HORIZON NUCLEAR POWER

WYLFA NEWYDD

ENERGY WORKING FOR BRITAIN

Wylfa Newydd Project

6.1.2 ES Volume A - Introduction to the project and approach to the EIA A2 - Project overview and introduction to the developments

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2 Project overview and introduction to the developments

2.1 Introduction

2.1.1 An overview of the Wylfa Newydd Project and its constituent elements is provided in chapter A1 (introduction) (Application Reference Number: 6.1.1) of this Environmental Statement. This chapter provides further detail about the elements of the Wylfa Newydd Project. Detailed descriptions of each development are set out in the following chapters:

- chapter D1 (Power Station, Marine Works, Site Campus and Other on-site development) (Application Reference Number: 6.4.1);
- chapter E1 (Off-Site Power Station Facilities) (Application Reference Number: 6.5.1);
- chapter F1 (Park and Ride facility) (Application Reference Number: 6.6.1);
- chapter G1 (A5025 Off-line Highway Improvements) (Application Reference Number: 6.7.1); and
- chapter H1 (Logistics Centre) (Application Reference Number: 6.8.1).

2.2 Power Station, other on-site developments and Marine Works

2.2.1 The Power Station, other on-site developments and Marine Works would be located within the Wylfa Newydd Development Area (409 hectares), adjacent to the Existing Power Station at Wylfa Head, west of Cemaes on the north coast of Anglesey. Together with two contiguous Ecology Mitigation Areas comprising 24 hectares (see Figure A2.1, Application Reference Number: 6.1.10), this provides a total of 433 hectares within the Order Limits at this location.

2.2.2 The Power Station Site would comprise a range of buildings, structures, facilities and features. These include the following:

Power Station

- **Main plant** – buildings that are located in and around the single power island and contain the plant that is particularly important for safe generation of electricity.
- **Common plant** – comprising those parts of the Power Station that support the process of generation of power and are shared between the two UK ABWRs.
- **Supporting facilities, buildings, structures and features** – including those parts of the Power Station necessary to support the operation and maintenance of the Power Station, including offices and security facilities.

- **Grid Connection** – apparatus to transfer electrical energy to the National Grid high voltage electricity transmission network.

Other on-site development

- landscape works and planting;
- drainage;
- surface water management systems;
- public access works including temporary and permanent closures and diversions of Public Rights of Way;
- new Power Station Access Road and internal site roads;
- car parking;
- construction compounds and temporary parking areas;
- laydown areas;
- working areas and temporary works and structures;
- temporary construction viewing area;
- diversion of utilities;
- perimeter fencing;
- construction fencing; and
- electricity connections.

Marine Works

2.2.3 The Marine Works comprise:

- Permanent Marine Works: The Cooling Water System, the Marine Off-loading Facility, breakwater structures, shore protection works, surface water drainage outfalls, waste water effluent outfall (and associated drainage of surface water and waste water effluent to the sea), fish recovery and return system, fish deterrent system, navigation aids and Dredging; and
- Temporary Marine Works: temporary cofferdams, a temporary access ramp, navigation aids, temporary outfalls and a temporary barge berth.

2.2.4 Please refer to figure A2-1 (Application Reference Number: 6.1.10) for the location of the Wylfa Newydd Development Area and the Power Station Site.

2.2.5 Further detailed description of the Wylfa Newydd Development Area and Power Station Site is provided in chapter D1 (Application Reference Number: 6.4.1).

2.3 Licensable Marine Activities

2.3.1 The Licensable Marine Activities comprise the Permanent Marine Works, the Temporary Marine Works, the disposal of dredged material at the Disposal

Site (at Holyhead North), the drainage of surface water into the sea, the construction of a waste water treatment effluent outfall, and the drainage of treated sewage into the sea (during the construction phase only).

2.4 Off-Site Power Station Facilities

2.4.1 All of the Off-Site Power Station Facilities would be located on the same site. The selected site is located adjacent to the A5025 at Llanfaethlu, approximately 7.5km from the Wylfa Newydd Development Area, on a site currently used as a garage and vehicle parking. The proposed development would consist of the following.

- An Alternative Emergency Control Centre (AECC) to provide back-up command and communications facilities that would be used to remotely manage an incident at the Power Station in the extremely unlikely event the primary facilities on the Power Station Site were unavailable or if there was no access to the Power Station Site.
- A Mobile Emergency Equipment Garage (MEEG) to enable Horizon to store a number of specialist vehicles at a location close to but separate from the Power Station Site, allowing them to be rapidly deployed if needed to support an incident. The MEEG could also be used as a marshalling point for support arriving on Anglesey before onward dispatch to the Power Station Site in an emergency situation. The MEEG would be located in the same building as the AECC.
- An Environmental Survey Laboratory (ESL) would perform a normal operating function on a daily basis for environmental monitoring and, as such, would contain facilities such as radiation monitoring equipment to conduct radiological surveys in the local area.
- Car parking and pedestrian walkways.
- Access and delivery areas.
- Generator.
- Pump house.
- Fuel pump and fill point.
- Substation.
- Two underground fuel tanks.
- Refuse compound.
- Portable office pods.
- Container storage.
- Security fencing.
- Drainage swale.

2.4.2 The Off-Site Power Station Facilities would be used during the operational phase of the Power Station. The facilities are required in order to provide resilience against extreme events with very low probabilities.

2.4.3 Please refer to figure A2-2 (Application Reference Number: 6.1.10) for the location of the Off-Site Power Station Facilities.

2.4.4 Further detailed description of the Off-Site Power Station Facilities is provided in chapter E1 of the Environmental Statement (Application Reference Number: 6.5.1).

2.5 Associated Development

2.5.1 The Associated Development facilitates the delivery of the Nationally Significant Infrastructure Project, and comprises the Site Campus; a Park and Ride facility at Dalar Hir for construction workers; a Logistics Centre at Parc Cybi; and the A5025 Off-line Highway Improvements. Each of these is described below.

Site Campus

2.5.2 The Site Campus would provide temporary worker accommodation on land to the north-east of the Wylfa Newydd Development Area, to be delivered in phases. The Site Campus would only be present during construction of the Power Station. When it is no longer required the Site Campus buildings would be removed and the area returned to its pre-developed condition. Public footpaths and access to Fisherman's Car Park would be reinstated after Site Campus decommissioning.

2.5.3 The Site Campus would consist of:

- accommodation for up to 4,000 workers in 'campus' style modular form (providing an independent living space for each worker);
- amenity building including:
  - cafeteria;
  - café;
  - reception area;
  - gym;
  - bar;
  - shop;
  - first aid facilities; and
  - other social space.
- Site Campus Medical Centre;
- outdoor recreation including two multi-use games areas, outdoor seating and informal public spaces;
- Site Campus access road (from the site to the A5025);
- bus set down and parking area;
- disabled parking spaces (staff only) and parking for light vans/minibuses;

- temporary parking for workers during the initial phases of construction, consisting of 400 spaces internal access ways for pedestrians, service vehicles and emergency vehicles;
- 2.4m high Paladin type fence around the perimeter;
- soft landscaping works; and
- secondary substation, compactor, bin and bike stores.

2.5.4 The total of up to 4,000 bed spaces would be provided over a total of up to 25 buildings between four and seven storeys in height. Each building would provide between 128 and 224 bed spaces.

2.5.5 Additional services associated with the worker accommodation would include an extension to the existing Cemaes Welsh Water Treatment Plant (this is not part of the Wylfa Newydd Project as it is being undertaken by the local water utility).

2.5.6 Further detailed description of the Site Campus is provided in chapter D1 of the Environmental Statement (Application Reference Number: 6.4.1).

Park and Ride facility

2.5.7 The proposed Park and Ride facility at Dalar Hir would be located immediately to the north-east of Junction 4 on the A55 and approximately 18.5km from the Wylfa Newydd Development Area.

2.5.8 The Park and Ride facility would consist of:

- secure parking for up to 1,900 cars which would include 10 disabled car spaces, as well as spaces for 55 minibuses and 35 motorbikes;
- a bus waiting pick up and drop off zone for up to 15 buses with additional parking for eight buses;
- a bus transport facility building to provide:
  - transport information;
  - a waiting area;
  - welfare facilities;
  - a bus driver canteen; and
  - management office facilities.
- access via a new roundabout located near the existing A55-A5 junction (Junction 4);
- landscaping and screen planting for visual mitigation;
- other ancillary development, including a cycle store for up to 25 bicycles, signage, fencing, lighting, CCTV and utilities; and
- a watercourse crossing at the east end of the site.

2.5.9 This Park and Ride facility would be used during the construction phase of the Power Station to transport and manage the flow of some of the construction workforce to and from the Wylfa Newydd Development Area, in order to

reduce the number of vehicles being driven to the Wylfa Newydd Development Area.

2.5.10 Following construction of the Power Station, the Park and Ride facility would be removed and the land restored to its existing use (agricultural land). The existing hedge line and proposed new hedge line to the west of the site, along with tree and shrub planting, using native species, on the southern boundary would be retained as a legacy benefit.

2.5.11 Please refer to figure A2-3 (Application Reference Number: 6.1.10) for the location of the Park and Ride facility at Dalar Hir.

2.5.12 Further detailed description of the Park and Ride is provided in chapter F1 (Application Reference Number: 6.6.1) of the Environmental Statement.

A5025 Off-line Highway Improvements

2.5.13 The main route to the Wylfa Newydd Development Area from the mainland and the port of Holyhead is along the A55, the A5 and the A5025. Studies undertaken by Horizon in 2010–2011 (summarised in chapter G2 alternatives and design evolution, Application Reference Number: 6.7.2) identified that the stretch of the A5025 between the community of Valley and the Existing Power Station access road has physical and operational constraints in relation to its width, alignment, overtaking opportunities and surfacing condition.

2.5.14 A variety of highway improvement works along the A5025 would be needed to address existing safety and environmental concerns and mitigate the impacts of the construction and operation of the Wylfa Newydd Project.

2.5.15 The proposed A5025 Off-line Highway Improvements form an important component of the Wylfa Newydd Project, and are required as part of the wider transport strategy for the project, as described in the Integrated Traffic and Transport Strategy (appendix F of appendix C2-4 DCO Transport Assessment, Application Reference Number: 6.3.20). The A5025 Off-line Highway Improvements involve the construction of new sections of road such as bypasses and road realignment works.

2.5.16 The A5025 Off-line Highway Improvements seek to address potential environmental effects on communities, including noise from increased road traffic and severance.

2.5.17 The A5025 between Valley and the Power Station Site is approximately 16.5km in length and can be broadly described geographically in eight sections. Sections 1, 3, 5 and 7 relate to the A5025 Off-line Highway Improvements, as described below. Please refer to figure A2-4 (Application Reference Number: 6.1.10) for the location of the A5025 Off-line Highway Improvements.

2.5.18 The A5025 Off-line Highway Improvements can be described as follows:

- section 1 – A5 east of Valley Junction to the north of Valley Junction – proposed four arm roundabout and bypass connecting the A5 with the A5025 to the east of the existing A5/A5025 signalised junction;

- section 3 – north of Llanynghenedl to the north of Llanfachraeth – proposed 2km highway to provide a bypass to the east of Llanfachraeth village;
- section 5 – south of Llanfaethlu to the north of Llanfaethlu – proposed bypass to provide a straighter section of road, where there are two existing substandard bends near the Black Lion pub and through Llanfaethlu;
- section 7 – north of Llanrhyddlad to the north of Cefn Coch – proposed bypass to eliminate two existing substandard bends in Llanrhwydrus; and
- new Power Station Access Road junction - proposed roundabout junction linking the proposed Power Station Access Road to the existing A5025 public highway.

2.5.19 Further detailed description of the A5025 Off-line Highway Improvements is provided in chapter G1 (Application Reference Number: 6.7.1) of the Environmental Statement.

2.5.20 The proposed A5025 On-line Highway Improvements include the replacement of the existing carriageway and minor widening within or adjacent to the highway boundary. Sections 2, 4, 6 and 8 relate to the A5025 On-line Highway Improvements. The A5025 On-line Highway Improvements are the subject of a separate planning application to be made to the Isle of Anglesey County Council under the Town and Country Planning Act 1990.

Logistics Centre

2.5.21 The proposed Logistics Centre would be located in the north-west of the wider Parc Cybi employment area approximately 19km from the Wylfa Newydd Development Area. The Logistics Centre would consist of:

- an office/welfare building;
- security kiosk;
- driver instructor point;
- covered inspection bay;
- heavy goods vehicle scanner; and
- parking zones (100 parking bays for heavy, medium and light goods vehicles, and 12 staff parking bays (plus one disabled space)).

2.5.22 The Logistics Centre would be used during the construction phase of the Power Station to control the flow of traffic along the A5025, in order to prevent vehicles leaving in convoy and to avoid sensitive times of the day (such as peak work rush hour and school run).

2.5.23 Following construction of the Power Station, the site would be available for another use subject to necessary consents being secured.

2.5.24 Please refer to figure A2-5 (Application Reference Number: 6.1.10) for the location of the Logistics Centre.

2.5.25 Further detailed description of the Logistics Centre is provided in chapter H1 of the Environmental Statement (Application Reference Number: 6.8.1).

Wetland habitat creation and enhancement works

2.5.26 Three sites have been identified which provide opportunity to create and enhance rich-fen and mire habitat to off-set potential adverse effects on Tre'r Gof SSSI which lies within the Wylfa Newydd Development Area. The sites are located at Cae Canol-dydd, Cors Gwawr and Ty du.

2.5.27 Cae Canol-dydd is located approximately 1.6km northeast of Llangefni, in central Anglesey. Cors Gwawr is located approximately 3km northeast of Llangefni in central Anglesey. Ty du is situated on the Llanbadrig headland to the east of Cemaes, north of the A5025.

2.5.28 The location of Cae Canol-dydd and Cors Gwawr is designed to link isolated SSSI units with Cors Gwawr located between Caeau Talwrn SSSI and Cors Bodeilio SSSI, and Cae Canol-dydd located between two separate units of Caeau Talwrn. These SSSI units also form part of the Corsydd Môn/Anglesey Fens SAC. The creation and enhancement of rich-fen at these two compensation sites would strengthen links between these SSSI units, and the resilience of the Corsydd Môn/Anglesey Fens SAC, which has the potential to result in extensive restoration and enhancement of these designated sites.

2.5.29 At Cae Canol-dydd, the works outside of the Caeau Talwrn SSSI would comprise the following:

- creation of access tracks;
- topsoil stripping and re-landscaping in order to lower the land level and expose a nutrient-poor, calcium-rich mineral substrate for vegetation establishment;
- topsoil storage in dedicated locations on site, in mounds no greater than two metres high;
- drainage modifications to reverse the artificial drainage of the site;
- fencing to exclude stock from the habitat creation areas; and
- seeding and planting of key species.

2.5.30 Works inside the Caeau Talwrn SSSI within the Cae Canol-dydd site would involve the cutting of black bog-rush and purple moor-grass tussocks to create a patchwork of short open areas while retaining some tussocks, particularly those supporting calcifugous and other vegetation.

2.5.31 At Cors Gwawr, the proposed habitat creation works would comprise the following:

- creation of access tracks;
- topsoil stripping and re-landscaping in order to lower the land level and expose a nutrient-poor, calcium-rich mineral substrate for vegetation establishment;

- topsoil storage in dedicated locations on site, in mounds no greater than two metres high;
- scrub removal;
- drainage modifications to reverse the artificial drainage of the site;
- fencing to exclude stock from the habitat creation areas; and
- seeding and planting of key species.

2.5.32 The proposed habitat enhancement works at Cors Gwawr would cover an area of 1.9ha of poor quality rich-fen habitat. The existing species-poor, coarse vegetation would be scraped away, and green hay or other plant propagules would be introduced.

2.5.33 At Ty du, the proposal aims to facilitate the regeneration and management of mire habitat, and would include the following:

- installation of management infrastructure;
- 2.4ha of mire that would be enhanced directly through appropriate management;
- 3.1ha of scrub-covered mire that would be enhanced through scrub clearance and vegetation regeneration;
- 1.5ha of species-poor purple moor-grass-dominated mire that would be enhanced through cutting and vegetation regeneration; and
- removal of the septic tank in the northeast of the site (to be replaced if its ongoing use is required).

2.5.34 More information on the proposals for the wetland habitat creation and enhancement works is provided in appendix D9-24 (SSSI compensation strategy – volume 2) (Application Reference Number: 6.4.57).

2.6 Outline programme of construction and operation

2.6.1 The Power Station construction programme is anticipated to commence in the first year following award of development consent. The main construction phase is anticipated to take approximately seven years, with the first ABWR Unit operational at the end of that period, and the second ABWR Unit operational approximately two years later. Peak Construction (i.e. prior to the commissioning of Unit 1) represents the worst case scenario with higher traffic volumes than Unit 2 construction combined with Unit 1 operation. Completion of the spent fuel storage facility would not commence until year 15 as the facility is not required until approximately year 17. Further details on construction can be found in appendix D1-1 (Construction Method Statement) (Application Reference Number: 6.4.17) of the Environmental Statement.

2.6.2 Activities such as bulk earthworks, deep excavations, rock excavation and the Marine Off-Loading Facility construction are likely to peak during years 1 and 2. The following activities are likely to peak during year 5:

- construction activities
- concrete production;
- distribution and placing;
- steel reinforcing works;
- cranage;
- access to structures; and
- related site logistics.

2.6.3 It is anticipated that construction of the Off-Site Power Station Facilities would commence in year 3 and last until year 5. It is anticipated that the Off-Site Power Station Facilities would be operated throughout the operation of the Power Station until decommissioning.

2.6.4 It is anticipated that construction of the Park and Ride facility at Dalar Hir would commence in year 1 and last for approximately 18 months. It is anticipated that the Park and Ride facility would be operated during construction of the Power Station.

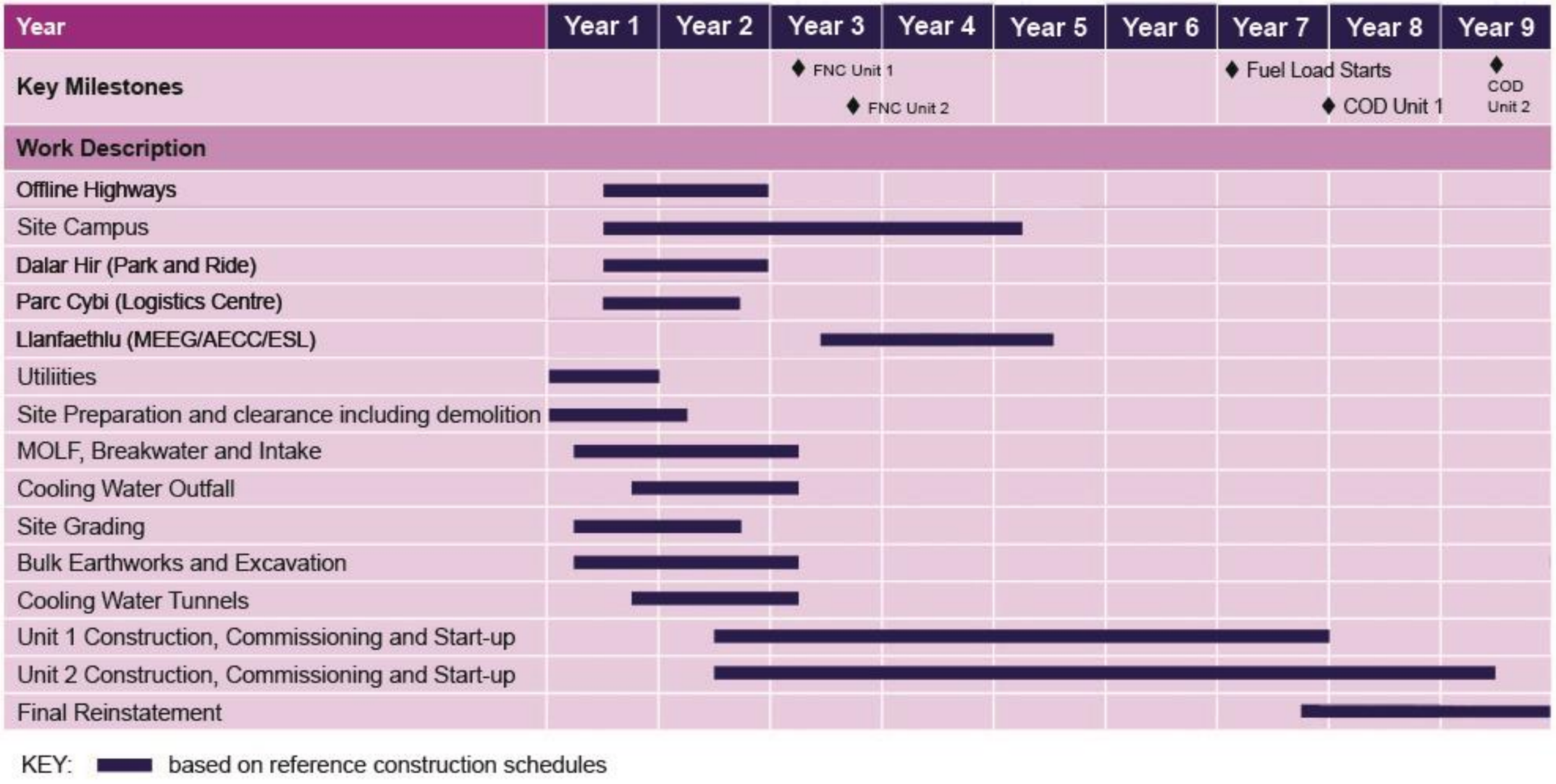
2.6.5 The A5025 Off-line Highway Improvements are proposed to be completed in time for the start of major construction activities at the Wylfa Newydd Development Area. It is anticipated that construction of the A5025 Off-line Highway Improvements would commence in year 1 and last for approximately 18 months.

2.6.6 It is anticipated that construction of the Logistics Centre at Parc Cybi would commence in year 1 and last for approximately 15 months. It is anticipated that the Logistics Centre would be operated during construction of the Power Station.

2.6.7 The Site Campus facilities are required throughout the construction phase of the Power Station, but would be scalable in a minimum of three phases to a maximum of 4,000 bed spaces. The key phases being 1,000 bed spaces (Phase 1), 2,500 bed spaces (Phase 2) and 4,000 bed spaces (Phase 3).

2.6.8 Please see figure A2-6 below for the construction timeline.

Figure A2-6 Construction Timeline



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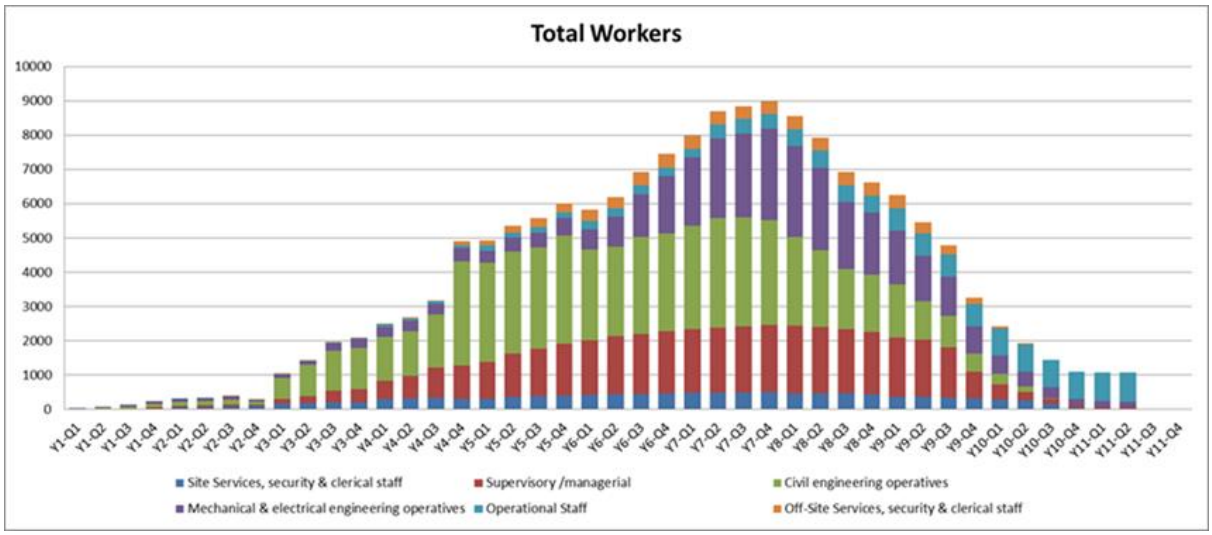
2.7 Construction workforce

2.7.1 Several thousand construction workers would be required during the approximately nine-year construction programme, with numbers estimated to reach 8,500 shift workers during peak periods. To ensure any unforeseen increases in worker numbers are mitigated, a peak of 9,000 workers is used for assessment in this Environmental Statement.

2.7.2 Figure A2-7 below shows the anticipated workforce profile for the Wylfa Newydd Project during the construction phase. This workforce profile includes the workers required for the construction and operation of the Power Station, the Marine Works, other on-site developments, the Licensable Marine Activities, Off-Site Power Station Facilities and Associated Development, noting that Power Station operational workers would join the workforce during the construction period and overlap.

2.7.3 Refer to chapter C1 (socio-economics) (Application Reference Number: 6.3.1) for further information on the worker numbers for the Wylfa Newydd Project as a whole.

Figure A2-7 Construction workforce profile



2.8 Related application by National Grid

2.8.1 The electrical energy generated by the Power Station would be transferred to the National Grid via the existing 400kV substation. The connection from the 400kV substation into the National Grid at Pentir near Bangor on the Welsh mainland is a separate Development Consent Order project, known as the North Wales Connection Project and is being separately taken forward by National Grid Electricity Transmission plc. The Development Consent Order application for the North Wales Connection Project will also include an Environmental Statement. The cumulative effects of the Wylfa Newydd Project together with the North Wales Connection Project have been assessed and are reported in chapter I5 (Application Reference Number: 6.9.5).