The Hirwaun Power (Gas Fired Power Station) Order

Mitigation Commitments Register

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

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1 MITIGATION COMMITMENTS REGISTER

1.1.1 The below tables form the Register of Mitigation Commitments drawn from the measures set out in the Environmental Statement (Document Reference 6.1.0) for the Project. The right hand column of the table sets out the mechanism by which this mitigation has been secured in the Application. The below tables are being provided as clarification only and do not represent new information.

1.1.2 Table 1 presents mitigation that will apply during demolition/construction and decommissioning of the Project. Table 2 provides a summary of mitigation during operation. These tables are equivalent to tables 16.1 and 16.2 of the Environmental Statement respectively, updated to provide more detail on the delivery mechanism within the DCO.

Table 1: Mitigation Commitments During Demolition/Construction and Decommissioning

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
Air Quality	*Applies to all elements of the Project (Power Generation Plant, Gas Connection and Electrical Connection)* A site-specific dust management plan (DuMP) will be prepared for use during the demolition phase (Work no. 1) and the construction of the Power Generation Plant (Work no. 2), Gas Connection (Work nos. 3 &4) and Electrical Connection (Work no. 5). This will form part of the full CEMP for the work(s) submitted and proved in writing by RCT prior to works commencing. A Construction Traffic Management Plan will be prepared to manage construction traffic, as well as minimise effects of the works on congestion and hence elevated vehicle emissions on highways during works to highway (during access construction / pipe laying).	These commitments will form part of the CEMP (see Section 3.3 of the Outline CEMP at Appendix 4.1 to the Environmental Statement (ES)). DCO Schedule 2, Requirement 12 requires submission and approval of a CEMP which is substantially in accordance with the Outline CEMP prior to commencement of the Project. Implementation of the CEMP

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	During construction and demolition, dust monitoring is proposed to be undertaken at the northern end of the Power Generation Plant Site, in particular, in the vicinity of the Hirwaun Industrial Estate SINC. A real time monitor for total suspended particulate is proposed, used as an 'indicative instrument' only. The monitoring station would be mobile and should be moved around site as the principal activities move. Should dust arising at this location be found to exceed trigger levels then additional dust control measures from the below list would be applied. Trigger levels for the instrument, which would suggest increasing risk/emissions, would be agreed with NRW prior to the commencement of construction. It is proposed that solid hoarding be erected along the northern edge of the Power Generation Plant Site during demolition activities. On-site burning of waste material will be forbidden. The number of handling operations shall be minimised, ensuring that dusty material is not moved or handled unnecessarily. Fine material shall be delivered to site in bags. Drop heights will be kept to a minimum. Hardstanding areas for vehicles entering, parking and leaving the Project Site shall be provided, with wheel washing facilities at acess points where there is a risk of tracking mud onto local roads. Plant and wheel washing will be carried out in a designated area of hardstanding at least 10m from a watercourse or surface water drain. Where this, is not possible alternative mitigation will be	will be the responsibility of the Main Contractor. The Construction Traffic measures will form part of the Construction Traffic Management Plan (CTMP) which will also be a DCO requirement (Schedule 2, Requirement 13).

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	implemented. The performance of the wheel washing system(s) will be maintained by the regular removal of settled sediment from within the sump. Run-off from this area will be collected in a dedicated sump and water will be recycled/re-used wherever possible. Where recovery is not possible, water from the sump system will be emptied to a dedicated storage tank prior to its removal from site for authorised disposal by a suitably licensed contractor. Site roads shall be cleaned regularly, and damped down if necessary to prevent nuisance dust. Site vehicle movements shall be kept to a minimum and, where possible, restricted to paved haulage routes. Vehicle speeds will be limited to 10 mph on unconsolidated track and 15 mph on hard surfaces. The idling of vehicles will be kept to a minimum. The main contractor will have responsibility on a day to day basis for determining if either the nature of the activities on site or weather conditions would be likely to result in the unacceptable transfer of dust off site. In cases where this is anticipated, remedial action will be taken to minimise emissions, including the application of appropriate control measures, or if necessary, the temporary suspension of works. Good site management practices during the construction works will help to prevent the generation of airborne dust. It will be the responsibility of the nominated main contractor and site manager to ensure through the final CEMP that sufficient precautionary	

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	measures to limit dust generation are taken. Construction/demolition activities associated with the greatest potential for dust generation are: • Earthworks including excavation of topsoil, handling on site and deposition; • Handling and storage of materials (including loading and unloading); • Wind blow across disturbed/exposed site surfaces and materials; and • Mechanical operations such as crushing, drilling, concrete mixing and cutting. Best Practicable Methods (BPM) will be used to minimise the risk of adverse effects from construction dust and causing nuisance or damage to flora and fauna specific control measures for limiting nuisance dust and exhaust emissions during construction are as follows: Site Management • Records of dust and air quality complaints to be kept, including likely causes and mitigation measures to reduce impacts if appropriate; • On-site and off-site visual inspections to be undertaken and recorded; • Inspections should be increased in frequency during periods of high activity or prolonged dry, windy weather; and • Keep site perimeter, fences etc clean.	

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	Site Planning • Consideration of weather conditions, dust generating potential of material to be excavated prior to commencement of works; • Plan site layout to maximise distance from plant/stockpiles etc. to sensitive receptors; • If work within 20m of sensitive receptors cannot be avoided, erect solid screens at least as high as stockpiles; and • Dusty materials should be removed from site as soon as possible. Construction Traffic / Trackout (where reasonably practicable) • If required due to site conditions vehicles to be washed and cleaned effectively prior to leaving the site; • Effective vehicle cleaning and specific wheel-washing facilities will be implemented at all site exits, including: hose pipes with adequate water supply and pressure and mechanical wheel spinners or brushes; • An area of paving/hardstanding will be implemented between the washing facilities and the site exit; • Hard surface haul routes to be used on-site wherever possible, as well as preferred routes for vehicles; • Loads entering and leaving the site with dust generating potential will use load covers; • Vehicles to comply with site speed limits (15mph on hard surfaces, 10mph on unconsolidated surfaces); • Water assisted sweeping of local roads to be undertaken if material is tracked out of site;	

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	• Install hard surfacing as soon as practicable on site and ensure that they are maintained in good condition; and • Haulage routes would be planned in order to avoid adversely affecting air quality within the Aberdare Air Quality Management Area. Demolition (where reasonably practicable • Use of water as a dust suppressant; • Cutting equipment shall use water as a dust suppressant or incorporate suitable extraction/ventilation; and • Use of enclosed chutes and skips where applicable. Site Activities – Earthworks/Construction (where reasonably practicable) • Damping down of all potentially dusty activities; • Temporary covering of earthworks; • Removal of covers by area and not all at once; • Minimisation of drop heights; • Re-vegetation of exposed surfaces; • Stockpiles will be formed and utilised for the shortest possible time; • Stockpiles will be formed such that there are no steep sides or angular in form/shape; • Stockpiles to be located away from the site boundary and sensitive receptors wherever possible; • Stockpiles to be covered or enclosed wherever possible; • Exposed soils would be re-vegetated as soon as practicable.	

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	Near sensitive ecosystems or other sensitive receptors, hessian/mulches or similar techniques would be considered where it is not possible to re-vegetate or cover with topsoil; • Minimise dust generating activities, particularly near sensitive ecosystems or other sensitive receptors during prolonged dry, dusty weather unless damping / other suppressants are used; • Ensure an adequate water supply to site and use water as dust suppressant where applicable; • Ensure any site machinery is well maintained and in full working order; • Ensure equipment available for cleaning spills of dusty material available at all times; and • Sand and aggregates should be stored away from sensitive receptors and screened/shielded. Similarly concrete batching should take place away from receptors.	
Noise and Vibration	*Applies to all elements of the Project (Power Generation Plant, Gas Connection and Electrical Connection)* All construction/demolition activities relating to the Power Generation Plant, Gas Connection and Electrical Connection would be carried out in accordance with the recommendations of BS 5228' Noise and Vibration Control on Construction and Open Sites'. It details the legislative background to noise control, along with the recommended procedures for effective liaison between developers, site operators and local authorities. Methods of how to minimise the impact of site noise on workers and local residents are also provided.	These measures will form part of the CEMP (see Section 3.2 of the Outline CEMP at Appendix 4.1 to ES). DCO Schedule 2, Requirement12 requires submission and approval of a CEMP which is substantially in accordance with the Outline CEMP prior to commencement of the Project.

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	In addition, HPL will require its Main Contractor to minimise the impact of construction and demolition activities through successful implementation of an agreed CEMP and proper communication with local residents. Unless otherwise agreed with RCTCBC the hours of construction working at the site, will be Monday to Friday between: 0700hrs – 1830hrs and Saturday from 07:00-13:00 and 30 minutes startup/shutdown period either side. If works are required outside of core construction hours then method statements and risk assessments will be required to be submitted to RCTCBC for approval. Further, the contractor will be required to inform potentially affected residents and occupiers. The residents will also be provided with a point of contact for any queries or complaints. The main contractor and all sub-contractors working on-site have a general duty to take all reasonably practicable measures to minimise nuisance from noise and vibration that has the potential to impact on the local community or environment. To achieve this and avoid the potential for construction works to give risk to consequences that would otherwise be statutory nuisances (but for the provision of the DCO), Best Practicable Means (BPM) as defined in section 79(9)(a) of the Environmental Protection Act will be used, as follows: • Appropriate selection of plant, construction methods and programming. Only plant conforming with relevant national and international standards, directives or recommendations on noise	Controls on working hours are specifically set out in DCO Schedule 2 Requirements 14 and 15. Implementation of the CEMP will be the responsibility of the Main Contractor.

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	or vibrations emissions will be used; • Construction plant will be operated and maintained appropriately, having regard to the manufacturer's written recommendations or using other appropriate operation and maintenance programmes which reduce noise and vibration emissions; • All vehicles will be switched off when not in use; • Approved routes and programming for the transport and construction materials, spoil and personnel to reduce the risk of increased noise and vibration impacts due to the construction of the project; • Vehicle and mechanical plant used for the purpose of the works shall be fitted with effective exhaust silencers, to be maintained in good working order and operated in such a manner as to be minimise noise emissions. The contractor shall use plant items that comply with the relevant EU/UK noise limits applicable to all equipment; • Ancillary pneumatic percussive tools would be fitted with mufflers or silencers as recommended by the manufacturer; • Ancillary plant such as generators, compressors and pumps would be positioned so as to cause minimum noise disturbance (e.g. ad far away as practicable from residential receptors). If necessary, temporary acoustic barriers or enclosures would be provided; • The positioning of construction plant and activities to minimise noise at sensitive locations; • Equipment that breaks concrete by munching or similar, rather than by percussion, shall be used as far as is practicable; • Where practicable, rotary drills actuated by hydraulic or electrical	

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	power shall be used for excavating hard materials; • The use of non-reciprocating construction plant where ever practicable; • The use, where possible, of noisy work at times which minimise disturbance; and • To prevent risk of damage to adjacent structures, demolition and construction activities will be carried out in accordance with Part 2 of BS7385:1993 (Evaluation and Measurement for Vibration in Buildings).	
Ecology	*Applies to all elements of the Project (Power Generation Plant, Gas Connection and Electrical Connection)* An Ecological Management Plan (EcMP) will be produced as a requirement of the DCO. A pre-construction ecological constraints survey will be undertaken to confirm the ecological status of the site prior to demolition and construction works commencing. Briefings and instruction will be given to contractors regarding the biodiversity issues associated with the site and protocols and contingency plans will be established to deal with incidents should they arise including in relation to storage of potentially dangerous materials. Habitats As far as is practicable, work compounds and access tracks etc. will not be located in, or adjacent to, areas that maintain habitat value or are within areas supporting protected species.	The production of an Ecological Management Plan is required under DCO Schedule 2, Requirement 10. This prevents specified works until a written ecological plan is approved and surveys done, as set out in figures 8.5, 11.5 and section 8.7 of the ES. This ecological plan will include (insofar as applicable) DuMP, Demolition Management Plan, Pre-construction survey, SINC Protection Method Statement, Lighting Strategy, Soil Management and Habitat Restoration Strategy,

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	In relation to temporary effects on marshy grassland habitats, a detailed soil handling and reinstatement strategy will be developed as part of the CEMP. This will be informed by pre-construction soil and vegetation surveys. This will ensure impacts on marshy grassland soils within the Gas Connection route are minimised during site clearance, construction and restoration, maximising the success of the habitat restoration. A pre-construction survey of the site for marsh fritillary larval food-plants (i.e. any of the scabious species) will be undertaken in the summer preceding construction of the Gas Connection. Should any food-plants be found the survey will be extended to include a search for larval webs in late summer. In the unlikely event marsh fritillary are detected then a specific method statement will be developed to ensure construction-related impacts on individual butterflies/larvae are avoided, for example by translocation of larval food webs to outside the construction footprint. Any such Method Statement, if required would be developed in consultation with NRW and the RCTCBC Ecologist. As explained in the Air Quality section of this Schedule, monitoring of dust levels will be undertaken at the northern end of the site, in particular, in the vicinity of the Hirwaun Industrial Estate SINC. It is proposed that solid hoarding be erected along the northern edge of the Power Generation Plant site during demolition activities. The monitoring station will be mobile and should be moved around	compliance with Pollution Prevention Guidelines, installation of physical site boundary barriers, EPS Licence application, Otter Method Statement, Otter Monitoring Survey. Ecology mitigation measures will form part of the CEMP (see Section 3.6 of the Outline CEMP at Appendix 4.1 to the ES). DCO Schedule 2, Requirement 12 requires submission and approval of a CEMP which is substantially in accordance with the Outline CEMP prior to commencement of the Project. The ecological surveys carried out will be reflected in the production of the CEMP to inform what measures are appropriate to the circumstances on site. Implementation of the CEMP

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	site as the principal activities move. This will also provide screening of construction personnel in relation to visual disturbance of species within the SINC. To ensure the risk of pollution incidents affecting water quality within the SINC is minimised a specific SINC Protection Method Statement will be produced. The lighting proposals for the Power Generation Plant Site will be designed so as to reduce light-spill onto the SINC. During works on the streams upstream of the SINCs Environment Agency Pollution Prevention Guidelines (PPG) would be followed, with inclusion of measures such as silt traps, silt fences and settlement tanks used to minimise downstream release of mobilised sediments. The draft Method Statement for protection of the nearby Sites of Important Nature Conservation (SINCs) presented at Appendix 8.10 of the ES (Document Reference 6.1.0) will be revised and included within the final CEMP in respect of Work nos 1, 3 and 4 (i.e. those works which are proximate to the Hirwaun Industrial Estate SINC and Hirwaun Common SINC) to be submitted under Requirement 12, once the detailed construction arrangements are confirmed. This Method Statement is to be followed. Furthermore, if developed, Method Statements for marsh fritillary butterfly must be incorporated into the final EcMP and cross referred in the CEMP. The 1.7 ha of the Hirwaun Common SINC affected by the Gas Connection will be reinstated following installation of the pipeline. Detailed pollution prevention measures will be incorporated into the	and the other measures during construction and demolition will be the responsibility of the Main Contractor. The mitigation measures will be implemented as per the contract of works with the Main Contractor and are likely to include the CEMP and the matters covered by the ecological plan described above. The mitigation will be implemented before and during construction. DCO Schedule 2, Requirement 16 imposes controls on artificial light emissions.

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	construction-phase CEMP. During site clearance and construction fencing will be used to demark the extent of site clearance, to ensure that direct impacts on areas of habitat not requiring clearance are not subject to direct impacts. Dust mitigation measures will be instigated during construction and demolition to minimise dust deposition on adjacent areas of habitat, if works take place under conditions when such deposition is likely. Any broad-leaved semi-natural woodland habitat lost from outside the permanent easement of the Gas Connection will be reinstated following construction using native species. Native species only will be used, sourced from stock of local provenance if possible. Where inside the permanent easement of the Gas Connection, it will not be possible to plant deep-rooted tree species, in order to avoid interfering with the installed Gas Connection as these mature. Within the permanent easement only shallow-rooting tree/shrub species will be used. The boundary of the construction and demolition footprint will be securely fenced, e.g. with Heras fencing, to ensure plant and personnel cannot stray outside the project footprint into habitats to the north. The Gas Connection will directly cross three watercourses. At detailed design the use of Horizontal Directional Drilling or other trenchless technique for installing the Gas Connection will be	

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	investigated which would negate the majority of impacts upon these watercourses. For the EIA accompanying the draft DCO, however, it has been assumed that open-cut will be required, as a worst case. In the event that open-cut crossings are necessary a number of measures will be employed to minimise impacts on the affected watercourses. Prior to construction commencing, a detailed record of the topography, vegetation, water depth, flow rate, and substrate of the affected section of each watercourse will be made. This information will be used to inform the post-construction restoration, to ensure the channel is reinstated as closely as possible to the pre-construction situation. Works will be programmed to occur outside periods of high flow i.e. after will not be carried out after periods of heavy rainfall. Prior to each watercourse diversion commencing, in-channel vegetation (if present) will be removed and placed on the banks of the watercourse downstream of the crossing point. The establishment of each watercourse diversion will follow a careful procedure. In summary this will entail the construction of a dam at the upstream end of the diversion, followed by over-pumping of the watercourse downstream.	

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	The trench will then be excavated and the pipe laid. The trench will then be reinstated and the watercourse reinstated, with the final stage being removal of the upstream dam. The construction footprint will be demarcated with robust fencing, to ensure a buffer of at least five metres between the construction footprint and any water bodies is preserved during construction. Contaminants will not to be stored near areas of hydrological sensitivity. All works in the vicinity of watercourse crossings will be undertaken under the guidance of a suitably qualified Ecologist; The hydrological assessment in the ES has identified that significant hydrological effects upon either Hirwaun Industrial Estate SINC are not predicted. Other embedded mitigation measures will include industry-standard methods and procedures to ensure impacts from construction / demolition, operation and decommissioning are minimised. These include: • Surface water with the potential to be contaminated by hydrocarbons to be passed through oil/grit interceptors prior to discharge to sewer; • Measures will be taken to ensure that no leachate, or any surface water that has the potential to be contaminated, will be	

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	allowed to enter directly or indirectly any water course, underground strata or adjoining land; • Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the control of drainage and construction materials in order to prevent the contamination of ground water. Site personnel will be made aware of the potential impact on ground and surface water associated with certain aspects of the construction works to further reduce the likelihood of accidental impacts; • Refuelling of construction vehicles and equipment will be restricted to a designated area with appropriately designed fuel tanks and bunds and suitable operating procedures. • Siting of stockpiles a minimal distance from watercourses to avoid pollution runoff and adhering to best practice working guidelines to avoid spillages near watercourses; and • All oil and chemical storage tanks and areas where drums are stored will be surrounded by an impermeable bund. Single tanks will be within bunds sized to contain 110 per cent of capacity and multiple tanks or drums will be within bunds sized to contain the greater of 110 per cent of the capacity of the largest tank or 25 per cent of the total tanks contents, in accordance with EA PPG 2. In terms of interruptions to lateral drainage / surface water drainage from construction of the Gas Connection, the following mitigation measures will also be included in the CEMP:	

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	• Access roads / haul routes will be constructed to effectively manage drainage; • Soil bunds will be placed strategically so that drainage catchments are not diverted or altered; • Temporary wheel washing facility will be installed to prevent transfer of soil onto nearby public roads if necessary; • If deemed necessary, temporary drainage routes / silt fences will be constructed (of geo-textile); • Care will be taken during construction to ensure that silt laden water does not enter watercourses. This will be achieved by plugging existing drains, intercepting surface water above the working width and where appropriate by leaving filter strips of unstripped topsoil along main watercourses / ditches. Topsoil will be replaced over post-construction drains as soon as possible to prevent site water from getting into drains; • Any de-watering pumping will be undertaken using an appropriately sized pump at such a rate to avoid disturbance or erosion of stream banks; • De-watering pipes will be carefully positioned; and • All pumps, pipes and connections used during construction will be regularly inspected. To enable those buildings to be demolished with bat roosts within them a European Protected Species (EPS) Licence application will	

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	need to be obtained from Natural Resources Wales (NRW). Within the draft EPS licence that forms part of the DCO application, detailed mitigation measures are proposed to prevent the direct mortality of bats utilising the building for roosting, via timing of works, exclusion and/or removal methods for bats. As part of the identified mitigation a new structure will be created for the bats to roost in. The proposed mitigation structure will be provided in 2016, one year prior to demolition of the existing structures. 35 bat boxes will be installed on retained vegetation around the Power Generation Plant compound and in woodland to the north within HPL's ownership. Habitats will be restored in accordance with the Landscape Strategy presented. The five year aftercare period (running from the date of planting) will help ensure new planting is successful. During construction, the working width will also be minimised as far as possible. In addition, rather than creating new gaps, existing gaps in linear features will be utilised or enlarged wherever possible. Works will be undertaken during daylight hours (i.e. 7:00 to 18:30) during the bat active season and artificial lighting overnight will be	

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	minimised. Where this is not possible, low sodium lighting will be used as this is known to have a minimal impact on bats relative to the majority of other types of construction lighting. Light spillage onto linear features will be avoided by the use of directional lighting (i.e. the use of hoods and / or cowls).The project will have regard to The Institute of Lighting Engineers/Bat Conservation Trust best practice guidance in relation to lighting and bats. The programme of construction will be directly influenced to reduce impacts on breeding birds. All tree/scrub clearance will be undertaken outside the breeding bird season. If vegetation clearance during the nesting bird season cannot be avoided, an ecologist will carry out a survey for nesting birds prior to clearance commencing. Any active nest encountered will be protected with a buffer of at least 5 m radius around the nest, with this being increased for more sensitive species. Demolition of buildings known to be used by breeding birds will either take place outside the breeding bird season, or will be preceded by blocking potential nesting locations in the winter prior to demolition. Where possible, all vegetation clearance prior to construction shall take place between September and February (depending on climatic conditions in a given year), to prevent damage to any nests of breeding birds.	

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	Where vegetation cannot be removed outside of the nesting season, pre-clearance checks must be undertaken by an experienced ecologist to identify if any birds are nesting within or close to the vegetation due to be removed. To ensure legal compliance if a bird nest is found, no works will be undertaken in that area (approximately 10 m in all directions for most bird species) until the young birds are no longer dependent on the nest site. Additional tree planting will also be provided immediately west of the A4061 at the southern end of the Gas Connection. The Landscape Strategy will also include reinstating any species-poor hedgerows removed with species-rich hedgerow planting, and providing an increased diversity of tree/scrub species in replacement woodland/scrub planting mixes. All re-instatement planting will be native species. The demolition of the two buildings within the Power Generation Plant compound which are used by barn swallows will be mitigated for by installing suitable ledges or readymade nests within the proposed bat mitigation structure. In addition bird boxes will be erected on retained vegetation within HPL's ownership. Monitoring of breeding bird populations will take place 1 and 3 years post-construction. In order to ensure the incidental mortality of reptiles/amphibians is avoided, suitable terrestrial habitat for these species will be cut	

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	carefully to a height of under 15 cm prior to construction and site clearance commencing. This will encourage those species to leave the Project Site. *Power Generation Plant* The design of the final Power Generation Plant layout has been an iterative process informed by the EIA process. HPL refined site proposals through a feasibility study to find a site suitable for the Power Generation Plant. *Gas Connection* The Gas Connection Route was decided following a feasibility study taking into consideration various limitations. The chosen route has been modified to avoid several ponds which have been assessed as having ecological value. The works programme will be staged so as to minimise the length of time works are carried out along any watercourse affected by construction of the Gas Connection in order to minimise the risk of disturbance of otters. Watercourse crossings would be worked on for the minimum duration necessary (with the intent being for the duration of in-channel works to last no more than one day per watercourse). A pre-construction Otter Monitoring Survey would be undertaken under Requirement 10 but would inform preparation of the detailed	

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	CEMP. A simple Otter Method Statement would be included in the EcMP (to capture measures to ensure that otters can cross the working width / working corridor. As otters are most active around dawn and dusk (and therefore temporary obstructions during daylight construction are unlikely to require specific mitigation), fencing would be used outside working hours to create suitable commuting routes if necessary; Any trenches / pits which are excavated adjacent to suitable habitat are to be covered over outside working hours, or include an appropriate ramp to allow an otter to escape. Measures to ensure that otters can cross the working width / working corridor will be included. As otters are most active around dawn and dusk (and therefore temporary obstructions during daylight construction are unlikely to require specific mitigation), fencing will be used outside working hours to create suitable commuting routes if necessary; Any trenches / pits which are excavated adjacent to suitable habitat should be covered over outside working hours, or include an appropriate ramp to allow an otter to escape; and All works in the vicinity of watercourse crossings will be undertaken under the guidance of a suitably qualified Ecologist. *Electrical Connection*	

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	The Electrical Connection Route was decided following a feasibility study with ecology as one of the major factors. The final route was selected as this would avoid direct impact to Hirwaun Industrial Estate SINC. The layout of the Power Generation Plant has also been modified through the design process to avoid any development works within the Hirwaun Industrial Estate SINC. Mitigation and monitoring measures directly relevant to the scope of potential effects described above include: The design has been altered during the iterative EIA and design process, with the DCO application boundary being adjusted to avoid direct effects on wetland habitats within Hirwaun Industrial Estate SINC. Implementation of industry standard methods and procedures to ensure air/water quality impacts are minimised throughout all phases of the project. Specific ecological design objectives that will be implemented to ensure that adverse effects of lighting associated with demolition and construction of the Project are minimised are listed below: • There shall be no light intrusion beyond the boundary of the proposed Project Site and particularly within the SINC to the north of the Project Site which is a habitat that supports breeding birds and bats; • There shall be no night-time working within the SINC while construction of the Gas Connection and above ground facility	

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	takes place; • No task lighting shall be used between the Power Generation Plant to the north and the proposed laydown area (in the existing car park) to the south to avoid fragmentation of habitats at night-time; • No temporary lighting shall be installed along the Gas Connection corridor between the main site and the working area of the pipeline to avoid fragmentation of habitats used by bats at night-time; and • Dark corridors shall be maintained on hedgerows and watercourses and any other linear features by avoiding light trespass on these areas. This will avoid the fragmentation of habitat used by species such as bats and also otters that use these features to move at night-time.	
Water Quality and Resources	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* The design of the Project incorporates embedded mitigation, as follows: • Site infrastructure during both construction and operation will be designed in accordance with EA Pollution Prevention Guidelines and industry best practice. All static plant and any hazardous materials stored at the Project Site will be located within specifically designed areas with an impermeable base and with secondary containment designed to contain 110% of the maximum stored material. The drainage of these areas will	DCO Schedule 2, Requirements 8 and 9 prevent certain works from commencing prior to the production and approval of appropriate surface and foul water drainage and contaminated land and groundwater plans. Water quality mitigation measures will form part of the CEMP (see 3.4 and 3.5 of the

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	incorporate oil separators designed and manufactured in accordance with BS EN 858-1 to ensure no contaminated runoff enters the surface water sewer or drains to a watercourse. A detailed emergency response plan will be prepared which will be enacted in the event of a spill of hazardous material to minimise the risk of environmental impact. • A site CEMP will be developed including a site environmental and health and safety management policy to mitigate construction risks. General rules apply to site works to ensure that no significant impact to identified receptors will occur during construction. Best practice recommendations for the prevention of contamination will be outlined in the detailed CEMP and Site Waste Management Plan (SWMP), both which will be developed and discussed with the Local Authority and the Environment Agency prior to commencement of construction. The measures applied should conform with current guidance including: ○ EA Pollution Prevention Guideline (PPG) Notes; ○ CIRIA 113 Control of Groundwater for Temporary Works; ○ Environmental Good Practice on Site, CIRIA; ○ CIRIA C532 – Control of Water Pollution from Construction Sites ○ BS 6031:2009 Code of Practice for Earthworks ○ BS 8004: 1986 Code of Practice for Foundations	Outline CEMP). DCO Schedule 2, Requirement 12 requires submission and approval of a CEMP which is substantially in accordance with the Outline CEMP prior to commencement of the Project. The CEMP is specifically required to include surface and ground water protection measures (Requirement 12(1)(d) and a Demolition Method Statement (Requirement 12(1)(g). Implementation of the CEMP will be the responsibility of the Main contractor.

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	Site infrastructure will be designed in accordance with EA Pollution Prevention Guidelines and industry best practice. All static plant and any hazardous materials stored at the Power Generation Plant Site will be located within specifically designed areas with an impermeable base and with secondary containment designed to contain 110% of the maximum stored material. The drainage of these areas will incorporate oil separators designed and manufactured in accordance with BS EN 858-1 to ensure no contaminated runoff enters the surface water sewer or drains to a watercourse. A detailed emergency response plan will be prepared which will be enacted in the event of a spill of hazardous material to minimise the risk of environmental impacts. Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the control of drainage and construction materials in order to prevent the contamination of ground water. Any stockpiled material will be located away from watercourses to avoid pollution runoff and best practice working guidelines will be followed to avoid spillages near watercourses. A site CEMP will be developed including a site environmental and health and safety management policy to mitigate construction risks. General rules apply to site works to ensure that no significant impact to identified receptors will occur during construction. Best practice recommendations for the prevention of contamination will be outlined in the detailed CEMP, both which will be developed and discussed with the Local Authority prior to commencement of	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	construction. In order to ensure that there will be no discharges to any watercourses as a result of construction activities at the Project Site, the following matters shall be included in the detailed CEMP: • Site infrastructure will be designed in accordance with EA pollution Prevention Guidelines and industry best practise. • Oil storage will be undertaken in accordance with the Control of Pollution (Oil Storage) Regulations 2001. Storage tanks will be located on an impervious base provided with bund walls to give a containment capacity of the greater of 110 per cent of the largest tank volume within the bund or 25 per cent of the total storage capacity of all tanks within the bund. All valves and couplings will be contained within the bunded area; • Any surface water which has the potential to be contaminated by hydrocarbons (e.g. from car parks), which are used during the construction phase, to be passed through oil interceptor(s) prior to discharge; • Measures will be taken to ensure that no leachate, or any surface water that has the potential to be contaminated, will be allowed to enter directly or indirectly into any water course, underground strata or adjoining land; • Provisions will be made so that all existing drainage systems continue to operate; • Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	control of drainage and construction materials in order to prevent the contamination of ground water. Site personnel will be made aware of the potential impact on ground and surface water associated with certain aspects of the construction works to further reduce the incidence of accidental impacts; • Refuelling of construction vehicles and equipment will be restricted to a designated area with properly designed fuel tanks and bunds and suitable operating procedures; • All static plant and any hazardous materials stored at the Power Generation Plant Site will be located within specifically designed areas with an impermeable base and with secondary containment designed to contain 110% of the maximum stored material. The drainage of these areas will incorporate oil separators designed and manufactured in accordance with BS EN 858-1 to ensure no contaminated runoff enters the surface water sewer or drains to a watercourse. A detailed emergency response plan will be prepared which will be enacted in the event of a spill of hazardous material to minimise the risk of environmental impacts; • Construction access roads will be designed to ensure no increased flood risk or silt production; • Temporary wheel washing facilities will be installed to prevent transfer of soil sediment onto nearby public roads. Runoff from wheel wash facilities will be collected and removed or treated prior to discharge; • If deemed necessary, measures such as temporary drainage	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	routes silt fences and silt bunds will be constructed to prevent heavily silted discharge to surface waters and to attenuate high flows; • At the gas pipeline, pre- and post-construction agricultural under-drainage schemes will be designed and installed to an agreed specification to ensure similar surface water flows pre- and post- construction and to ensure no increase in sediment, silt or nutrient runoff; • A Soil Handling Strategy will be formulated, including a programme of soils de-compaction, loosening and aftercare aligned to the drainage schemes. This will facilitate soil structure recovery and natural drainage pathways to return soil water retention / storage to pre-construction status; • During construction of the pipeline, care will be taken to ensure that silt laden water does not enter watercourses. This will be done by plugging existing drains, intercepting surface water above the working width and where appropriate by leaving filter strips of unstrapped topsoil along main watercourses / ditches. Topsoil will be replaced over post-construction drains as soon as possible to prevent site water from getting into drains; • For construction of the pipeline, any de-watering pumping will be undertaken using an appropriately sized pump at such a rate to avoid disturbance or erosion of stream banks.; • The Main Contractor will be required to regularly inspect all pumps, pipes and connections; • For construction of the pipeline, temporary lagoons, siltation	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	tanks or filter membranes may be considered at sensitive outfall locations or where deeper excavations are proposed; • Any stockpiled material will be located away from watercourses to avoid pollution runoff and best practice working guidelines will be followed to avoid spillages near watercourses; • The final CEMP will be developed including a site environmental and health and safety management policy to mitigate construction risks. General rules apply to site works to ensure that no significant impact to identified receptors will occur during construction. Best practice recommendations for the prevention of contamination will be outlined in the final CEMP, both which will be developed and discussed with the Local Authority prior to commencement of construction; • The draft Method Statement for protection of the nearby SINCs presented at Appendix 8.10 of the ES (Document Reference 6.1.0) will be revised and included within the final CEMP. This Method Statement will include measures to prevent line rush establishing through inappropriate soil handling. This Method Statement is to be followed; and • The British Standard Code of Practice for Earthworks BS 6031:1981 and British Standard Code of Practice for Foundations BS 8004:1086 contains detailed methods that will be adopted during construction. *Gas Connection* In the construction of the Gas Connection the following mitigation	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	measures will be included in the CEMP: Construction access roads will be designed to ensure no increased flood risk or silt production; Temporary wheel washing facility will be installed to prevent transfer of soil sediment onto nearby public roads. Runoff from the wheel wash facility will be collected and removed or treated prior to discharge; If deemed necessary, measures such as temporary drainage routes, silt fences and silt bunds will be constructed to prevent heavily silted discharge to surface waters and to attenuate high flows; Pre- and post-construction agricultural under-drainage schemes will be designed and installed to an agreed specification to ensure similar surface water flows pre- and post-construction and to ensure no increase in sediment, silt or nutrient runoff; A Soils Handling Strategy will be formulated, including a programme of soils de-compaction, loosening and aftercare aligned to the drainage schemes. This will facilitate soil structure recovery and natural drainage pathways to return soil water retention / storage to pre-construction status; Care will be taken during construction to ensure that silt laden water does not enter watercourses. This will be done by plugging existing drains, intercepting surface water above the working width and where appropriate by leaving filter strips of unstrapped topsoil along main watercourses / ditches. Topsoil will be replaced over post-	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	construction drains as soon as possible to prevent site water from getting into drains; Any de-watering pumping will be undertaken using an appropriately sized pump at such a rate to avoid disturbance or erosion of stream banks; and Temporary lagoons, siltation tanks or filter membranes may be considered at sensitive outfall locations or where deeper excavations are proposed. The Main Contractor will be required to regularly inspect all pumps, pipes and connections.	
Geology Ground Conditions and Hydrogeology	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)*The following standards and guidance have been consulted to provide advice on best practice with respect to mitigation measures which will be employed during the construction / demolition phase of the Project and the correct methods of assessment of potentially contaminated sites. • BS 6031 (2009) provides best practice guidance on geotechnical aspects of earthworks and on working practices. The standard also includes recommendations and guidance for un-reinforced earthworks forming part of general civil engineering construction, together with provisions for temporary excavations such as trenches and pits. • Technical guidance relating to land contamination is presented	Further intrusive investigation of contamination and geotechnical conditions will form part of a pre-construction site investigation that will then form part of the specification for the Engineering, Procurement, Construction contract. These measures are described at 3.4 of the Outline CEMP. DCO Schedule 2, Requirement 12 requires submission and approval of a CEMP which is substantially in accordance with the Outline

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	in a series of documents known as the Contaminated Land Report (CLRs 1 to 6 and 11) published by the Environment Agency (EA). The guidance promotes a tiered approach to the assessment of contamination and associated risks. The baseline conditions of the Project Site have been assessed with specific reference to CLR 11: Model Procedures for the Management of Land Contamination (2004). • Protection of Workers and the General Public during the Development of Contaminated Land (HSE, 1991); • British Drilling Association document 'Guidance for Safe Intrusive Activities on Contaminated or Potentially Contaminated Land' (BDA, 2008); and • A Guide to Safe Working on Contaminated Sites, R132 (CIRIA, 1996). During demolition/construction additional mitigation measures would be covered by the CEMP, including Demolition Method Statement which will apply to each stage of the Project. Demolition works at and above ground level will be subject to a Demolition Method Statement including an assessment of ground conditions. Foundation design to be informed from assessment of ground conditions completed during environmental and geotechnical site investigation. Professional standards and guidance relating to contamination will	CEMP prior to commencement of the Project. The CEMP is specifically required to include a Demolition Method Statement (Requirement 12(1)(g). Implementation of the CEMP will be the responsibility of the Main Contractor (except for the DMS, which will be the responsibility of Demolition Contractor).

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	be consulted to provide advice on best practice mitigation measures which will be employed during the construction/demolition phase of the Project. Identification of any potential human health risks to construction workers or future site users so that appropriate mitigation/remediation can be put in place. During construction, if piling is required to the depths of the secondary aquifer A, mitigation measures set out in "*Piling and penetrative ground improvement methods on land affected by contamination guidance on pollution prevention – NGWCLC Report NC/99/73"* would be adopted eliminating any potential pollutant pathways. Site investigations undertaken at an adjacent site to the Power Generation Plant have not revealed levels of contamination which are likely to pose a risk to human health or cause a statutory nuisance. Further ground investigations will be undertaken, at the Power Generation Plant site prior to construction which will further define the exact nature of ground conditions at the Power Generation Plant Site. However, based on evidence to date, there are not anticipated to be any significant issues with contamination at the Power Generation Plant site or Electrical Connection. Control of onsite runoff and hazardous substances are as per the mitigation measures set out for Water Resources (Section 9). Specific mitigation measures will include the further intrusive	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	investigation of contamination and geotechnical conditions at the Project Site prior to construction to inform any remediation strategy needed at the site. Embedded mitigation measures include working in accordance with best practices, maintaining safe working practices, the use of correct and appropriate PPE and adherence to best practice documents detailed in Section 10.4.6. There will be no access to construction areas by the general public. The site will be secured to avoid unauthorised access and contact with contaminated soil or groundwater. In the case that unidentified contaminant “hotspots” showing visual of olfactory evidence of contamination are discovered during construction works, the following procedure will be applied: • Stop work immediately; • Report the discovery to the construction manager; • Seal off the area to contain the spread of contaminants; • Clear the area to ensure there is nothing that could cause fire or explosion; • Contact the regulator or local authority once it is confirmed that contamination is found; • Arrange for testing to be carried out and agree changes to the existing contamination strategy; and • Record details of the incident, including photos and relevant information on the Environmental Incident Report Form.	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	Any material which is excavated and free from visual and olfactory evidence of contamination will be stockpiled and tested for metal (and other determinants) for reuse on site. Any soils which are considered to be contaminated hotspots (either identified through testing or through visual or olfactory evidence of contamination on site) will be removed and disposed of by a suitably licensed contractor or treated on-site. All water from dewatering activities shall either be transported off site by a suitably licensed contractor or treated on site. Any proposed discharges to existing land drains (or other surface water bodies) will be undertaken in accordance with the requirements of the Environment Agency (EA) Regulatory Position Statement on temporary water discharges from excavations, which is applied by NRW. Where soils are imported onto the site then they shall be subject to testing to ensure contaminated soils are not being brought onto the site. Speed restrictions will be imposed onsite to minimise disturbance of bare surfaces. Measures shall also be put into place to ensure that the length of time bare surfaces are left exposed are minimised. Precautions will be undertaken in accordance with NRW's Pollution Prevention Guidance to ensure that silt laden runoff, arisings or chemicals are not allowed to enter watercourses. Measures will include, testing of arisings to see whether they are suitable for reuse on site, siting stockpiles well away from watercourses, covering	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	stockpiles in inclement weather, use of impermeable liners and use of fixing agents. The main contractor undertaking the works will be required to produce a risk assessment and method statement detailing how they will minimise the risk of coming into contact with potentially contaminated materials, the following can be considered as a guide for the final CEMP: Compliance with the mitigation measures set out in the following documents: • Protection of Workers and the general public during the development of contaminated land (HSE 1991); and • If applicable, a guide to safe working on contaminated sites R132 (CIRIA 1996). Work will be carried out in accordance with best practices and safe working practices will be maintained. Construction workers will wear appropriate personal protective equipment (PPE) for the nature of works being undertaken. This will involve standard site PPE, plus overall, gloves and eye protection. Additional measures that will likely be taken are: • Eating, drinking and smoking will be limited to a designated 'clean' area of the site; • Site welfare facilities will be made available;	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	• All workers will be required to wash their hands and remove overalls/boots when moving from 'dirty' to 'clean' areas of the site; • Any soils excavated which are considered to be potentially contaminated (e.g. visual or olfactory evidence) will be reported to site management and left alone until their appropriate treatment. Suitable training will be provided to site personnel to ensure the correct identification of potentially contaminated soils by olfactory means; and • Water inflows to excavated areas will be minimised by the use of lining materials, good housekeeping techniques and by the control of drainage and construction materials in order to prevent the contamination of ground water. Site personnel will be made aware of the potential impact on ground and surface water associated with certain aspects of the construction works to further reduce the incidence of accidental impacts. Measures shall be taken to avoid/minimise the potential for fuel and chemical spills. A spill response procedure will also apply on-site; and indicative procedure is shown in Insert 3.1 in the CEMP A Site Waste Management Plan (SWMP) will form part of the CEMP, for use during the demolition and construction stages. This will ensure waste management provisions complement the construction activities on site and that wastes emanating from the project are dealt with in an appropriate manner and their management follows the waste hierarchy. The SWMP will identify the waste types arising	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	from the project, estimate quantities of each waste type and identify treatment.	
Landscape and Visual Impacts	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* Several mitigation measures have been embedded into the design of the Project to ensure that landscape and visual impacts are minimised. These include: • Utilising technology (SCGT) that allows a significant reduction in stack height compared to other technology types; • Planting, hard landscaping and other mitigation substantially in accordance with ES Figure 11.5; • Retention and protection of trees during construction; • The architectural design of the buildings and structures on the Hirwaun Site will be designed to reduce glare and assimilate the Project into the surrounding landscape; and • External lighting will be designed to reduce trespass and configured to avoid glare and spillage and otherwise in accordance with the Outline Lighting Strategy. The landscaping proposals for planting cover a minimum period of five years of monitoring to ensure the landscape objectives are achieved successfully. The need for landscape planting is focussed on a few key issues, improving the amenity of the area and enhancing the biodiversity / providing ecological mitigation. The key features of the proposals as shown on ES Figure 11.5 are:	Much of this mitigation is implicit in the proposals for which development consent is being sought and will therefore be delivered through compliance with the Works Plans (Document Ref 2.3). A further DCO Requirement requires a Landscaping Plan to be approved by the relevant planning authority (DCO Schedule 2, Requirement 5), which addresses tree retention and protection. The landscaping plan must be substantially in accordance with the landscaping mitigation proposals set out in figure 11.5 of the environmental statement. DCO Schedule 2, Requirement 16 also provides that a lighting management

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	• Much of the existing woodland is to be retained; • A belt of trees is proposed down the eastern side of the Power Generation Site to link in with the existing wood on the northern boundary to help screen views from the A465 across the Hirwaun Industrial Estate; • A belt of trees down the western side of the Power Generation Site with the objective to increase the amount of woodland in the area; • An area of semi-improved grassland is to be retained/ reinstated where lost on the northern boundary; • The southern boundary of the site alongside the Main Avenue will be planted with an avenue of trees with the objective of contributing to the character of the road; • During the construction of the Gas Connection some trees and vegetation will need to be removed and as a consequence the route will be reinstated along its length, having regard to the need to avoid planting on the line of the Gas Connection itself; • On the south side of Main Avenue a line of trees will be extended to compensate for the loss of vegetation where the Gas Connection crosses the road. These trees will also help screen the laydown area; • Careful management of soils along the length of the Gas Connection will take place and the success of any restoration of marshy grassland will depend on the quality of the soils returned; • Where possible the area above the Gas Connection will be restored to an appropriate grassland mix, with reinstatement	plan must be prepared and approved which must be in substantially in accordance with the submitted lighting strategy (Document Ref 6.2.0 Appendix F 11.2). They will be implemented by the Main Contractor and the aftercare period will be managed by the Plant Operator and in line with the requirement in the DCO specifying a five year aftercare period (DCO Schedule 2, Requirement 5).

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	to grazing pasture or to Marshy Grassland as appropriate; and • Where existing woodland / trees are lost and cannot be replaced through tree planting due to restrictions above and adjacent to the pipeline to retain the linear feature and provide connectivity for wildlife. During construction the following measures will be included in the CEMP: • Tree retention and protection proposals; • The retention and management of existing vegetation wherever possible; • Planting, hard landscaping and other mitigation substantially in accordance with ES Figure 11.5; • Temporary storage of topsoil and any other material considered of value for retention. Where practical stores would be sited to screen the construction works; • Agreed site access points; • Lighting in accordance with the Outline Lighting Strategy; • Maintenance of tidy and contained site compound; • Where feasible, perimeter screen planting will be undertaken in advance of the works to be effective on completion of the construction works; • Where practicable storage of topsoil will take place, with siting, to screen and/or provide a physical buffer between the construction works and more sensitive receptors; • Temporary measures including the removal of temporary structures and stockpiles when no longer required, and	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	prompt reinstatement of temporary construction areas; • The removal of all temporary structures and stockpiles when no longer required; • The prompt reinstatement of temporary construction areas when no longer required; • Spreading of topsoil, reseeding and planting within the Project Site and adjoining areas that are to be reinstated as soon as possible after sections of work are complete; and • Management of all reinstated area in accordance with a 5 year aftercare plan to help ensure full and successful establishment of the planting to the approval of the planning authority. The Project Site will require artificial lighting during construction to provide a safe working site during hours of darkness. This will inform the CEMP in terms of general design objectives that will be used to ensure that adverse effects of lighting associated with demolition and construction of the Project are minimised are listed below: • Use appropriately designed luminaries for the task at hand; • Use louvres and shields to prevent undesirable light break-out; • Demolition and construction lighting shall be directed away from all sensitive receptors; • Preference shall be given to several, lower lighting units rather than tall, wide beam lighting units to illuminate large areas as it will limit light trespass, glare and sky glow from the plant;	

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	• Vehicle lights shall be properly directed (conforming to MOT requirements) and lenses must be intact to prevent un-necessary glare and light intrusion; • Lighting shall be reduced or switched off when not required for safety purposes. Security lighting shall be kept at the minimum level needed for visual and security protection; and • If appropriate, the use of infra-red floodlighting and CCTV systems shall be considered for security to reduce the need for visible lighting outside working hours.	
Waste Management and Health	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* The CEMP will be prepared by the relevant contractor(s). The CEMP will set out the requirements for protection of the environment during construction and demolition activities and site practices that may lead to spills, leaks or pollution of surface and groundwater will be mitigated through the application of best practice methods set out; A Site Waste Management Plan (SWMP) will form part of the CEMP, for use during the demolition and construction stages. This will ensure waste management provisions complement the construction activities on site and that wastes emanating from the project are dealt with in an appropriate manner and their management follows the waste hierarchy. The SWMP will identify the waste types arising from the project, estimate quantities of each	DCO Schedule 2, Requirement 12 requires submission and approval of a CEMP which is substantially in accordance with the Outline CEMP prior to commencement of the Project. The CEMP is specifically required to include waste management measures (Requirement 12(1)(c)). Implementation of the CEMP will be the responsibility of the Main Contractor. The DMS prepared by the Demolition Contractor as part

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	waste type and identify treatment; The SWMP will set out requirements for storage on site of site won materials to ensure that the environment is protected. Typically this will involve creating an impermeable liner to place the material on and ensuring no losses of material from the stockpile; The SWMP will also set out the acceptability criteria pertaining to re-use of site-won materials. This will function to ensure that any materials designated for re-use are both chemically and geotechnically suitable and will not pose a risk to identified receptors; and Any asbestos present in the existing buildings at the Power Generation Plant Site which are to be demolished as part of the construction works will be removed and disposed of by a suitably licensed asbestos contractor. All works would be subject to a detailed working method statement and work would adhere to the "Control of Asbestos Regulations 2012" and associated guidance.	of the CEMP requirement (Schedule 2, Requirement 12) will include an Asbestos Management Plan.
Traffic Transport and Access	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* The Project is intrinsically a low traffic volume generator and no specific design mitigation is proposed beyond a minor contribution to the improvement to the A465 / Brecon Road roundabout. The Project will require the transportation of large and heavy plant and construction equipment. A CTMP, including Abnormal Load	A CTMP will be prepared by the Main Contractor for agreement with RCTCBC and will be a Requirement of the DCO (Schedule 2, Requirement 13).

Environmental Topic	Mitigation Commitments During Construction and Decommissioning	Delivery Mechanism within the DCO
	Routing Plan, will be created in order to ensure the minimum level of traffic disruption.	
Archaeology and Cultural Heritage	*Applies to all elements of the project (Power Generation Plant, Gas and Electrical connection)* A Written Scheme of Investigation (WSI) will be prepared in advance of demolition commencing. This will set out investigative measures such as evaluation trenching prior to construction, and monitoring of ground disturbance during construction and topsoil stripping activities. The requirements of the WSI pertaining to demolition and construction phase works will be summarised in the DMS and CEMP.	An archaeological WSI will be a DCO Requirement for prior approval by RCTCBC (Schedule 2, Requirement 11). Archaeological measures are described at Section 3.8 of the Outline CEMP. DCO Schedule 2, Requirement 12 requires submission and approval of a CEMP which is substantially in accordance with the Outline CEMP prior to commencement of the Project. Implementation of the CEMP will be the responsibility of the Main Contractor.
Socio-economics	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* No mitigation required.	n/a

Table 2: Mitigation Commitments During Operation

Environmental Topic	Mitigation Measure During Operation	Delivery
Air Quality	*Applies to all elements of the Project (Power Generation Plant, Gas Connection and Electrical Connection)* The performance of Power Generation Plant and its impacts on air quality will be measured through stack emissions testing and monitoring during operation to ensure compliance with operational limits. *Power Generation Plant* Mitigation of the impacts of the Power Generation Plant is implicit in the project design through the specification of stack height and the use of emissions controls to maintain emissions within set limits. *Gas Connection and Electrical Connection* No impacts on air quality from the Gas Connection or Electrical Connection are anticipated therefore no mitigation is prescribed.	Air emissions limits and monitoring requirements will be stipulated in the Environmental Permit that is required to operate the plant. This will be the subject of an application to NRW separate from the DCO. The Plant Operator will be responsible for complying with the Environmental Permit.
Noise and Vibration	*Power Generation Plant* A number of assumptions for noise control are implicit. These are stated below. • Gas turbine generators will be housed in individual acoustic enclosures specified at 85 dB(A) Sound Pressure Level at 1m; Turbine filter and ventilation apertures will be fitted with high	Noise limits at the Power Generation Plant Site boundary will be the subject of a DCO Requirement and will be monitored by the Environmental Health Officer of RCTCBC (DCO Schedule 2, Requirement 15). They are

	performance silencers, and designed such that all sensitive receptors benefit from screening and/or directivity corrections; • High performance silencers will be installed in the outlet duct(s) between the gas turbine generators. Due to the impracticality of screening stack noise, discharge noise will be controlled using these silencers and they will be tuned to attenuate low frequencies from the gas turbine generator exhausts; • Unit transformers and generator transformers will be housed in an appropriate enclosure or three sided pen, to provide full screening to noise sensitive receptors (NSRs); • All plant items shall be controlled to minimise noise of an impulsive or tonal nature, such that the rating level as defined in BS 4142 is equal to the specific noise level; and • In cases where abnormal operation of the plant occurs, causing excessive noise levels the operator will inform the local authority and residents of the reasons for these operations and the anticipated emergency period. Noise limits will be agreed with RCTCBC. Inherently quiet plant items will be selected wherever practicable: • High performance silencers will be fitted to achieve best results, including on gas turbine inlets and ductwork; • Acoustic lagging and low noise trims will be fitted to all pipe work and noise steam valves; and	expected to be between 52-54 L_{Aeq},5minsdB. Compliance with those limits will be the responsibility of the Plant Operator. The method of implementation will be determined in the contract with the Main Contractor and Plant Operator.

	• High performance acoustic enclosures will be considered for all plant items where practicable, including smaller plant items like compressors and pumps. *Gas and Electrical Connection* Noise and Vibration from the Gas Connection and Electrical Connection will be negligible.	
Ecology	*Power Generation Plant* Bats A detailed lighting strategy will be produced for the Power Generation Plant. This will be reviewed and informed by a licensed bat worker to enable minimisation of impacts on bat habitats. The Lighting Strategy will be drawn up in line with best practice guidance Light spillage onto roosts, foraging or commuting habitat will be avoided by the installation of directional lighting (i.e. the use of hoods and / or cowls), and habitats outside the Power Generation Plant site will not be illuminated. Retaining the bat house in the west part of the Power Generation Plant Site. To minimise the impact from noise, high performance acoustic enclosures will be considered for all plant items where practicable, not overlooking smaller plant items such as compressors and pumps, along with a monitoring strategy agreed per the EPS Licence with NRW. Monitoring of the success of bat roost mitigation measures will be	DCO Schedule 2, Requirement16 provides that a lighting management plan must be prepared and approved which must be in substantially in accordance with the submitted lighting strategy (Document Ref 6.2.0 Appendix F 11.2). Compliance with any EPS Licence (if required). Compliance with the landscaping plan (approved as per a DCO Requirement Schedule 2, Requirement 5).

	carried out at one and three years' post-construction. *Gas Connection and Electrical Connection* It is not considered that the Gas Connection and Electrical Connection will generate significant impacts.	
Water Quality and Resources	*Power Generation Plant* No waste water beyond that from welfare facilities and small quantities of turbine blade wash water is expected to arise and no other adverse effects are predicted. An Operational Management Plan will be developed as part of the Environmental Permit specifying a spill response action plan. *Gas and Electrical Connection* No negative impacts are predicted for the Gas and Electrical Connection.	Operational Environmental Management Plan including emergency response plan for spillages to be approved as part of the Environmental Permit.
Geology Ground Conditions and Hydrogeology	*Power Generation Plant and Electrical Connection* No impacts are expected to arise from the operation of the Power Generation Plant or Electrical Connection. Control of runoff and substances stored on the Power Generation Plant Site as per current UK best practice, including but not limited to: • Use of oil interceptors prior to discharge to sewers;	n/a

	• Appropriate measures to ensure waters with the potential to have been contaminated do not enter underground strata; • Areas where oil/chemical drums are stored will be surrounded by and impermeable bund; • Single tanks will be within bunds able to hold 110 per cent of the tanks contents; and • Multiple tanks or drums will be stored within bunds to contain 110 per cent of the largest tanks contents, or 25 per cent of the total tanks content. There is potential for slight adverse impacts to groundwater during operation from the accidental release of fuels and chemicals stored on site. To mitigate against these impacts chemicals will be stored as per current UK Best Practice guidance. There is the potential that the soil could impact upon the operation of the pipeline through chemical attack. To mitigate against this impact a detailed soils assessment will be carried out as part of the pipeline design process to ensure the grade of pipe selected is appropriate to resist attack and minimise the potential for ground stability impacts where dewatering is required. To prevent any impacts resulting from subsidence the design of the Gas Pipeline will incorporate additional Performance Limits, over and above those included in the IGE Pipeline Design Standard IGE/TD/1: Steel Pipeline for High Pressure Gas Transmission (Above 16 Bar) for calculation of the allowable Pipeline Stress.	

Landscape and Visual Impact	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* During operation the following mitigation will be implemented: • Landscape plan per requirement; • Structure/hedgerow planting on the perimeter of the site to reduce views of the ground level operational activities; • Planting with native species of trees and shrubs similar to those present nearby, using local provenance stock wherever possible, in order to enhance biodiversity and connect habitats to form an ecological network; • Amenity planting at the site entrance using a proportion of large size trees for immediate effect; and • The design of external lighting to reduce trespass, glare and spillage and by restricting usage to the minimum periods required.	As well as the landscape and visual mitigation implicit in the proposals for which development consent is being sought, mitigation will be delivered through the approved lighting plan and landscape plan requirements (Schedule 2 , Requirements16 and 5, respectively) .
Waste Management and Health	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* The predicted significance of the impact of the operation of the Project is negligible and does not warrant further mitigation. Mitigation of the impacts of the Power Generation Plant is implicit in the project design. The performance of the emissions control will require monitoring by stack emissions testing throughout operation.	Air emissions limits will be stipulated in the Environmental Permit that is required to operate the plant. This will be the subject of an application to NRW separate from the DCO. These measures to ensure safe operation of the Plant are contained in a range of

	Detailed design will ensure that noise is mitigated as far as possible, through the Power Generation Plant Site layout and consideration of the orientation of plant items associated with higher sound power levels. High performance acoustic enclosures will be considered for all plant items where practicable, not overlooking smaller plant items such as compressors and pumps. If any abnormal operations occur which lead to noise levels in excess of the agreed planning limits (e.g. any equipment malfunction), the operator will inform the local authority and residents of the reasons for these operations, and the anticipated emergency period.	regulatory legislation including the Environmental Permit (and Operational Environmental Management Plan relating to this) and will be discharged by the Plant Operator.
Traffic, Transport and Access	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* The Project will require the transportation of large and heavy plant and construction equipment. A Construction Traffic Management Plan, including Abnormal Load Routing Plan, will be created in order ensure the minimum level of traffic disruption during construction.	n/a
Archaeology and Cultural Heritage	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)* No mitigation required.	n/a
Socioeconomics	*Applies to all elements of the project (Power Generation Plant, Gas Connection and Electrical Connection)*	n/a

	No mitigation required.	