

Net Zero Teesside Project

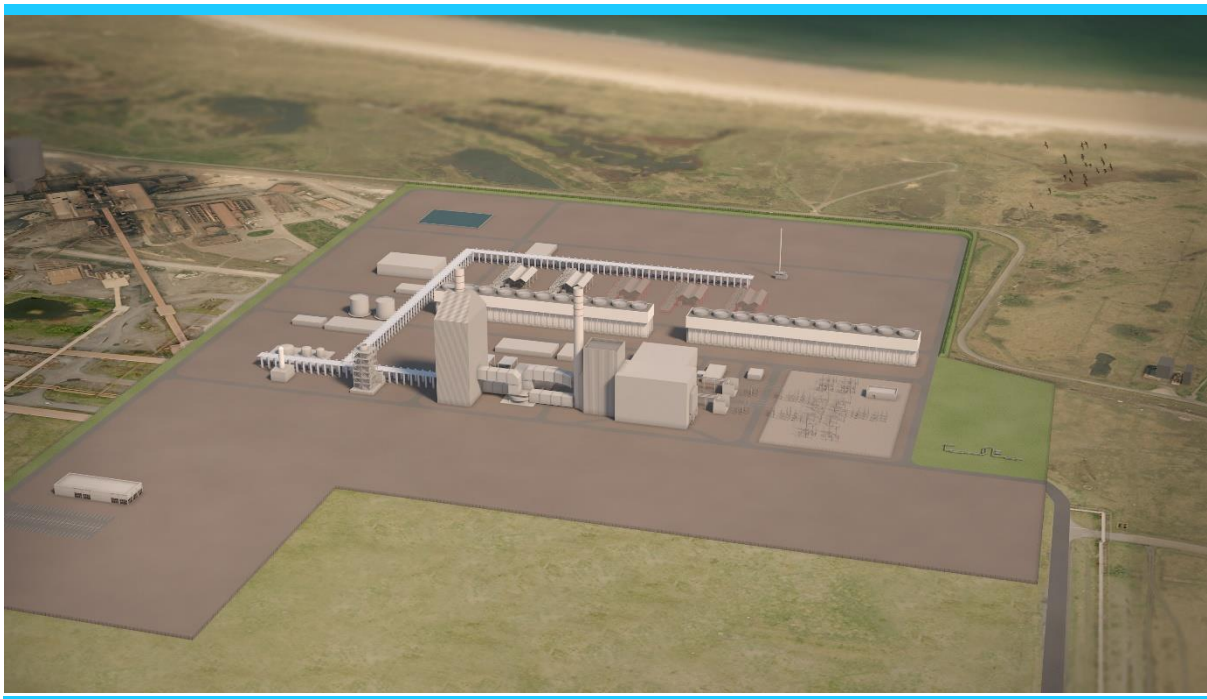
Planning Inspectorate Reference: EN010103

Land at and in the vicinity of the former Redcar Steel Works site, Redcar and in Stockton-on-Tees, Teesside

[The Net Zero Teesside Order]

[Document Reference: 5.5 Electricity Grid Connection Statement](#)

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(p) and 6(1)(a)(i)



Applicants: Net Zero Teesside Power Limited (NZN Power Ltd) & Net Zero North Sea Storage Limited (NZN Storage Ltd)

Date: ~~May-August 2021~~

DOCUMENT HISTORY

Document Ref	5.5 Electricity Grid Connection Statement		
Revision	2211 .0		
Author	AECOM		
Signed		Date	May-August 2021 2
Approved By			
Signed		Date	May-August 2021 2
Document Owner	AECOM Ltd		

GLOSSARY

Abbreviation	Description
AGI	Above Ground Installation
AOD	Above Ordnance Datum
CCUS	Carbon Capture, Usage and Storage
CEMP	Construction Environmental Management Plan
CO ₂	Carbon Dioxide
DCO	Development Consent Order
EPC	Engineering Procurement and Construction
ES	Environmental Statement
Ha	Hectares
HDD	Horizontal Directional Drilling
MLWS	Mean Low Water Springs
MOC	Minimum Offtake Connection
MW	Megawatt: the measure of power produced.
NG	National Grid
NGET	National Grid Electricity Transmission
NPS	National Policy Statement
NSIP	Nationally Significant Infrastructure Project
NZNS Storage	Net Zero North Sea Storage Limited
NZT	Net Zero Teesside
NZT Power	Net Zero Teesside Power Limited
PA 2008	Planning Act 2008
PCC	Power, Capture and Compressor Site
SoS	Secretary of State
STDC	South Tees Development Corporation

CONTENTS

1.0 EXECUTIVE SUMMARY	2
2.0 Introduction	3
2.1 Overview	3
2.2 The Applicants	3
2.3 What is Carbon Capture, Usage and Storage?.....	5
2.4 The Site	6
2.5 The Proposed Development	7
2.6 The Purpose and Structure of this Document	8
3.0 Proposed Grid Connection	9
4.0 Contractual Agreements	10
5.0 Responsibilities For Designing and Building the Electrical Connection.....	11
5.1 Design	11
5.2 Build	11
5.3 Operation and Maintenance.....	12
6.0 Land Requirements.....	13
7.0 Consents Required.....	14
8.0 Conclusions	15
Figures	16

TABLES

Table 5.1: Special Crossings on the Electrical Connection Corridor	129
--	------------

1.0 EXECUTIVE SUMMARY

- 1.1.1 Net Zero Teesside Power Limited and Net Zero North Sea Storage Limited (the Applicants) are seeking development consent for the UK's first commercial scale, full chain Carbon Capture, Usage and Storage ('CCUS') project (the 'Proposed Development') which will capture up to 4 million tonnes (Mt) of carbon dioxide (CO₂) emissions per annum in this first phase of the project. The Proposed Development will comprise a number of elements, including a new gas-fired Electricity Generating Station, with state-of-the art carbon capture technology; gas, water and electricity connections (for the Electricity Generating Station); a CO₂ pipeline network (a 'gathering network') for collecting CO₂ from a cluster of local businesses and industries on Teesside; a CO₂ compressor station and a CO₂ export/transport pipeline. The CO₂ captured from the Electricity Generating Station and local businesses/industries will be transported (via the export/transport pipeline) for secure storage within the Endurance saline aquifer located 145 kilometres offshore from Teesside under the North Sea. The export/transport pipeline has the capacity to carry up to 10Mt of CO₂ per annum. The Proposed Development will therefore make a significant contribution toward the UK reaching its net zero greenhouse gas emissions target by 2050.
- 1.1.2 This document sets out who will be responsible for designing and building the proposed electrical connection (the 'Electrical Connection') for the Proposed Development and demonstrates that there is no reason why an electrical connection will not be possible.
- 1.1.3 The preferred route for the proposed grid connection has been determined based on technical and environmental considerations. The Electrical Connection consists of a route corridor (Work No. 3) between NZT Power's new substation, forming part of the Low-Carbon Electricity Generating Station (Work No. 1) and National Grid's ('NG') Tod Point sub-station. This connection will comprise a 275 kV single circuit cable route and control system cables which will be installed below ground, along with a new interconnection substation at Tod Point (NZT Power's Tod Point sub-station).
- 1.1.4 The indicative route of the cable and substation areas area shown on Figure 1 and the limits of deviation within which the works would occur are shown on the Works Plans (Work No.3) (Document Ref. 4.4).
- 1.1.5 The Applicants have engaged with National Grid Electrical Transmission ('NGET') as outlined in Section 4, and Net Zero Teesside Power Limited has executed a connection agreement with National Grid on or before this submission of this document.

2.0 INTRODUCTION

2.1 Overview

- 2.1.1 This Electricity Grid Connection Statement (Document Ref. 5.5) has been prepared on behalf of Net Zero Teesside Power Limited and Net Zero North Sea Storage Limited (the 'Applicants'). It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy, under section 37 of 'The Planning Act 2008' (the 'PA 2008').
- 2.1.2 The Applicants are seeking development consent for the construction, operation and maintenance of the Net Zero Teesside Project ('NZT'), including associated development (together the 'Proposed Development') on land at and in the vicinity of the former Redcar Steel Works site, Redcar and in Stockton-on-Tees, on Teesside (the 'Site'). The former Steel Works site, along with other land required for the Proposed Development, lies within the boundary of the land controlled by the South Tees Development Corporation ('STDC'), which is now known as 'Teesworks'.
- 2.1.3 A DCO is required for the Proposed Development as it falls within the definition and thresholds for a 'Nationally Significant Infrastructure Project' (a 'NSIP') under Sections 14(1)(a) and 15 of the PA 2008, associated development under Section 115(1)(b) and by direction under Sections 35(1) and 35ZA of the same Act. The DCO, if made by the SoS, would be known as the 'Net Zero Teesside Order' (the 'Order').
- 2.1.4 The Proposed Development will be the UK's first commercial scale, full chain Carbon Capture, Usage and Storage project and will initially capture up to 4 million tonnes (Mt) of carbon dioxide (CO₂) emissions per annum. It will comprise a number of elements, including a new gas-fired Electricity Generating Station with post-combustion carbon capture plant; gas, water and electricity connections (for the generating station); a CO₂ pipeline network (a 'gathering network') for collecting CO₂ from a cluster of local industries on Teesside; a CO₂ compressor station (for the compression of the CO₂) and a CO₂ export pipeline.
- 2.1.5 The CO₂ captured from the Electricity Generating Station and local industries will be compressed and then transported (via the export pipeline) for secure storage within the Endurance saline aquifer located 145 kilometres offshore from Teesside under the North Sea. The export pipeline has the capacity to carry up to 10Mt of CO₂ per annum. The Proposed Development will therefore make a significant contribution toward the UK reaching its greenhouse gas emissions target by 2050.

2.2 The Applicants

- 2.2.1 NZT encompasses proposals to both decarbonise electricity generation and a cluster of carbon intensive industries on Teesside. In line with the CCUS business models published by BEIS in December 2020, there will be separate entities who will be responsible for:

- electricity generation with post-combustion carbon capture (including the gas, water and electricity connections);
- CO₂ gathering (from industrial emitters), CO₂ compression and CO₂ export and storage; and
- industrial (including hydrogen production) carbon capture and connections to the CO₂ gathering network.

2.2.2 The entities are set out in **Table 2.1** below:

Table 2.1: NZT Entities

Onshore works scope	Partnership	NZT Entity	Within the scope of the DCO Application?
Electricity Generating Station with post-combustion carbon capture (including the gas, water and electricity connections)	bp*, Eni, and Equinor and Total	Net Zero Teesside Power Limited	Yes
CO ₂ gathering network, CO ₂ compression and the onshore section of CO ₂ export pipeline	bp*, Eni, Equinor, National Grid, Shell and Total	Net Zero North Sea Storage Limited	Yes
Industrial and hydrogen production carbon capture and connection to the CO ₂ gathering network	Individual industrial emitters	N/A	No

*Operator on behalf of the relevant Partnership

2.2.3 NZT is being promoted by Net Zero Teesside Power Limited ('NZT Power') and Net Zero North Sea Storage Limited ('NZNS Storage'). NZT Power and NZNS Storage

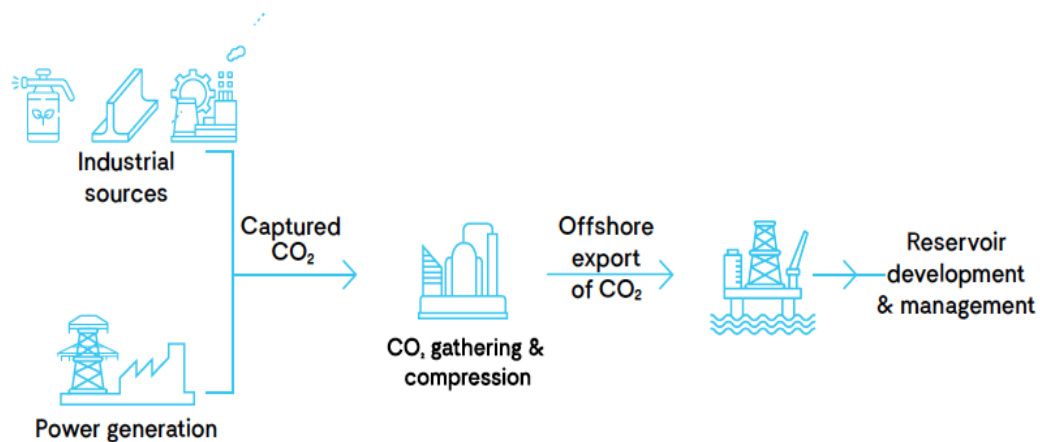
(together the Applicants for the purposes of the DCO Application) have been incorporated on behalf of bp as operator of the two Partnerships.

- 2.2.4 The electricity generation with post-combustion carbon capture Partnership comprises bp, Eni, Equinor and Total, with bp leading as operator. NZT Power will be responsible for the Proposed Development in so far as it relates to the construction, operation and eventual decommissioning of the Electricity Generating Station together with its carbon capture plant (both within the scope of the DCO Application).
- 2.2.5 The CO₂ gathering network, CO₂ compression and onshore section of CO₂ export pipeline Partnership comprises bp, Eni, Equinor, National Grid, Shell and Total, with bp leading as operator. NZNS Storage will be responsible for the Proposed Development in so far as it relates to the construction, operation and eventual decommissioning of the equipment required for the high-pressure compression of CO₂ from the electricity generating station and industrial emitters via the CO₂ gathering network and the onshore section of the CO₂ export pipeline (these are all within the scope of the DCO Application).
- 2.2.6 NZNS Storage will also be responsible for the offshore elements of NZT, comprising the offshore section of the CO₂ export pipeline (below Mean Low Water Springs ('MLWS')) to a suitable offshore geological CO₂ storage site under the North Sea, CO₂ injection wells and associated infrastructure. The offshore elements of NZT (with the exception of the gas and CO₂ pipeline crossings of the River Tees and the water outfall from the Electricity Generating Station) do not form part of the DCO Application.

2.3 What is Carbon Capture, Usage and Storage?

- 2.3.1 Carbon Capture, ~~Usage~~Usage and Storage ('CCUS') is a process that removes CO₂ emissions at source, for example emissions from an Electricity Generating Station or industrial installation, and then compresses the CO₂ so that it can be safely transported to secure underground storage sites. It is then injected into layer of solid rock filled with interconnected pores where the CO₂ becomes trapped and locked in place, preventing it from being released into the atmosphere. **Figure 2.1** below shows what is involved in the process.

Figure 2.1: CCUS Process



2.3.2 The technologies used in CCUS are proven and have been used safely across the World for many years. Storage sites are located several kilometres underground and are subject to stringent tests to ensure that they are geologically suitable. In the UK, it is expected that the storage sites will be located offshore, in areas such as the North Sea.

2.3.3 CCUS is one of a number of technologies that are crucial to reducing CO₂ emissions and combatting global warming. The UK Government has committed to achieving ‘Net Zero’ in terms of greenhouse gas emissions by 2050. This is a legally binding target.

2.4 The Site

2.4.1 The Site lies within the administrative boundaries of both Redcar and Cleveland Borough Council and Stockton-on-Tees Borough Council. It also partly lies within the boundary of the Teesworks area that is controlled by the STDC.

2.4.2 Most of the Site lies within the administrative area of Redcar and Cleveland Borough Council, although parts of Site (for the Electricity Generating Station’s gas supply connection to the National Transmission System for gas and the CO₂ gathering network) cross the River Tees into the administrative area of Stockton-on-Tees Borough Council. At this location, the River Tees is tidal. In addition, there are elements of the Site which extend into South Gare, Coatham Sands and the North Sea. Those sections of the Site that are below MLWS are outside the jurisdiction of either local authority being part of the UK marine area.

2.4.3 The Site extends to approximately 462 hectares (‘ha’) in area. Much of it comprises previously developed (including part of the former Redcar Steel Works Site) and existing industrial land, some of which was reclaimed from the Tees Estuary in the late C19th and during the C20th. The Site is relatively flat and low-lying and sits at a level of between sea level and approximately 9 metres Above Ordnance Datum (‘AOD’). The area surrounding the Site is largely characterised by industrial and

commercial uses, although there are open areas of land to the north in the form of South Gare and Coatham Sands, which are used for recreational purposes and that are of nature conservation importance.

2.4.4 A more detailed description of the Site and its surroundings is provided at Chapter 3 'Description of the Existing Environment' in the Environmental Statement ('ES') Volume I (Document Ref. 6.2).

2.5 The Proposed Development

2.5.1 The Proposed Development will work by capturing CO₂ from the Electricity Generating Station in addition to a cluster of local industries on Teesside and transporting it via a CO₂ export pipeline to the Endurance saline aquifer under the North Sea. The Proposed Development will initially capture and transport up to 4Mt of CO₂ per annum, although the CO₂ export pipeline has the capacity to accommodate up to 10Mt of CO₂ per annum thereby allowing for future expansion.

2.5.2 The Proposed Development comprises the following elements:

- a combined cycle gas turbine ('CCGT') Electricity Generating Station with an electrical output of between 750 and 860 megawatts and post-combustion carbon capture plant;
- cooling water, gas and electricity grid connections and infrastructure for the Electricity Generating Station;
- a CO₂ gathering network (including connections under the tidal River Tees) to collect and transport the captured CO₂ from industrial emitters to a CO₂ compressor station (the industrial emitters using the gathering network will be responsible for consenting their own carbon capture plant and connections to the gathering network);
- a high-pressure CO₂ compressor station to receive and compress the captured CO₂ from the Electricity Generating Station and gathering network before it is transported offshore; and
- a dense phase CO₂ export pipeline for the onward transport of the captured and compressed CO₂ to the Endurance saline aquifer under the North Sea.

2.5.3 The Electricity Generating Station, its post-combustion carbon capture plant and the CO₂ compressor station will be located on part of the STDC Teesworks area (on part of the former Redcar Steel Works Site). The CO₂ export pipeline will also start in this location before heading offshore. The Electricity Generating Station connections and the CO₂ gathering network will require corridors of land within both Redcar and Stockton-on-Tees, including crossings beneath the River Tees.

2.5.4 All of the above elements are included in the scope of the DCO Application, with the exception of the CO₂ export pipeline, where only the onshore section of pipeline above MLWS is included. The CO₂ export pipeline below MLWS and the CO₂ storage site under the North Sea (the Endurance saline aquifer) will be the subject of separate consent applications, including under the Petroleum Act 1998 and the

Energy Act 2008. These applications will be supported by an Offshore Environmental Statement.

The ancillary development required in connection with and subsidiary to the above elements of the Proposed Development is detailed in Schedule 1 of the draft DCO (Document Ref. 2.1). A more detailed description of the Proposed Development is provided at Schedule 1 'Authorised Development' of the draft DCO and Chapter 4 'The Proposed Development' in ES Volume I (Document Ref. 6.2) and the areas within which each of the main elements of the Proposed Development are to be built are denoted by the coloured and hatched areas on the Works Plans (Document Ref. 4.4).

2.6 The Purpose and Structure of this Document

2.6.1 The purpose of this document is to meet the requirements of Regulation 6(1)(a)(i) of The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009, which requires the Applicants to provide a statement setting out who will be responsible for designing and building the proposed electrical grid connection (the 'Electrical Connection') for the Low-Carbon Electricity Generating Station (Work No. 1) . The document is structured as follows:

- Section 3 – Sets out the proposed grid connection, including the route and points of connection;
- Section 4 – Outlines contractual agreements for the proposed Electrical Connection;
- Section 5 – Provides details on the design-build responsibilities for the proposed Electrical Connection;
- Section 6 – Outlines land ownership in respect of the land required for proposed Electrical Connection;
- Section 7 – Provides information on the consents required for the proposed Electrical Connection works; and
- Section 8 – Provides the summary and conclusions to the Statement.

3.0 PROPOSED GRID CONNECTION

- 3.1.1 The Applicants have included within this statement the proposed route and connection point for the Electrical Connection to the Low-Carbon Electricity Generating Station located within the PCC Site.
- 3.1.2 The existing electrical infrastructure in the area comprises 275 kilovolt (kV) overhead lines as well as lower voltage underground cables that serve substations at and around Tod Point, the Wilton International site and Lackenby.
- 3.1.3 The proposed Electrical Connection (Work No. 3) will be between the ~~local substation~~ local substation forming part of the Low-Carbon Electricity Generating Station (Work No. 1) (referred to as the Low-Carbon Electricity Generating Station substation in the DCO Application) and NGET's Tod Point sub-station and will comprise a 275 kV single circuit cable route and control system cables, and a new NZT Power owned 275kV Tod Point substation.
- 3.1.4 The layout and elevation of the local substation are shown on Figures 2 and 3. The layout and elevation of NZT Power's Tod Point substation and NGET's Tod Point Substation are shown on Figures 4 and 5.
- 3.1.5 All electrical and control system cables will be installed below ground or at ground level with no new overhead transmission lines proposed as part of the works.
- 3.1.6 The proposed Electrical Connection corridor which includes the working areas and space required is shown on the Electrical Connection Plans (Document Ref. 4.8).
- 3.1.7 Environmental effects associated with the construction of the Electrical Connection are assessed as part of the Environmental Impact Assessment, which is reported in the ES (Document Refs. 6.2 to 6.4).

4.0 CONTRACTUAL AGREEMENTS

- 4.1.1 ~~Engagement with NGET has been ongoing throughout 2020, concluding in NZT Power receiving a formal connection offer from NGET in December 2020. At the time of DCO application submission, Net Zero Teesside Power Limited and NGET are in the process of finalising the connection agreement(s) and it is anticipated that such connection agreement(s) will soon be executed, thus confirming sufficient capacity at the Tod Point sub-station to accommodate the export of electricity from the Low-Carbon Electricity Generating Station located within the PCC Site. In June 2020 NZT Power submitted its formal application for connection to National Grid Electricity System Operator Limited (NGESO). In December 2020 NZT Power received the connection offer in respect of Net Zero Teesside Power at Tod point 275kV substation from NGESO. Following clarifications and revision, and with extensions of time required by the NGESO due to the impact of COVID19, in May 2021 NGESO issued a re-offer in respect of Net Zero Teesside Power at Tod point 275kV substation. In May 2021 NZT Power formally accepted the NGET Offer.~~
- 4.1.2 ~~The Parties have agreed and/or signed (as applicable) the Offer Acceptance documents, the Bilateral Connection Agreement, the Construction Agreement, the Transmission Related Agreement and the CUSC Accession Agreement (collectively referred to herein as the “Connection Agreement(s”). The Connection Agreement(s) comprises all the necessary elements to enable electricity to be imported to the power generation equipment when shutdown, and export to the National Grid network when the Proposed Development is in operation.~~

5.0 RESPONSIBILITIES FOR DESIGNING AND BUILDING THE ELECTRICAL CONNECTION

5.1 Design

- 5.1.1 The chosen Engineering, Procurement and Construction ('EPC') contractor will undertake detailed design of the Electrical Connection and the local and remote 275kV NZT connection substation (adjacent to existing NGET Tod Point substation).
- 5.1.2 NGET will be responsible for adding a two new circuit breaker bays to the existing Tod Point sub-station and for extending the busbars, busducts and/or cables at NGET's existing Tod Point substation. NGET has confirmed that no other new equipment is required to be constructed or installed locally with respect to Tod Point and a need for moderate remote equipment upgrades to the wider NGET network to connect to the Low-Carbon Electricity Generating Station located within the PCC Site.
- 5.1.3 The detailed design of the Electrical Connection will be secured by DCO Requirement No. 4 in Schedule 2 of the DCO (Document Ref. 2.1).

5.2 Build

- 5.2.1 As underground cables are the selected design for the Electrical Connection, it is envisaged that installation will be through the use of an 'open-cut' method, whereby a trench will be excavated, and the cables laid below ground. This method will be applied where there is sufficient space and the work area is relatively flat. These works will generally include the following:
- fence off works area and fit safety signage;
 - strip and stockpile topsoil (if required);
 - a working area approximately 35 m wide to allow for temporary trackway, and soils stockpiling;
 - excavation of a trench (the EPC contractor will be responsible for providing all necessary trench supports and for maintaining the trenches in a safe condition and free of water); and
 - cables laid at a depth of at least 1.1 m on a bed of cement bound sand overlain by protective tiles and backfilled to reinstate to original state (appropriate safety measures including warning tape will be used).
- 5.2.2 Access arrangements during construction of the Electrical Connection are presented in Chapter 5: Construction and Programme Management of ES Volume I (Document Ref. 6.2). No significant impacts on local roads have been identified given the route of the electrical connection corridor and the location of Tod Point sub-stations relative to the proposed Generating Station.
- 5.2.3 Overall construction of the Electrical Connection is likely to take approximately 12 months.

- 5.2.4 These Electrical Connection works would be undertaken in accordance with the measures outlined in a Construction Environmental Management Plan ('CEMP') to be prepared by the contractor in accordance with the Framework CEMP (Document Ref. 6.4) submitted with the DCO.
- 5.2.5 The Electrical Connection route (~~either Route 1A or Route 1B~~) will also require a number of special crossings which are outlined in Table 5.1 below and shown on the Electrical Connection Plans (Document Ref. 4.8).

Table 5.1: Special Crossings on the Electrical Connection Corridor

Crossing Name	Grid Reference	Description	Type	Existing/ Upgraded /New
Route Options 1A and 1B				
EC1	457090, 542610	Blue Main (Teesworks)	Open Cut	New
EC2	457130, 524460	Fleet (Watercourse)	HDD	New
EC5	456950, 523810	Minor Road (Tod Point)	HDD or Open Cut	New
Route Option 1A Only				
EC3	457120, 524070	Operational Rail	Road bridge	Existing
EC4	456930, 523870	Access road (Teesworks)	HDD or Open Cut	New
Route Option 1B Only				
EC6	457160, 524200	Minor Road (Teesworks)	York-Potash Conveyor	New
EC7	457230, 524120	Operational Rail	York-Potash Conveyor	New
EC8	457100, 523960	Minor roundabout (Tod Point)	HDD	New

5.3 Operation and Maintenance

- 5.3.1 The Applicants will be responsible for the operation and maintenance of all on-site plant and apparatus over the life of the Proposed Development.
- 5.3.2 NGET would be responsible for the operation and maintenance of existing Tod Point 275kV sub-station and their associated equipment where outside of the Order Limits.

6.0 LAND REQUIREMENTS

- 6.1.1 The Applicants have agreed the necessary land rights within parts of the Site, as described in the Statement of Reasons (Document Ref. 3.2).
- 6.1.1 In respect of the land not yet within the Applicant's control, the Applicant continues to negotiate with the respective landowners to seek to agree the necessary land rights. In the event that such agreements cannot be reached with any party, the draft DCO (Document Ref. 2.1) includes powers for the Applicant to enter on to the land within the Proposed Grid Connection corridor shown on the Works Plans (Work No. 3, Document Ref. No. 4.4) for all purposes connected with the laying, installation and operation of the grid connection and associated apparatus.
- 6.1.2 Temporary rights are also sought for the purposes of construction, where the Applicant does not require the freehold interest or permanent rights in land. The Applicant is currently in discussions with the relevant landowners to secure the necessary land agreements (further information is included in the Statement of Reasons (Document Ref. 3.2)).
- 6.1.3 Work No.3 in Schedule 1 of the DCO covers the construction and operation of the Electrical Connection.

7.0 CONSENTS REQUIRED

- 7.1.1 All of the works associated with the Electrical Connection where they are within the Order Limits are included within the DCO Application and therefore no separate planning permission is required. This includes the Electrical Connection works (Work No. 3) between the Low-Carbon Electricity Generating Station located within the PCC Site (Work No. 1) and NEG T's Tod Point sub-station, which are specified in Schedule 1 of the DCO (Document Ref. 2.1) and which cover the construction and operation of the Electrical Connection. These are assessed in the ES topic chapters.
- 7.1.2 The draft DCO includes a provision (Article 8(1), Consent to Transfer the Benefit of the Order) allowing the Applicant to transfer the benefit of the DCO to National Grid, for it to be able to construct etc any relevant aspects of Work No. 3.
- 7.1.3 Any Electrical Connection works not forming part of the Proposed Development, namely NEG T's Tod Point sub-station works and associated extensions and upgrades will be subject the relevant undertaker to utilise their statutory powers associated with such connection.

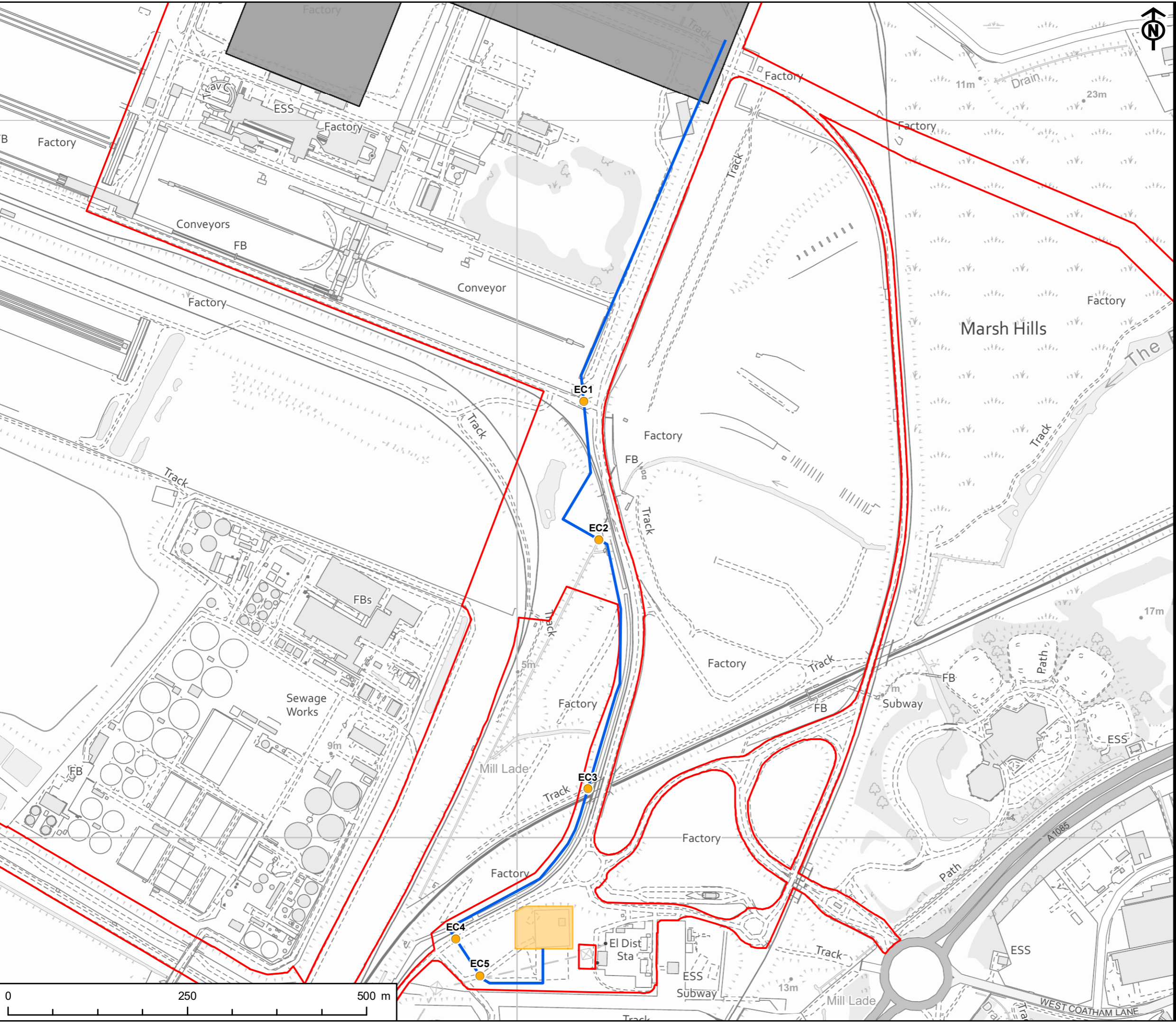
8.0 CONCLUSIONS

- 8.1.1 This Electricity Grid Connection Statement has been prepared to satisfy the requirements of The Infrastructure Planning (Applications: Prescribed Forms and Procedures Regulations 2009 Regulation 6(1)(a)(i) and to demonstrate that there is no reason why an electrical grid connection will not be possible for the Proposed Development, in accordance with National Policy Statement (NPS) EN-1.
- 8.1.2 The Statement has demonstrated that the Electrical Connection and associated underground cables included within the DCO Application Order Limits (and assessed as part of the associated Environmental Impact Assessment reported in the ES (Document Refs. 6.2 to 6.4)) is feasible, that the necessary agreements are being/have been secured, and appropriate powers are included in the draft DCO to facilitate the delivery of the Electrical Connection.

9.0 FIGURES

Project Management Initials: RL Designer: LC Checked: AR Approved: IC

Scale @ A3 1:5,000



APPLICANTS
 NZT POWER LTD. AND NZNS STORAGE LTD.

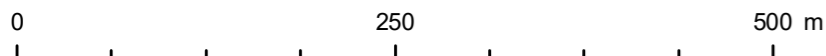
- KEY
- Site Boundary
 - Power, Capture and Compressor Site
 - Electrical Substation Extension
 - Indicative Electrical Connection Route
 - Crossing Point
 - Electrical Connection Route

TITLE
 FIGURE 1
 ELECTRICITY CONNECTION ROUTES

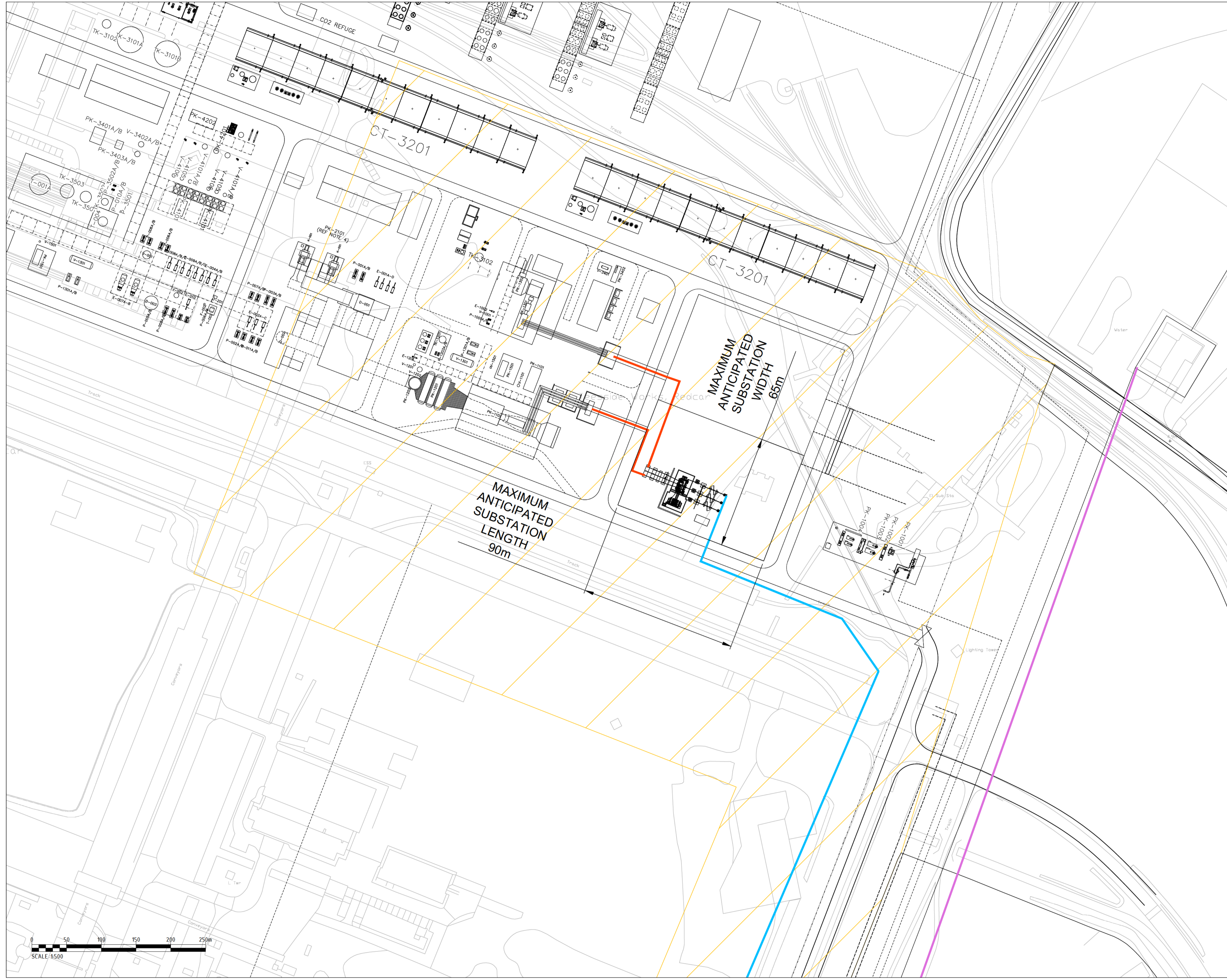
REFERENCE
 NZT_220816_ECS_1_v5

SHEET NUMBER
 1 of 1

DATE
 16/08/2022



This drawing has been produced for the use of AECOM's client. It may not be used, modified or relied upon by third parties, except as agreed by AECOM or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies upon this drawing without AECOM's express written consent. All dimensions are indicative and in metres unless otherwise noted. Do not scale this document.



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT
 THIS DRAWING TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

NOTES

- KEY**
- SITE BOUNDARY
 - WORK NUMBER 3A ELECTRICAL CONNECTION WORKS
 - INDICATIVE ELECTRICAL CONNECTION ROUTE - OPTION 1A & 1B
 - CATS PIPELINE
 - GT & ST ELECTRICAL CONNECTIONS

Revision Details	By	Check	Date	Suffix

Purpose of issue: **FOR INFORMATION**

Applicant: **NZT POWER LTD AND NZN STORAGE LTD**



Figure 2
 Low Carbon Electricity Generating Station Substation - Layout View

Designed	Drawn	Checked	Approved	Date
	SF			

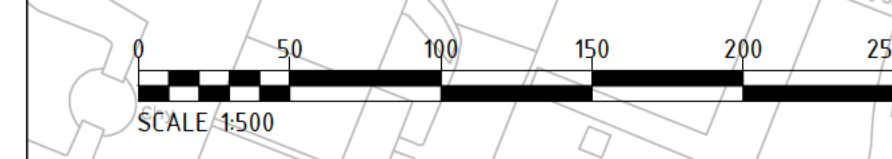
AECOM Internal Project No. 60559231	Subsidiary N/A	Project Manager
Scale @ A1 AS SHOWN	Zone / Mileage N/A	

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF A PROFESSIONAL SERVICES AGREEMENT WITH THE CLIENT. THE CLIENT ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING WRITTEN EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.
 UNLESS AECOM AND URS HAVE BECOME ONE COMPANY, CONTRACTING ENTITIES (ALL OF WHICH ARE NOW WHOLLY OWNED BY AECOM) AND LINES OF COMMUNICATION CURRENTLY REMAIN THE SAME UNLESS SPECIFICALLY AGREED OR COMMUNICATED OTHERWISE.

AECOM Infrastructure & Environment UK Limited



Drawing Number 60559231-PE-DRG-055	Rev 0
---------------------------------------	----------

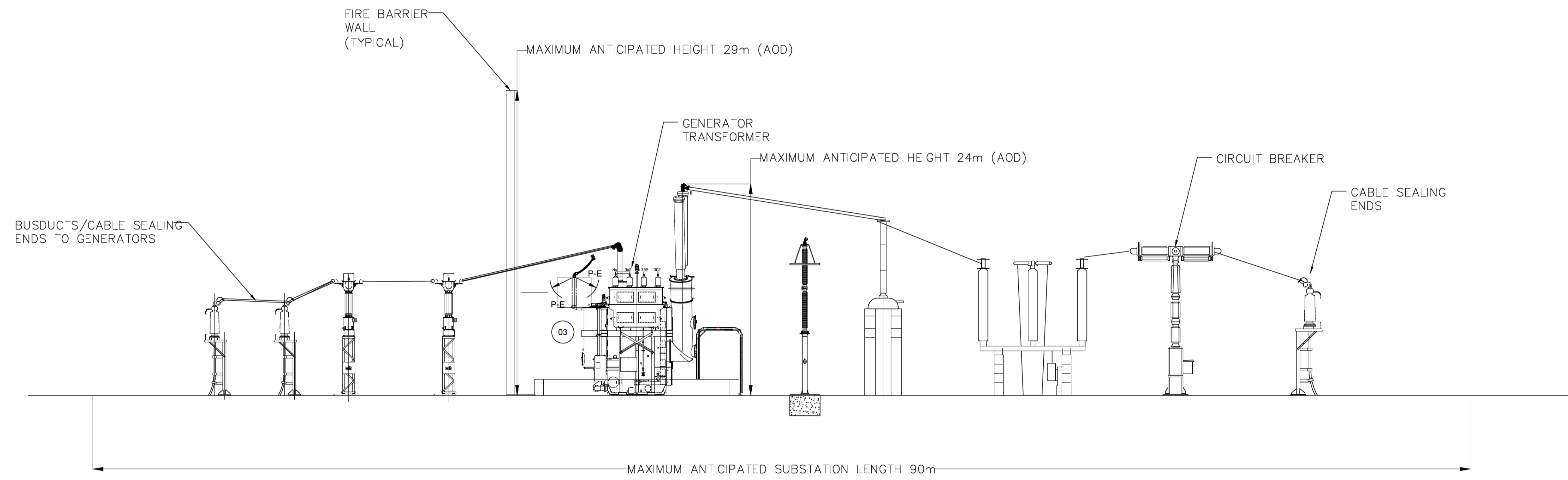


IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT

THIS DRAWING TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

NOTES

- 1. ASSUMED FINISHED GROUND LEVEL IS 13m (AOD).



Revision Details	By	Check	Date	Suffix

Purpose of issue: FOR INFORMATION

Applicant: NZT POWER LTD AND NZNS STORAGE LTD



Figure 3
Low Carbon Electricity Generating Station Substation - Elevation View

Designed	Drawn	Checked	Approved	Date
	SF			

AECOM Internal Project No. 60559231	Subsidiary N/A	Project Manager
Scale @ A1 AS SHOWN	Zone / Mileage N/A	

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF USE AGREEMENT BY ITS CLIENT. USE ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AN EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

UNLESS AECOM AND USE HAVE BECOME ONE COMPANY, CONTRACTING ENTITIES (ALL OF WHICH ARE NOW WHOLLY OWNED BY AECOM) AND LINES OF COMMUNICATION CURRENTLY REMAIN THE SAME UNLESS SPECIFICALLY AGREED OR COMMUNICATED OTHERWISE.



Drawing Number 60559231-PE-DRG-056	Rev 0
---------------------------------------	----------



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT

THIS DRAWING TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

NOTES

1. DIMENSIONS ARE IN mm UNLESS STATED OTHERWISE
2. DO NOT SCALE FROM THIS DRAWING.

KEY

- NEW EQUIPMENT
- EQUIPMENT TO BE REMOVED
- EXISTING EQUIPMENT
- - - NEW FENCE LINE
- OVERHEAD LINE

M M
MOTT
MACDONALD

Mott MacDonald House
8-10 Sydenham Road
Croydon, CR0 2EE
United Kingdom
T +44 (0)20 8774 2000
F +44 (0)20 8681 5106
W mottmac.com

Revision Details	By	Check	Date	Suffix

Purpose of issue
FOR INFORMATION

Applicant
**NZT POWER LTD AND
NZNS STORAGE LTD**



Drawing Title
Figure 4 Tod Point Connection Layout View

Designed	Drawn	Checked	Approved	Date
	SF			

AECOM Internal Project No. 60559231	Suitability N/A	Project Manager
Scale @ A1 AS SHOWN	Zone / Mileage N/A	

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF URP APPOINTMENT BY ITS CLIENT. URP ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING WRITTEN EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

WHILE AECOM AND URP HAVE BECOME ONE COMPANY, CONTRACTING ENTITIES (ALL OF WHICH ARE NOW WHOLLY OWNED BY AECOM) AND LINES OF COMMUNICATION CURRENTLY REMAIN THE SAME UNLESS SPECIFICALLY AGREED OR COMMUNICATED OTHERWISE.



Drawing Number 60559231-PE-DRG-057	Rev 0
--	-----------------

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION BOX

IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROPRIATE METHOD STATEMENT

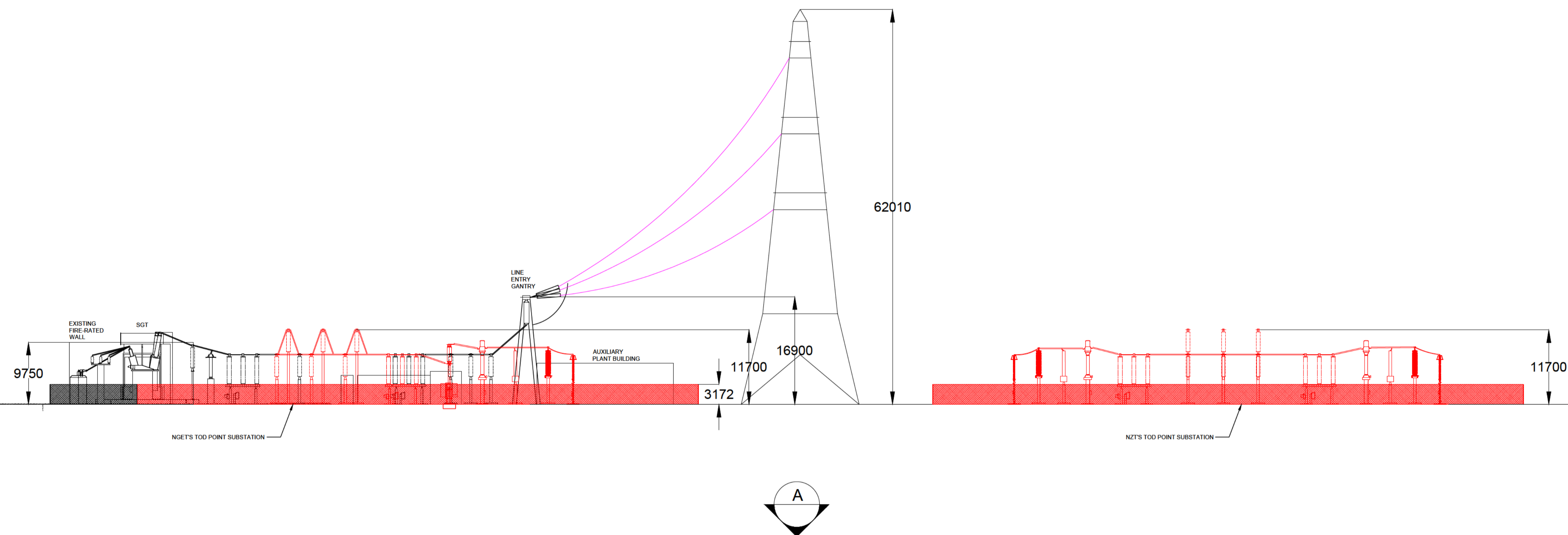
THIS DRAWING TO BE USED ONLY FOR THE PURPOSE OF ISSUE THAT IT WAS ISSUED FOR AND IS SUBJECT TO AMENDMENT

NOTES

1. DIMENSIONS ARE IN mm UNLESS STATED OTHERWISE
2. DO NOT SCALE FROM THIS DRAWING.

KEY

- NEW EQUIPMENT
- EXISTING EQUIPMENT
- OVERHEAD LINE



M M
MOTT MACDONALD
 Mott MacDonald House
 8-10 Sydenham Road
 Croydon, CR0 2EE
 United Kingdom
 T +44 (0)20 8774 2000
 F +44 (0)20 8661 5106
 W mottmac.com

Revision Details	By	Date	Suffix
	Check		

Purpose of issue
FOR INFORMATION

Applicant
**NZT POWER LTD AND
 NZNS STORAGE LTD**



Drawing Title
**Figure 5
 Tod Point Connection Elevation View**

Designed	Drawn	Checked	Approved	Date
	SF			

AECOM Internal Project No.	Subsidiary	Project Manager
60559231	N/A	

Scale @ A1	Zone / Mileage
AS SHOWN	N/A

THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF USER AGREEMENT BY ITS CLIENT. USER ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING WRITTEN EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.

MOTT MACDONALD AND URS HAVE BECOME ONE COMPANY, CONTRACTING ENTITIES (ALL OF WHICH ARE NOW WHOLLY OWNED BY AECOM) AND LINES OF COMMUNICATION CURRENTLY REMAIN THE SAME UNLESS SPECIFICALLY ADVISED OR COMMUNICATED OTHERWISE.



Drawing Number	Rev
60559231-PE-DRG-058	0

