

Planning Act 2008

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

The Port Talbot Steelworks (Power Generation Enhancement) Order

9.01 Grid Connection Statement

PINS Reference	EN010062	
Document No.	9.01	
Regulation	5(2)(p) and 6(1)(a)	
Author	Pinsent Masons	
Revision	Date	Description
0	July 2014	Submission Version

1. INTRODUCTION

- 1.1 Tata Steel UK Limited (**Tata**) proposes to construct an electricity generating station and related infrastructure on land at the Port Talbot steelworks (**the proposed development**). The generating station will be fuelled predominantly by gases arising from the steel-making process and will generate up to 150MWe of electricity.
- 1.2 The proposed development constitutes a 'nationally significant infrastructure project' (**NSIP**) by virtue of sections 14(1)(a) and 15 of the Planning Act 2008. An application for development consent has therefore been made to the Secretary of State under section 37 of that Act.
- 1.3 This Grid Connection Statement accompanies the application and has been prepared to comply with regulation 6(1)(a)(i) of the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, which requires the Applicant to provide a statement of who will be responsible for designing and building the connection to the electricity grid.

2. THE PROPOSED DEVELOPMENT

- 2.1 The proposed development includes:
- a process gas-fired generating station, consisting of up to two boilers and a set of steam turbo-alternators with a combined electrical output of up to 150 MWe (**the generating station**);
 - a new 66kV electricity substation within the steelworks site which will be solely owned and operated by Tata;
 - extensions to the existing onsite pipe work to connect the Generating Station to water, gas, and compressed air supplies;
 - a new 66kV electrical connection (**the 66kV electrical connection**) approximately 2.8km in length from a new 66kV GIS substation to export electricity from the Generation Station to the existing substations (Grange and Cefn Gwrgan) to the south east of the Port Talbot site; and
 - modifications to the Grange and Cefn Gwrgan 66kV substations to accept the electrical and communication cables, including the installation of new relay control room and additional 66kV bays at each substation, consisting of open 66kV bus bar arrangement.
- 2.2 The proposed development is more fully described in chapter 3 of the Environmental Statement accompanying this application (Document number 6.02).

- 2.3 Paragraph 4.9.1 of the Overarching National Policy Statement for Energy (EN-1) emphasises that it is for the Applicant to ensure that there will be necessary infrastructure and capacity in the transmission and distribution network to accommodate the electricity to be generated by a proposed new power plant.
- 2.4 Most of the electricity generated by the generating station will be utilised by the onsite operations at the steelworks. Occasionally, however, it may be necessary to export excess electricity to the regional distribution network.
- 2.5 The electricity distribution network in the region is owned and operated by Western Power Distribution (WPD). The existing power generation plant at the steelworks is already connected to the regional distribution network via the Cefn Gwrgan and Grange substations which are within the site boundary of the steelworks and are jointly owned by Tata and WPD. The new generating station will make use of these existing connections.
- 2.6 Accordingly, the new infrastructure required to achieve the grid connection is the 66kV substation (which will be solely owned by Tata), the 66kV electrical connection (2.8 km in length) between the new substation and the existing Cefn Gwrgan and Grange substations, and the associated modifications to and upgrades of those substations. These elements form part of the proposed development and are described below together with a description of who will be responsible for designing and building them.

3. THE NEW 66KV SUBSTATION

- 3.1 The new 66kV electricity substation will be constructed within the steelworks site and will contain gas insulated switchgear and associated control rooms. The new substation will be the subject of a detailed design by Tata's Projects Department and the design will be verified by Mott MacDonald, who are Tata's appointed Electrical Consultant.
- 3.2 Depending on the contractual arrangements, the substation will be constructed by Tata or on its behalf by a suitably-accredited connection company featuring on the National Electricity Registration Scheme. Once constructed, the substation will be owned and operated by Tata.

4. THE 66KV ELECTRICAL CONNECTION

- 4.1 The electrical connection consists of 66kV electrical cables running between the new 66kV substation and the existing onsite substations approximately 2.8km to the south east. For most of the route, the cables will either be run underground (either in new and existing ducting and excavations) or be supported off existing above-ground structures. In sections where the ground conditions are unsuitable for underground

excavations, and where there are no existing above-ground structures, it will be necessary for metal lattice type bridging structures to be erected to support the cables.

- 4.2 The underground sections of the cables will be installed using the open cut method, in line with electricity industry best practice and guidelines. The open cut trench will be up to 3.2 metres wide by up to 3.0 metres deep. The number of cable ducts installed will be no more than 32 and the trench will be suitably backfilled to top surface and reinstated to existing original surface condition.
- 4.3 The electrical connection will run from the south eastern side of the generating station site running in a south-easterly direction adjacent to the Ogmores Vale railway line for approximately 700 metres. The electrical connection will then cross underneath the railway line through ducting to head south, crossing under the CP1 Approach Road to again run alongside the Ogmores Vale railway line until it meets and connects into the existing WPD substations at Cefn Gwrgan (WPD substation ref SS78268674) and Grange (WPD substation ref. SS78508602).
- 4.4 The electrical connection will be the subject of a detailed design by Tata's Projects Department and the design will be verified by Mott MacDonald, who are Tata's appointed Electrical Consultant.
- 4.5 Depending on the contractual arrangements, the electrical connection will be installed by Tata or on its behalf by a suitably-accredited connection company featuring on the National Electricity Registration Scheme.

5. ACQUISITION OF RIGHTS

- 5.1 The electrical connection is entirely within the site of the steelworks on land owned by Tata, with the exception of a section of the disused internal railway line (the Ogmores Vale line) which the cables will cross through underground ducting.
- 5.2 Network Rail Infrastructure Limited owns the railway line and it will therefore be necessary for Tata to obtain the necessary rights over this land either by agreement or through the exercise of the power of compulsory acquisition, which is included in the proposed DCO.
- 5.3 The proposed DCO contains a power for Tata to compulsorily acquire the rights necessary to construct, use and maintain the electrical connection. These rights are fully described in the Book of Reference (Document number 4.03).

6. MODIFICATIONS TO EXISTING SUBSTATIONS

- 6.1 The Cefn Gwrgan and Grange substations are jointly owned and operated by Tata and WPD. Both substations are located within the

Tata site boundary and are on the land owned by Tata Steel. These substations are connected to the regional electricity distribution network owned and operated by WPD.

6.2 Modifications will be needed to the substations to accept the electrical and communication cables. These works will include the installation of a new relay control room and additional 66kV bays at each substation, consisting of open 66kV bus bar arrangement, incorporating:-

- bus bar isolators;
- GIS circuit breakers;
- AIS circuit breakers;
- line isolator and earth switches;
- voltage transformers;
- interconnecting 66kV open bus bars;
- cable sealing ends;
- associated system earth requirements;
- protection and control equipment;
- parallel Break 66kv circuit breaker safety system;
- energy metering equipment;
- fibre optic cabling and associated energy control room RTU and SCADA systems; and
- 66kV substation HMI and SCADA remote access systems.

6.3 These works form part of the proposed development and will be designed and constructed either by Tata or WPD or by a contractor appointed on their behalf. If it is decided that the modifications to the substation should be carried out by WPD, the powers to carry out these works would be assigned to WPD under the relevant order article. The draft DCO submitted with the application provides that the Secretary of State's consent is not required for an assignment of the powers to a licensed statutory undertaker.

6.4 Works to any apparatus belonging to WPD will be subject to protective provisions which are included in the proposed DCO.

7. CONTRACTUAL ARRANGEMENTS FOR ELECTRICITY EXPORTS

- 7.1 Existing contractual arrangements are in place between Tata and its licensed electricity supplier which allow for the import and export of electricity dependant upon site requirements via the local Distribution Network Operator (WPD). In the absence of any bespoke connection agreement with WPD the National Terms of Connection will apply.
- 7.2 Any electricity exports from the proposed development will be sold, probably to a licensed electricity supplier, and in accordance with contractual arrangements which suit the site requirements at that time.

8. CONCLUSION

- 8.1 The Port Talbot steelworks site is already connected to the regional distribution network, and the new generating station will make use of this existing connection.
- 8.2 Accordingly, the only new infrastructure required to achieve the grid connection is the new 66kV substation, the 66kV electrical connection (2.8 km in length) and associated modifications to and upgrades of the Cefn Gwrgan and Grange substations.
- 8.3 The majority of the route of the electrical connection is within Tata's ownership and Tata will be seeking the necessary rights over the parcel of railway land that is crossed by the connection.
- 8.4 The detailed proposals for installing the electrical connection and the associated modifications to and upgrades of the Cefn Gwrgan and Grange substations will be developed with WPD during the detailed design phase of the proposed development.