



The Abergelli Power Gas Fired Generating Station Order

9.2 Gas Connection Statement

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

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1. INTRODUCTION

1.1 APL is promoting a new thermal generating station on land at Abergelli Farm, Felindre, near Swansea, Wales (the Project).

1.2 The Power Generation Plant constitutes a Nationally Significant Infrastructure Project (NSIP) by virtue of section 14 (1)(a) and section 15 of the Planning Act 2008 (PA 2008) which includes within the definition of an NSIP any onshore generating station in England or Wales of 50 MWe capacity or more. Under section 31 of the PA 2008 a Development Consent Order (DCO) is required to develop a NSIP. Under section 37 of the PA 2008 this can only be granted if an application is made for it to the Secretary of State (SoS) (the DCO Application).

1.3 The three main elements of the Project comprise:

- An Open Cycle Gas Turbine (OCGT) peaking power generating station, fuelled by natural gas and capable of providing a rated electrical output of up to 299 Megawatts (MW). The Power Generation Plant comprises:
 - Generating Equipment including one Gas Turbine Generator with one exhaust gas flue stack and Balance of Plant (BOP) (together referred to as the 'Generating Equipment') which are located within the 'Generating Equipment Site';
 - An Access Road to the Project Site from the B4489 which lies to the west, formed by upgrading an existing access road between the B4489 junction and the Swansea North Substation (the Substation) and constructing a new section of access road from the Substation to the Generating Equipment Site; and
 - A temporary construction compound for the storage of materials, plant and equipment as well as containing site accommodation and welfare facilities, temporary car parking and temporary fencing (the Laydown Area). A small area within the Laydown Area will be retained permanently (the Maintenance Compound).
 - Ecological Mitigation Area – area for ecological enhancement within the Project Boundary
 - Permanent parking and drainage to include: a site foul, oily water and surface water drainage system.
- A Gas Connection in the form of a new Above Ground Installation (AGI) and underground Gas Pipeline to bring natural gas to the Generating Equipment from the National Gas Transmission System; and
- An Electrical Connection in the form of a new underground electrical cable to export power from the Generating Equipment to the National Grid Electricity Transmission System (NETS).

Development Consent under the Planning Act 2008

Power Generation Plant

- 1.4 The Power Generation Plant would have a rated electrical output of up to 299 MW of electricity and is therefore classified as a Nationally Significant Infrastructure Project (“NSIP”) under section 15 of the Planning Act 2008 (as amended) (“PA 2008”).
- 1.5 As such, APL is applying to the Secretary of State (“SoS”) for Business, Energy and Industrial Strategy under section 31 of the PA 2008 for a Development Consent Order (“DCO”) for powers to construct, operate and maintain the Power Generation Plant.

Associated Development

- 1.6 The Gas Connection and Electrical Connection comprise development associated with the NSIP (“associated development”).
- 1.7 The PA 2008 restricts associated development for which consent can be sought under a DCO in Wales to development that is associated with a generating station with a capacity in excess of 350MW. As the Power Generation Plant would have rated electrical output of up to 299 MW, associated development to the Power Generation Plant cannot be included in any application for DCO under the PA 2008. The application for a DCO therefore only includes the Power Generation Plant and related mitigation as “authorised development” and does not seek development consent for the Gas Connection or the Electrical Connection.

Town and Country Planning Act 1990 and Town and Country Planning (General Permitted Development) Order 1995

- 1.8 APL will seek planning permission for the Gas Connection under the Town and Country Planning Act 1990 (“TCPA 1990”). The Electrical Connection could either be consented through the TCPA 1990 or as permitted development under the Town and Country Planning (General Permitted Development) Order 1995 (“GPDO”). As stated in the document Details of Other Consents and Licences (Document Reference 5.4), the planning application for the Gas Connection is expected to be submitted in summer 2018 following EIA screening and is anticipated to be determined in advance of the determination of the DCO Application.
- 1.9 The AGI which forms part of the Gas Connection consists of two parts, a pipeline inspection gauge (pig) trap facility (PTF) and a minimum offtake connection (MOC). The remaining part to the Gas Connection is the underground Gas Pipeline which connects into the AGI to bring natural gas to the Generating Equipment from the National Gas Transmission System.
- 1.10 Section 37 of the PA 2008 governs the content of an application for a DCO, including the requirements for the necessary accompanying documents specified in the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP Regulations).
- 1.11 This Gas Connection Statement accompanies the DCO Application and has been prepared to comply with Regulation 6(1)(a)(ii) of the APFP Regulations, which, where

a DCO Application is for a gas fuelled generating station, requires the Applicant to provide "a statement of who will be responsible for designing and building the gas pipeline connection to the generating station".

1.12 A full glossary of defined terms is presented in Document Reference 1.4.

2. PROJECT SUMMARY

- 2.1 The Generating Equipment would operate as a OCGT peaking plant and would be designed to provide an electrical output of up to 299 Megawatts electrical (MWe). The plant would be fuelled by natural gas, supplied to the Generating Equipment Site by a new Gas Pipeline connecting the Generating Equipment to the existing National Gas Transmission System.
- 2.2 Peaking plants are required to operate when there is a surge in demand for electricity associated with a particular event (e.g. where many people across the country boil kettles following the end of a popular television programme) or where there is a sudden drop in power being generated from plant which are constantly operational (e.g. a sudden outage).
- 2.3 Operating as a Peaking Plant, the Generating Equipment would also help to ‘balance out’ the grid at times of peak electricity demand and will help to support the grid at times when other technologies (e.g. wind and solar farms) cannot generate electricity due to their intermittent operation and reliance on weather conditions. Peaking Plants are therefore vital in ‘evening out’ the power in the grid. The Generating Equipment would operate intermittently for up to 2,250 hours per year. This could be at any time during the year and for any length of time up to but not exceeding 2,250 hours and not exceeding 1,500 hours on a 5 year rolling average.
- 2.4 The Generating Equipment will supply electricity to the NETS operated by National Grid Electricity Transmission PLC (NGET). NGET holds a transmission licence issued pursuant to the Electricity Act 1989.
- 2.5 The Project is more fully described in Chapter 3 of the Environmental Statement (Document Reference 6.1).

3. **CONTRACTUAL AGREEMENTS**

- 3.1 APL will submit a connection application to National Grid Gas in 2019 for the MOC (which facilitates the APL Gas Pipeline connection to the National Gas Transmission System) to connect the Generating Equipment to the National Gas Transmission System.
- 3.2 Upon submission of the application, NGG will have 6 months to provide APL with a connection offer at which point APL will have a further 3 months to decide whether to accept the terms of the offer.
- 3.3 Upon acceptance, APL will enter into a Design and Build Agreement (DBA) with NGG for the construction of the new MOC. The DBA will set out the cost and timescales for delivery of the MOC. These timescales will be designed to meet the target first operations date of 2022 as stated in the Environmental Statement (Document Reference: 6.1).

4. PIPELINE CROSSING AGREEMENTS

National Grid Gas (NGG)

- 4.1 The APL Gas Pipeline will need to cross three legs of gas pipeline Feeder 28 at two locations. Feeder 28 is owned by NGG. The crossing works would take place in plot 6 within the Book of Reference (Document Reference 4.3). Figure 3.4 Existing Utilities Plan at Document Reference 6.3 shows the location of Feeder 28 in relation to the Gas Connection.
- 4.2 Although not an exhaustive list, the works broadly include horizontal directional drilling / auger boring under pipes and the crossing of ground above pipes with vehicles during construction and use of land for stockpiling.
- 4.3 APL is in active discussions with NGG over the crossing of these assets. Protective provisions have been sent to NGG for agreement and APL's proposed draft protective provisions have been included in the draft DCO.

Abergelli Solar Ltd

- 4.4 The APL Gas Pipeline will need to cross an underground electrical cable, which is owned by Abergelli Solar Ltd. The crossing works would take place in plots 3 and 4 within the Book of Reference (Document Reference 4.3).
- 4.5 Although not an exhaustive list, the works broadly include horizontal directional drilling / auger boring under pipes and the crossing of ground above pipes with vehicles during construction and use of land for stockpiling.
- 4.6 APL is in active discussions with Abergelli Solar Ltd over the crossing of this asset. Protective provisions have been sent to Abergelli Solar Ltd for agreement and APL's proposed draft protective provisions have been included in the draft DCO.

5. RESPONSIBILITIES FOR DESIGNING AND BUILDING THE GAS CONNECTION (Regulation 6(1)(a)(ii))

Background

- 5.1 The UK National Grid Gas system is split into two parts, the National Gas Transmission System and the LTS (Local Transmission System).
- 5.2 The National Gas Transmission System represents the infrastructure designed to transmit gas over large distances around the country, this infrastructure principally consists of large diameter pipelines (> 24"/600mm) operating at high pressure (~70barg). The National Gas Transmission System is the backbone of the UK gas infrastructure and as such does not reach all points of mainland Britain; the extremities are covered by the LTS.
- 5.3 A feasibility study identified Feeder 28 on the National Gas Transmission System as the most appropriate connection option for the Project. Feeder 28 is designed to bring gas into the National Gas Transmission System from the Milford Haven liquefied natural gas terminals. Several possible locations for connecting to Feeder 28 were reviewed and assessed based on industry best practice considerations. This work also entailed looking at several possible routes from the Generating Equipment Site to the three 1200 mm high pressure steel pipelines that comprise Feeder 28 and culminated with a preferred MOC location and pipeline route. An LTS connection option in the vicinity of the Project Site was also considered in the feasibility study; this was not considered to be the most appropriate connection option due to the lack of pressure and availability of gas through the LTS option.
- 5.4 Preliminary discussions with NGG have indicated the likelihood of available gas capacity in Feeder 28 for the APL requirements.
- 5.5 Further information on the Gas Connection, including the alternative route options considered between the Generating Equipment and Feeder 28, is contained in Chapter 5 of the Environmental Statement (Document number 6.1). An explanation of consultation feedback received on the Gas Connection and how it has been taken into account is contained in the Consultation Report (Document number 5.1.0).

The Gas Connection

- 5.6 The Gas Connection will be in the form of a new AGI and underground Gas Pipeline, which is required in order to connect the Generating Equipment to the existing National Gas Transmission System so as to provide a reliable supply of fuel.
- 5.7 Connection of the Gas Pipeline to the National Gas Transmission System will require an AGI to be installed which will comprise: a MOC facility, which will be owned by National Grid; and a Pipeline Inspection Gauge (PIG) Trap Facility (PTF) which will be owned by APL.
- 5.8 Termination of the Gas Connection will be at a second PTF located on the Generating Equipment Site. A further facility known as the Gas Receiving Station (GRS) will be situated downstream of the PTF within the Generating Equipment Site.

- 5.9 The AGI (both the MOC and PTF) will be located at the northern end of the Project Site, on the southern side of the Rhyd-y-pandy Road leading to Felindre. Once complete, maintenance access for the AGI will be from the Rhyd-y-pandy Road via a short, purpose built tarmac access track. The Gas Connection will then follow a route corridor shown on Figure 3.2 running in southerly direction to the Generating Equipment Site. It will be approximately 1.4 km in length. It will cross the National Gas Transmission System in two locations, a Public Right of Way (LC35B) in one location, two private farm tracks (see Figure 3.3) and one ditch (field drain).
- 5.10 Full details of the permanent and temporary rights required are contained in the Book of Reference (Document Reference 4.3).
- 5.11 The location of the Gas Connection is shown Figure 3.2 of the Environmental Statement Figures (Document Reference 6.3).

Design: Pipeline

- 5.12 APL will be responsible for the design of the Gas Pipeline.
- 5.13 The Gas Pipeline would be designed, constructed and tested to comply with the Institute of Gas Engineers' (IGE) Recommendations on Transmission and Distribution Practice – IGE/TD/1: Edition 5, 2009 - Steel Pipelines and Associated Installations for High Pressure Gas Transmission (IGE/TD/1).
- 5.14 The standard Gas Pipeline wall thickness would comply with the requirements of IGE/TD/1, which defines the minimum safe separation distance between a high pressure gas pipeline and normally inhabited buildings / major roads / major railways. This minimum safe separation distance is known as the Building Proximity Distance (BPD). If normally inhabited buildings / major roads / major railways are closer than 1 BPD (i.e. the gas pipeline is in an area where additional protection is required), thicker wall steel pipe (known as proximity pipe) would be used. The exact locations and lengths of where thicker wall steel pipe would be used would be confirmed throughout the assessment and detailed design stages.
- 5.15 The Gas Pipeline would be buried to a depth of cover which is in accordance with recognised industry standards. For example, depths of cover would be:
- No less than 1.2 m in agricultural land;
 - No less than 2 m under road crossings; and
 - No less than 1.7 m under water crossings.
- 5.16 For the purposes of construction, the Gas Pipeline would be accessed via the Laydown Area, which forms part of the Power Generation Plant Site and from the AGI location adjacent to Feeder 28, to the south of Rhyd-y-pandy Road where a new access point to the AGI will be created.

Design: AGI

- 5.17 Connection to the National Gas Transmission System at any high pressure pipeline location will require two adjacent above ground facilities to be installed; a MOC, which would be designed, constructed, owned and operated by NGG, and a PTF which

would be designed, constructed, owned and operated by APL (these two facilities together constitute the AGI). The AGI would contain the following pieces of equipment.

- 5.18 The MOC (approximately 35x35m) would contain:
- Remotely Operable Valve (ROV);
 - Control and Instrumentation Kiosk;
 - Electrical Supply Kiosk.
- 5.19 PTF (approximately 35x35m) would contain:
- PIG Launching Facility;
 - Emergency Control Valve;
 - Isolation Valve;
 - Control and Instrumentation Kiosk;
 - Electrical Supply Kiosk.
- 5.20 The AGI would be accessed via Rhyd-y-pandy road. A short length of purpose built tarmacadam access track would be constructed between Rhyd-y-pandy road and the AGI in order to allow infrequent maintenance visits.

Construction

- 5.21 APL will responsible for the construction of the Gas Pipeline and PTF. The MOC will be constructed by NGG.
- 5.22 Construction of the Gas Pipeline would take place within a temporary fenced strip of land called the 'working width'. The gas pipeline working width is required to facilitate safe construction and the protection of off-site receptors.
- 5.23 It is likely that the working width would be approximately 50 m along the length of the Gas Pipeline route, although it may be necessary to increase / decrease the working width at specific points. For example, adjacent to crossings of the Feeder 28, it will be necessary to increase the working width to provide additional working areas and storage for materials or special plant. Alternatively, adjacent to areas of conservation or existing services it may be necessary to decrease the working width. These working widths can be seen on the Land Plans (Document Reference 2.2).
- 5.24 Access to the working width during construction will be at defined points at each end of the working width shown (where relevant) on the Rights of Way, Streets and Access Plans (Document Reference 2.4). These points would be carefully controlled and signposted, and gates / stiles would be incorporated into the temporary fences wherever access must be maintained.
- 5.25 Aside from any special crossings, where trenchless techniques (HDD or auger bore) may be used to reduce impact on sensitive areas, it is expected that the Gas Pipeline will be constructed using standard open-cut cross-country pipeline construction

techniques. The main activities will include: fencing; topsoil stripping; pipe stringing (the process of laying the pipe end to end) and welding; trench excavation; pipe laying (positioning of the welded pipe into the trench); back filling; pressure testing, drying and pipeline pigging operations; and re-instatement of the land.

- 5.26 Topsoil would be stripped within the working width along the Gas Pipeline route and a temporary trackway would be established to allow the movement of pipeline construction machinery. The Gas Pipeline would be constructed from lengths of factory coated steel pipe of a length of up to approximately 12 m. These are normally off-loaded with cranes at road crossings or at temporary laydown areas, transported along the working width and laid out on timbers adjacent to the trench line in preparation for welding and lowering into the trench. The individual lengths of pipe are then welded together to form the pipeline string which is then subjected to inspection. Once the welds are accepted, a standard coating is applied on site to girth weld location points. The pipeline coating is then tested electronically along the whole of its length to detect damage or other defects, which if present would be repaired before re-testing.
- 5.27 The pipeline trench will be excavated and the welded pipeline will be lowered into a prepared trench for backfilling with appropriate selected fill.
- 5.28 Following some replacement of the top soil then a programme of testing will commence to ensure the Gas Pipeline is fit for purpose.

Operation

- 5.29 APL will be responsible for the operation of the Gas Pipeline and PTF. NGG will be responsible for the operation of the MOC.
- 5.30 The Gas Connection would remain operational for the entire lifetime of the Power Generation Plant. No parts of the Gas Connection would be manned. Telemetry apparatus (both within the pipeline trench and at the AGI) would report back any issues to a central control room.

Maintenance

- 5.31 APL will be responsible for the maintenance of the Gas Pipeline and PTF. NGG will be responsible for the operation of the MOC.
- 5.32 Should any significant operational issues be identified, the Gas Pipeline would be isolated and the supply switched off, pending investigation of any faults. Access to the AGI during maintenance / repair would be via a new access created off Rhyd-y-pandy road, as already described for construction access.
- 5.33 No new access points would be created to access the Gas Pipeline. In the unlikely event that there are issues with the operation of the Gas Pipeline, the route would be accessed through existing open fields.
- 5.34 Protective provisions will be agreed with National Grid Gas ensuring they have a right to access their pipelines which will be crossed by the APL Gas Pipeline.

6. ACQUISITION OF LAND AND RIGHTS

- 6.1 The proposed draft DCO (Document Reference 3.1) includes powers to compulsorily acquire land and rights to allow APL to construct, use and maintain the Gas Connection. These are fully described in the Book of Reference (Document number 4.3).
- 6.2 These powers include acquisition of the freehold of the site of the AGI and new access. In respect of the Gas Pipeline route, powers include rights for APL and all persons authorised on its behalf to enter on foot, with or without vehicles, plant and machinery for all purposes in connection with the laying, installation, use and maintenance of a high pressure gas pipeline up to 250 mm nominal bore, telecommunications, other ancillary apparatus and any other works as necessary together with the right to install, retain, use, maintain, inspect, repair, adjust, alter, remove, refurbish, reconstruct, replace and improve the said pipeline, telecommunications, other ancillary apparatus and any other works necessary for the purpose of constructing and installing the said pipeline, telecommunications, other ancillary apparatus and any other works necessary together with the right to fell, trim or lop trees and bushes which may obstruct or interfere with the said pipeline, telecommunications or other ancillary apparatus, together with temporary use, together with associated restrictions on erecting buildings or structures, altering ground levels, planting trees or carrying out operations or actions which may obstruct, interrupt, or interfere with the exercise of the said rights.
- 6.3 APL has a contract in place to secure some of the land required for the Project (this includes parts of the land required for the Generating Equipment and the Gas Connection). Negotiations are in progress with regard to the purchase of land, the acquisition of and/or creation of new rights and imposition of restrictions required over the remainder of the land required for the Gas Connection. The Statement of Reasons at Document Reference 4.1 contains the latest status of negotiations with the landowner.

7. **CONSENTS FOR THE CONNECTION WORKS**

7.1 APL is required to submit a statement pursuant to regulation 6 of the APFP Regulations to provide "a statement of who will be responsible for designing and building the gas pipeline connection to the generating station".

7.2 APL considers that this statement provides confirmation to the Secretary of State that:

- APL will secure a design and build agreement with NGG regarding connection of the Generating Equipment;
- The agreement will provide that APL will design and build the Gas Pipeline and PTF, with NGG building and owning the MOC;
- If the draft DCO is made on substantively the same terms as those submitted in May 2018, APL will secure the necessary land and rights to allow NGG and itself to construct, operate and maintain the Gas Connection;
- APL will obtain planning permission for the Gas Connection through the Town and Country Planning Act 1990; and
- Preliminary discussions with NGG have indicated the likelihood that gas capacity is available in Feeder 28 for APL requirements.