crested newts prior to the	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		<p>draining of the pond that will be lost to the Scheme. Upon completion of the new ponds they will form part of the receptor area. The ponds will have appropriate shallow margins and the provision of suitable aquatic planting or artificial egg-laying strips to provide egg-laying substrate. The use of artificial egg-laying strips should be explored as this would reduce the risk of importing potentially harmful pathogens;</p>	
		<p>Relocation of captured great crested newts to the receptor area, allowing animals to access existing ponds and terrestrial habitat which remain within the Site;</p>	<p>Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>Following completion of trapping, the pond which will be lost to the Scheme will be drained down; netting and hand-searching through plants, debris and silt for great crested newts will be undertaken whilst the pond is being drained;</p>	<p>Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>Maintenance of fencing via regular inspections.</p>	<p>Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a</p>

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
			Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		A phased approach to the capture and relocation programme will be undertaken to allow preliminary site clearance and enabling works to commence as required (subject to areas being declared 'clear' of great crested newts	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Mitigation measures to avoid and reduce potential adverse effects on great crested newt ponds via pollution impacts on local air quality and on the local water environment will be implemented through the CEMP	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The provision of features to prevent the risk of great crested newts (and other amphibians, reptiles and small mammals) being trapped in drainage structures such as gully pots and flow control chambers will be implemented through the CEMP	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		A Licence Compliance Audit will be undertaken to ensure that implementation of the mitigation strategy is carried out in accordance with the details of submitted plans and method statements	Licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended).

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
	Impacts on bats on or near Power Station Complex Site	Pre-construction comprehensive bat roost assessments, comprising elevated inspections, to fully assess the roost potential of the trees;	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The erection of an array of bat boxes on suitable trees within the Power Station Complex Site prior to the commencement of the felling of any trees with bat roost potential to compensate for the loss of potential roosts and to provide alternative roosting habitat for any potentially displaced bats;	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Prepare a precautionary method of working to be employed during the tree-felling operations, involving pre-felling tree inspections and soft-fell techniques (if necessary);	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The careful removal by hand of any bats found during the course of the tree-felling to the pre-erected bat boxes by a licensed ecologist;	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
			commencement of construction
		Where possible, significant bat roost features within the trees to be felled will be carefully section-cut and strapped to existing trees within the Power Station Complex to encourage the continued ecological functionality of any such features;	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Annual monitoring of the bat boxes during the construction phase of the Scheme and the first year of operation of the Scheme.	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Lighting to be used during construction will be directed away from potential bat roost/foraging/commuting features (in particular the mature trees that are being retained and habitat within the Ecological Mitigation Area)	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Construction will also follow good practice, as recommended in British Standard (BS) 5837:2012, to ensure appropriate management and protection of the mature trees with bat roost potential that will be retained	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended).

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		Following the results of the Arboricultural Impact Assessment, tree protective barriers will be required to define a construction exclusion zone between trees and the works	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended); and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
	Impacts on bats on or near Gas Connection Route	Pre-construction surveys comprising elevated inspections to identify whether bats are present or not	CEMP and Precautionary Method of Working as part of the CEMP. CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Lighting to be used during construction will be directed away from potential bat roost/foraging/commuting features (in particular the mature trees that are being retained)	
		No external lighting of the Gas Connection Route during the night	
		Works will not involve the felling of any trees identified as having bat roost potential	
		The identified trees with bat roost potential will be marked out on site with an ecologist and an engineer to ensure that the works do not encroach within 10 m of these trees	
		Temporary accommodation and idling plant, machinery or traffic will be located as far away from any trees identified as having bat	

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		roost potential as is reasonably practicable	
		A toolbox talk to all relevant site personnel highlighting the potential impacts to bats and the relevant legislation.	
	Impacts on otters	A pre-construction survey of the river to ensure no holts are present within the working area	CEMP and Precautionary Method of Working as part of the CEMP. CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		No external lighting of the river during the night	
		The safe passage of otters through the works along at least one bank will always be provided for throughout the works	
		Temporary accommodation and idling plant, machinery or traffic will be located as far away from the river as is reasonably practicable	
		A toolbox talk to all relevant site personnel highlighting the potential impacts to otter and the relevant legislation	
	Impacts to nesting birds	Any preliminary site clearance of vegetation suitable for supporting nesting birds will be undertaken outside of the nesting bird season. Should any clearance be required during the nesting bird season, a detailed	

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		inspection should be carried out by a suitably experienced ecologist, no more than 24 hours prior to clearance. Any nests found will need to be left in situ with an appropriate buffer of surrounding vegetation until the nest is no longer in use.	
	Impacts on reptiles	The removal of any piles of wood, brash and rubble by hand prior to preliminary site clearance and enabling works, with a suitably experienced ecologist on-hand to provide advice and ideally not during the winter hibernating period for reptiles (November to February)	CEMP and Precautionary Method of Working as part of the CEMP. CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
	Hand searching for reptiles by carefully checking within and underneath any potentially suitable refuges such as leaf piles around logs, tree trunks, bush stems and within coppice stools. Areas of dense vegetation may need to be strimmed/ cut by a contractor, with a suitably experienced ecologist on-hand to provide advice, to approximately 150 mm height to enable the hand search to be undertaken		
The removal of any refuge materials and cut vegetation from the power station complex			



Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		footprint and construction laydown area	
		Any vegetation remaining within the construction footprint will be maintained at a height of less than 50 mm throughout construction	
		A toolbox talk to all relevant site personnel highlighting the potential impacts to reptiles and the relevant legislation	
Impacts on badgers		To allow the safe dispersal of badgers across the Gas Connection Route, all excavations will be covered or fenced off at night or left with a means of escape such as a plank of wood laid at a 45° angle.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Appropriate measures will be implemented should it become evident that badgers are not navigating over the great crested newt exclusion fencing, such as timber ramps positioned either side of the fencing. These will ensure that badgers can disperse across the Gas Connection Route whilst avoiding damaging the exclusion fencing.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Impacts on hedgerows		To mitigate the short term severance of hedgerows along the gas connection route, retained hedgerow arising's will be placed in barrels of sand located at intervals along the	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		break in the hedgerow	
Ecology – Operation	Impacts on ecological receptors	Adoption of industry standard working practices to avoid pollution	EP
		Ecological Mitigation Area including terrestrial great crested newt habitat, three new great crested newt ponds, semi-improved neutral grassland, trees, shrubs and hedges	Design of the Scheme
		On-going, long term monitoring and management of the Ecological Mitigation Area created during construction through an ecological management plan, covering all habitats and the species for which the mitigation is being provided.	Ecological Management and Monitoring Plan to be secured through a licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended).
		Lighting will be minimised and directed onto the WEC Site rather than the surrounding areas.	Design and secured through a Requirement dealing with Artificial Lighting in the Order and which is to be approved by the relevant planning authority prior to the date of final commissioning
	Impacts on great crested newts	Management, maintenance and monitoring of the great crested newt population	A licence issued by NRW, under Regulation 53 of the Conservation of Habitats and Species Regulations 2010 (as amended).
	Impacts on nesting birds and reptiles	Maintenance activities, in particular any required vegetation clearance, will be undertaken following nesting bird checks and a reptile precautionary method of working to avoid adverse effects on the conservation	Good practice in order to comply with relevant legislation will ensure that this occurs

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		status of any bird and reptile populations that may be present.	
		During operation, ash trees on the Power Station Complex Site (not the Gas Connection Route as this land will not be owned by the operator) should be inspected for evidence of Chalara dieback and action taken according to the current regulations and guidance at the time.	Good practice in order to comply with relevant legislation will ensure that this occurs
Historic Environment – Construction / decommissioning	Impacts on archaeology	Geophysical survey of the greenfield areas of the scheme	See Archaeology Requirement of the DCO.
		Targeted archaeological investigation of anomalies identified by the geophysical surveys	
		Archaeological watching brief for sample 'blank' areas to ground truth the geophysical survey results	
Ground Conditions – Construction / decommissioning	Risk of Contamination of soils, groundwater and surface water and impact on construction	Prior to construction an ground investigation (GI) will be undertaken to quantify the level of contamination at the Site (if any) and assess the risks this presents (if any) to the identified receptors through development of the Scheme and its implications for waste disposal and reuse of materials as per the CL:AIRE code of practice.	Ground investigation and CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
	workers and offsite receptors	Undertake a piling risk assessment and implement the appropriate piling techniques.	Secured through a Piling Requirement in the Order.
		Develop a verification plan and methodology to address what remedial actions will be undertaken and how such actions will be validated and recorded if unsuspected contamination is encountered during the works	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Implementation of appropriate dust suppression measures to prevent migration of contaminated dust (see Air Quality section above)	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Implement working methods during construction to ensure that there is no surface water run-off from the works or any stockpiles into adjacent surface watercourses in accordance with Pollution Prevention Guidelines	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Undertake health and safety risk assessments, method statements and provide appropriate personal protective equipment (PPE) for the protection of construction workers	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Ground Conditions -	Risk of Contamination	Provide the Power Station Complex Site drainage system, and new hardstanding	Design and EP

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
operation	of soils, groundwater and surface water and impact on construction workers and offsite receptors	limiting any infiltration through made ground to the underlying aquifers, and implement pollution prevention measures for fuels and chemicals	
Water – Construction / decommissioning	Discharge of surface water and effect on flood risk and water quality	Bund of potential contaminant sources such as tanks and excavated soils in compliance with the Control of Pollution (Oil Storage) Regulations and EA PPGs	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Use spill kits	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Obtain of appropriate permits for discharge to surface water	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Capture site runoff and attenuation of contaminants using sedimentation tanks/ponds prior to discharge to surface water	To be secured through the EP (discharge permit) and CEMP secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Use appropriate care to avoid disturbance or rupture of underground services such as	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		sewers, waste water pipes or fuel lines	authority prior to commencement of construction
		Produce a piling risk assessment to prior to commencement of any associated piling construction	Secured through a Piling Requirement in the Order.
		Implement all works in line with the Environment Agency's 'Groundwater Protection: Principles and Practice' document and PPGs	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Laydown areas are situated within the Order Limits, which are entirely outside of zone designated as Principal Aquifers or Source Protection Zone 1	Design of the Scheme as shown on the Works Plans (Laydown Areas are outside of risk areas)
		Implement the drainage strategy to manage run-off during construction and during decommissioning of the surface water system	To be secured through the EP (discharge permit) and CEMP secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Water – Operation	Discharge of surface water and effect on flood risk and water quality	The drainage strategy will be such that the maximum permitted discharge rate from the proposed Power Station Complex Site into the local watercourse network will be limited to existing annual average greenfield runoff rate of 3.7l/s/ha. This flow rate will apply for all rainfall events up to and including the 1 in 100-year +20% event.	Drainage Strategy to be secured through a requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Bundling of potential contaminant sources	Design and EP

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		such as fuel/ chemical tanks	
		Obtaining appropriate permits for discharge to surface water;	EP
		Bund of potential contaminant sources such as tanks and excavated soils in compliance with the Control of Pollution (Oil Storage) Regulations and EA PPGs	Design and EP
		Use spill kits, particularly during maintenance activities	EP
		The use of a Hydrobrake, on the drainage system means the system can be easily shut off in case of a large spillage to prevent contaminated water discharging to the surface water drains and subsequently the River Dee	Design and EP
Waste – Construction / decommissioning	Prevention, reuse, recycling and disposal of waste arisings	Excavated concrete will be crushed on site and reused where possible to prepare the site platform for construction of the Power Station Complex. This material will also be used in the construction laydown area. Where excavated material (soil) is uncontaminated and geotechnically suitable it will be reused across the Order Limits area as required.	CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Hazardous materials will be treated onsite	CEMP and SWMP to be secured through a Requirement

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		<p>where possible, or will otherwise be removed offsite for disposal/treatment. An appropriately licensed contractor will be responsible for dealing with the waste. Records of waste movement will be maintained onsite and in line with legislative requirements and the SWMP.</p>	<p>in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>Material will be recycled/reused onsite where possible with key performance indicators set at challenging but appropriate levels within the SWMP.</p>	<p>CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>Material which will be removed from Site will be reused or recycled wherever possible. Where possible, the recycling/reuse of material onsite will be undertaken in accordance with key performance indicators identified in the SWMP. Reuse onsite will be the preferred option.</p>	<p>CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>Where possible, the use of non-primary materials over primary materials will be sought.</p>	<p>CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction</p>
		<p>The use of renewable materials, materials with low(er) environmental effects and towards components with high(er)</p>	<p>Detailed design and specification; also CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning</p>



Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
		proportions of recycled material to be utilised where possible.	authority prior to commencement of construction
		The contractors will maintain the SWMP to identify responsibilities, waste streams and plan for efficient materials and waste handling.	CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		The consideration of a concrete batching plant to be employed onsite would result in less waste being produced, than if material is brought in ready mixed by lorries.	CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Recycling containers will be provided to reduce residual waste produced through all phases of the Scheme's development. A number of bins will be provided around the site, specifically in the welfare areas to enable segregation of waste produced by the workers onsite	CEMP and SWMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Waste - Operation	Prevention, reuse, recycling and disposal of waste arisings	Segregate waste at source will increase the amount of waste available for recycling and reduce the amount of waste requiring offsite disposal. All waste will be removed from Site by an appropriately licensed contractor and sent to recycling/ treatment facilities as appropriate.	EP
Land Use –	Impacts on	Soil handling and storage to follow best	CEMP to be secured through a Requirement in the Order

<b>Discipline / Aspect</b>	<b>Effect</b>	<b>Mitigation Proposed</b>	<b>Implementation Measure</b>
Construction / decommissioning	Land Use – Gas Connection Route	industry practice. Land to be restored to equivalent quality.	and which is to be approved by the relevant planning authority prior to commencement of construction
		Liaise with land owners and farmers and provide alternative field accesses and temporary crossings of the construction corridor.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Provide temporary water supplies during construction, if required. Restore drains and water supplies on completion of work.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Provide temporary fencing during construction and restore permanent boundaries on completion of work	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Observe best construction practice to control dust and weeds.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Liaise with land owners and farmers about timing of work to minimise crop losses.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
		Liaise with land owners and farmers about timing of work in relation to game bird shoots and replanting of game bird cover, as appropriate.	CEMP to be secured through a Requirement in the Order and which is to be approved by the relevant planning authority prior to commencement of construction
Land Use – Operation	Impacts on Land Use – Gas	The land owners and farmers would be compensated for the presence of the pipeline through easements and land rights. These	This will be secured either through voluntary agreement or through the compulsory acquisition process, as required.

Discipline / Aspect	Effect	Mitigation Proposed	Implementation Measure
	Connection Route	easements and land rights would recognise the need for access for inspection and maintenance of the pipeline.	