



The Millbrook Power (Gas Fired Power 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 Millbrook Power Limited (MPL) is seeking to develop a gas fired power station at Rookery South Pit located near the villages of Stewartby, Millbrook, Lidlington and Marston Moretaine, Bedfordshire, referred to as the Millbrook Power Project.

1.2 The Project constitutes a Nationally Significant Infrastructure Project (NSIP) by virtue of section 14 (1)(a) and sections 15(1) and (2) 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, the DCO can only be granted if an application is made for it to the Secretary of State (SoS) (the DCO Application)

1.3 The Project would comprise:

- I. a new Power Generation Plant in the form of an Open Cycle Gas Turbine (OCGT) peaking power generating station, fuelled by natural gas with a rated electrical output of up to 299 MW. This is the output of the generating station as a whole, measured at the terminals of the generating equipment. The Power Generation Plant comprises:
 - (a) generating equipment including one Gas Turbine Generator with one exhaust gas flue stack and Balance of Plant (together referred to as the 'Generating Equipment'), which are located within the 'Generating Equipment Site';
 - (b) a new purpose built access road from Green Lane to the Generating Equipment Site (the 'Access Road' or the 'Short Access Road');
 - (c) a temporary construction compound required during construction only (the 'Laydown Area');
- II. a new underground gas pipeline connection, approximately 1.8 km in length (the 'Pipeline') to bring natural gas to the Generating Equipment from the National Transmission System (the 'Gas Connection'). The Gas Connection also incorporates an Above Ground Installation (AGI) at the point of connection to the National Transmission System; and
- III. a new electrical connection to export power from the Generating Equipment to the National Grid Electricity Transmission System (NETS) (the 'Electrical Connection'), comprising an underground double circuit Tee-in. This would require one new tower (which will replace an existing tower and be located in the existing Grendon – Sundon transmission route corridor, thereby resulting in no net additional towers). This option would require two SECs, one located on each side of the existing transmission line, and both circuits would then be connected via underground cables approximately 500 m in length to a new substation (the 'Substation').

- 1.4 The Generating Equipment, Access Road and Construction Laydown Area are together known as the 'Power Generation Plant' and are located within the 'Power Generation Plant Site'. The Power Generation Plant Site is approximately 12.5 ha in area.
- 1.5 The Power Generation Plant, Gas Connection, and Electrical Connection, together with all access requirements are referred to as the 'Project'. The land upon which the Project would be developed, or which would be required in order to facilitate the development of the Project, is referred to as the 'Project Site'. The Project Site is approximately 48 ha in area.
- 1.7 The Gas Connection comprises the pipeline itself (the Pipeline) as well as the AGI. In turn the AGI consists of two parts, a pipeline inspection gauge (PIG) trap facility (PTF) and a minimum offtake connection (MOC).
- 1.8 Section 37 of the PA 2008 governs the content of an application for a development consent order, including the requirements for the necessary accompanying documents specified in the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (APFP Regulations).
- 1.9 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".
- 1.10 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 MWe. The plant would be fuelled by natural gas, supplied to the Power Generation Plant Site by a new gas pipeline connecting the Generating Equipment to the 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 other power plants 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 system. 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 section 3 of the Environmental Statement (Document Reference 6.1).

3. **CONTRACTUAL AGREEMENTS**

- 3.1 MPL will submit a connection application to National Grid Gas (NGG) in 2018 for the MOC (which facilitates the connection of the Pipeline to the National Transmission System) to connect the Generating Equipment to the National Transmission System.
- 3.2 Upon submission of the application, NGG will have 6 months to provide MPL with a connection offer at which point MPL will have a further 3 months to decide whether to accept the terms of the offer.
- 3.3 Upon acceptance, MPL 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

Anglian Water

- 4.1 The Pipeline will need to cross a water pipeline owned by Anglian Water (plot 8_GC, 12_GC and 12A_GC) within the Book of Reference (Document Reference: 4.3).
- 4.2 Although not exhaustive, the works include horizontal directional drilling underneath pipes and the crossing of ground above pipes with vehicles during construction and use of land for stockpiling.
- 4.3 MPL is in active discussions with Anglian Water over the crossing of its assets. Protective provisions for the benefit of Anglian Water have been included in the draft DCO (Document Reference 3.1) and have been sent to Anglian Water for agreement.

Compania Logistica de Hidrocarburos

- 4.4 The Pipeline will need to cross an oil pipeline owned by Compania Logistica de Hidrocarburos, c/o CLH Pipeline System (CLH-PS) Ltd (plot 7_GC, 7A_GC and 7B_GC) within the Book of Reference (Document Reference 4.3).
- 4.5 Although not exhaustive, the works include horizontal directional drilling underneath pipes and the crossing of ground above pipes with vehicles during construction and use of land for stockpiling.
- 4.6 MPL is in active discussions with CLH-PS over the crossing of its assets. Protective provisions for the benefit of CLH-PS have been included in the draft DCO (Document Reference: 3.1) and have been sent to CLH-PS for agreement.

National Grid Gas

- 4.7 The Pipeline will need to cross gas pipeline Feeder 9, owned by NGG (9_GC, 9A_GC, 9B_GC, 11_GC, 12_GC and 12A_GC) within the Book of Reference (Document Reference: 4.3).
- 4.8 Although not exhaustive the works broadly include horizontal directional drilling underneath pipes and the crossing of ground above pipes with vehicles during construction and use of land for stockpiling.
- 4.9 MPL is in active discussions with NGG over the crossing of its assets. Protective provisions for the benefit of NGG have been included in the draft DCO (Document Reference: 3.1) and have been sent to NGG for agreement..

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 Transmission System and the LTS (Local Transmission System).
- 5.2 The National Transmission System represents the infrastructure designed to transmit gas large distances around the country, this infrastructure principally consists of large diameter pipelines (> 24"/600mm) operating at high pressure (~70barg). The National Transmission System is the backbone of the UK gas infrastructure.
- 5.3 Feasibility studies identified that Feeder 9 on the National Transmission System is the most appropriate connection option from the Generating Equipment. Two possible locations for connecting to Feeder 9 and one connecting to Feeder 7 were reviewed and assessed based on industry best practice categories. This work entailed looking at a small number of routes to the nearest National Transmission System infrastructure and culminated with a preferred MOC location and pipeline route. The location of the AGI was moved slightly further south along Feeder 9 after discussions with the landowner. This didn't change the conclusions of the feasibility study. Two options to connect into the LTS were identified but subsequently discarded as not feasible as a result of significantly longer, more complicated pipeline routes and the LTS generally operating at a much lower pressure and capacity than the National Transmission System.
- 5.4 Preliminary discussions with NGG have indicated the likelihood of available gas capacity in Feeder 9 for the MPL requirements.
- 5.5 Further information on the Gas Connection, including the alternative route options considered, is contained in sections 3 and 5 of the Environmental Statement (Document Reference 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 Reference 5.1).

The Gas Connection

- 5.6 The route of the Pipeline is approximately 1.82 km in length and it involves no major road crossings, one minor road crossing, one farm track crossing, no major or minor water crossings, two ditch crossings and no in-road mains-laying. It also crosses the National Transmission System Feeder 9 gas pipeline, an oil pipeline and an Anglian Water pipe. Further to the feasibility study, a conceptual design study has been carried out by MPL which has identified the following pipeline route and AGI location (which is reflected within the limits of deviation for the Project as shown on the Works Plans (Document Reference 2.6). This also incorporates the move of the AGI further south along Feeder 9 at the request of the landowner.

- I. The Pipeline begins at the AGI which would allow connection into the National Transmission System Feeder 9, east of the Millbrook Proving Ground

approximately 1.45 km south of the Generating Equipment Site. The Pipeline exits the AGI to the north and immediately crosses a farm track which is connected to Lower Farm. The route then continues in a northerly direction for around 25 m before it turns 45° to the west crossing National Transmission System Feeder 9. It continues west for approximately 20 m before turning 45° back to the east. It continues in this northerly direction for approximately 110 m before crossing a public right of way (PRoW) identified as public footpath 7.

- II. After another 70 m, the route turns 45° to the west before crossing Houghton Lane. The route then turns 45° back to the east for 100 m and then 45° further to the east before crossing under a set of overhead lines. After a further 30 m the route turns 45° to the west and continues due north for approximately 250 m before turning a further 22.5° west and crossing between a gap in the hedgerow of a field boundary. After crossing the hedgerow, the route turns a further 22.5° west and after approximately 300 m crosses beneath an oil pipeline. The route then continues in the same direction for approximately 220 m before turning 11.25° to the east and after 80 m crosses a further PRoW (public footpath 65) and a field drain.
- III. The route then continues for a further 100 m before turning 90° west into the Generating Equipment Site.

- 5.7 The AGI will be accessed both during construction and operation via an existing agricultural track. Upgrade works consisting of a new tarmac surface will be required as part of the Project along the approximately 150 m long part of the track that is required for construction and operation.
- 5.8 Full details of the permanent and temporary rights required are contained in the Book of Reference (Document Reference 4.3).
- 5.9 The location of the Gas Connection is shown on the Works Plans (Document Reference 2.6).

Design: Pipeline

- 5.10 MPL will be responsible for the design of the Pipeline.
- 5.11 The 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) (as the same may be amended or replaced from time to time).
- 5.12 The standard 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.

- 5.13 The 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 1.2m in agricultural land;
 - No less than 2m under road crossings; and
 - No less than 1.7m under water crossings.

Design: AGI

5.14 The MOC, would be designed, constructed, owned and operated by NGG.

5.15 The MOC (approximately 35x35 m) would contain:

- Remotely Operable Valve(s) (ROV);
- Control and Instrumentation Kiosk(s);
- Electrical Supply Kiosk(s).

5.16 The PTF would be designed, constructed, owned and operated by MPL.

5.17 PTF (approximately 35x30 m) would contain:

- PIG Launching Facility;
- Emergency Control Valve(s);
- Isolation Valve(s);
- Control and Instrumentation Kiosk(s);
- Electrical Supply Kiosk(s).

Construction

5.18 MPL will responsible for the construction of the Pipeline and the PTF.

5.19 The MOC will be constructed by NGG.

5.20 Construction of the Pipeline would likely take place within a temporarily 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.

5.21 It is likely that the working width may be approximately 50 m along the length of the Pipeline, although it may be necessary to increase / decrease the working width at specific points. For example, adjacent to special crossings it may 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 2.5) and the Works Plans (Document Reference 2.6).

- 5.22 Access to the working width will be at defined points at each end of the working width, shown (where relevant) on the Rights of Way, Streets and Access Plan (Document Reference 2.7). These points would be carefully controlled and signposted, and gates / stiles would be incorporated into the temporary fences wherever access must be maintained. The proposed Gas Connection crosses two public footpaths which will be temporarily diverted during construction. Proposed diversion areas are shown on the Rights of Way, Streets and Access Plan (Document Reference 2.7).
- 5.23 Aside from the special crossings, where trenchless techniques may be used to reduce impact on sensitive areas or to cross the pipelines referred to above, it is expected that the Pipeline will be constructed using standard open-cut cross-country pipeline construction techniques. The main activities will include: 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.
- 5.24 Topsoil would be stripped within the working width along the Pipeline route and a running track would be established to allow the movement of machinery. The Pipeline would be constructed from lengths of steel pipe of a length of up to approximately 12 m. These are normally off-loaded with cranes at road crossings, 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 which is then subjected to inspection. Once the welds are accepted, a standard coating is applied on site. 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.

Pipeline Crossings

- 5.25 The Pipeline crosses both the National Transmission System Feeder 9 gas pipeline, an oil pipeline and an Anglian Water pipeline. The conceptual design study has identified a horizontal auger bore technique as being a suitable method to construct the Pipeline at these locations. MPL has consulted with NGG, CLH-PS, and Anglian Water regarding the Project. Protective provisions are included in the draft Order for NGG, Anglian Water and CLH-PS to protect their assets (Document Reference 3.1). If required, crossing agreements will be entered into prior to construction commencing.

Operation

- 5.26 MPL will be responsible for the operation of the Pipeline and the PTF. NGG will be responsible for the operation of the MOC.
- 5.27 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

- 5.28 MPL will be responsible for the maintenance of the gas pipeline and PTF. NGG will be responsible for the maintenance of the MOC.
- 5.29 Should any significant maintenance issues be identified, the Gas Connection would be isolated and the supply switched off, pending investigation of any faults. Access to the AGI during maintenance / repair would be via Houghton Lane and the access track to the AGI that leads off Houghton Lane.
- 5.30 No new access points would be created to access the Pipeline. Maintenance checks will be carried out on foot due to the small length of the Pipeline. In the unlikely event that there were issues with the operation of the Pipeline, it would be accessed through existing open fields, within the permanent easement for the Pipeline which would provide for access rights to allow for maintenance.

6. ACQUISITION OF LAND AND RIGHTS

- 6.1 The proposed DCO for the Project includes powers to compulsorily acquire land and new rights and impose restrictions to allow MPL to construct, use and maintain the Gas Connection. These are fully described in the Book of Reference (Document Reference 4.3), shown on the Land Plans (Document Reference 2.5) and are justified in the Statement of Reasons (Document Reference 4.1).
- 6.2 These powers include acquisition of the freehold of the site of the AGI and a right of access to the AGI via the access track off Houghton Lane. In respect of the Pipeline, MPL is seeking to compulsorily acquire new rights and impose restrictions for MPL and all persons authorised on its behalf to enter on foot, or with vehicles, plant and machinery for all purposes in connection with the laying, installing, 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. In addition, the powers include 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 together with temporary use for the purpose of laying, installing, using and maintaining the said pipeline, telecommunications, other ancillary apparatus and any other works as necessary. Temporary use powers are also sought adjacent to either side of the Pipeline route for the purposes of construction.
- 6.3 MPL already holds the necessary rights described above in respect of land to the north of public footpath 65 by virtue of an option agreement with the land owner. However, MPL is also including these powers in relation to this land, as explained in the Statement of Reasons (Document Reference 4.1).
- 6.4 MPL is seeking to acquire the rights described above in respect of the remainder of the Pipeline route and the land required for the AGI by agreement. Further details are set out in the Statement of Reasons (Document Reference 4.1).

7. DEVELOPMENT CONSENT FOR THE CONNECTION WORKS

- 7.1 MPL 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 MPL considers that this statement provides confirmation to the Secretary of State that:
- 7.2.1 MPL will secure a design and build agreement with NGG regarding connection of the Generating Equipment to the National Transmission System;
 - 7.2.2 The agreement will provide that MPL will design and build the Pipeline and PTF with NGG building and owning the MOC;
 - 7.2.3 MPL will secure the necessary land and rights to allow NGG and itself to construct numbered works 3A, 3B and 4A;
 - 7.2.4 In including the Gas Connection as numbered works 3A, 3B and 4A in the draft DCO, MPL would, if the draft DCO was made on substantively the same terms as those submitted, have secured development consent for the Gas Connection.
 - 7.2.5 Preliminary discussions with NGG have indicated the likelihood of available gas capacity in Feeder 9 for the MPL requirements.