

Electricity
Distribution



Competition in Connections Workshop

25th May 2023

national**grid**

Introduction

Good morning and welcome

Kester Jones

Head of Connections

Competition in Connections Workshop

Agenda

Agenda		
Housekeeping for the day	Vincent Luxmore EQ Communications	9:00 – 9:10
Introduction and welcome	Kester Jones Head of Connections	9:20 – 9:30
NERS - LRQA	LRQA Representative	9:30 – 9:50
<ul style="list-style-type: none">• Overview• Questions	Paul Costelloe All	10 mins 10 mins
Framework Network Access & Adoption Agreement (FNA&AA) process and DSR's	Connections Strategy Engineers & Safety Representatives	9:50 – 10:25
<ul style="list-style-type: none">• Overview FNA• Safety update• Open discussion	Kelly McLaughlin John Perry All	10 mins 10 mins 15 mins
Enquiry Tracker / Customer application Detailing how to apply and our online portal	Kate Sheehan Connections Strategy Engineer	10:25 – 10:45
<ul style="list-style-type: none">• Overview• Questions	Presenter All	10 mins 10 mins
Refreshment / Comfort Break		10:45 – 11:00



Competition in Connections Workshop

Agenda

Design Downstream design requirements	Seth Treasure Policy Engineer	11:00 – 11:30
<ul style="list-style-type: none">• Overview• Questions/feedback	Presenter All	15 mins 15 mins
Earthing overview	Graham Brewster Company Technical Policy Manager	11:30 – 12:00
<ul style="list-style-type: none">• Overview• Questions/feedback	Presenter All	15 mins 15 mins
Bilateral Connection Agreement, Site Specific Agreement and Inspections	Kyle Smith Connections Strategy Engineer	12:00 –12:30
<ul style="list-style-type: none">• Overview• Questions/feedback	Presenter All	15 mins 15 mins
Legals and consents	Beckie Downing Consents & Planning Manager	12:30 – 12:55
<ul style="list-style-type: none">• Overview• Questions/feedback	Presenter All	10 mins 15 mins
Thank you and close	Kelly McLaughlin Connections Strategy Engineer	12:55 – 13:00



**Electricity
Distribution**

Business update

**Kester Jones
Head Of Connections**

May 2023

nationalgrid



National Grid

On 21st September 2022, we reached an important milestone on the integration of WPD into National Grid

- National Grid is the new name for Western Power Distribution.
- We have changed our name, but not our telephone contact details or the great service you expect from us.
- We're still responsible for keeping you connected to the electricity you need in your home or business and connecting you to the network.
- As part of National Grid, we're the largest electricity transmission and distribution business in the UK and we are at the heart of a clean, fair and affordable energy future.
- Cordi O'Hara, is now NGED's President. Cordi was previously President of National Grid Ventures.



National Grid



National Grid – who are we and what do we do?

Committed to delivering electricity safely, reliably and efficiently to the customers and communities we serve. Our vision is to be at the heart of a clean, fair and affordable energy future.

Electricity Transmission

Own and operate the high-voltage electricity transmission network in England and Wales.



4,484

Miles (7,216 km) of overhead wires



1,585

Miles (2,551 km) of underground cables



347

Substations



99.999984%

Reliability of Electricity Transmission network

Electricity Distribution

Own and operate the electricity distribution networks for the Midlands, the South West and South Wales.



8 million

homes and business connected to the distribution network



141,672

Miles (228,000 km) of wires and cables



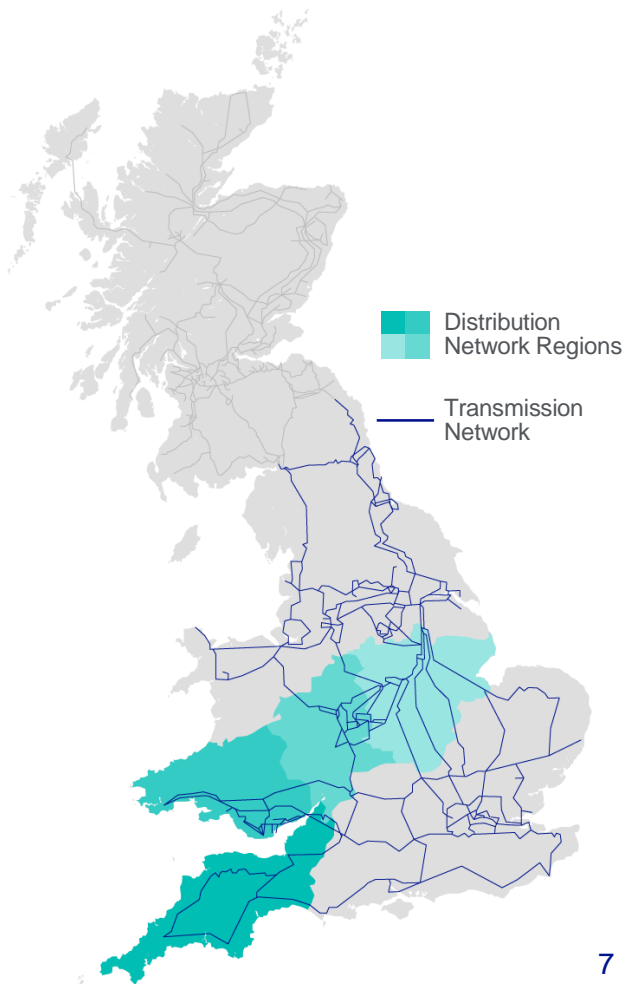
2 million

Poles and towers



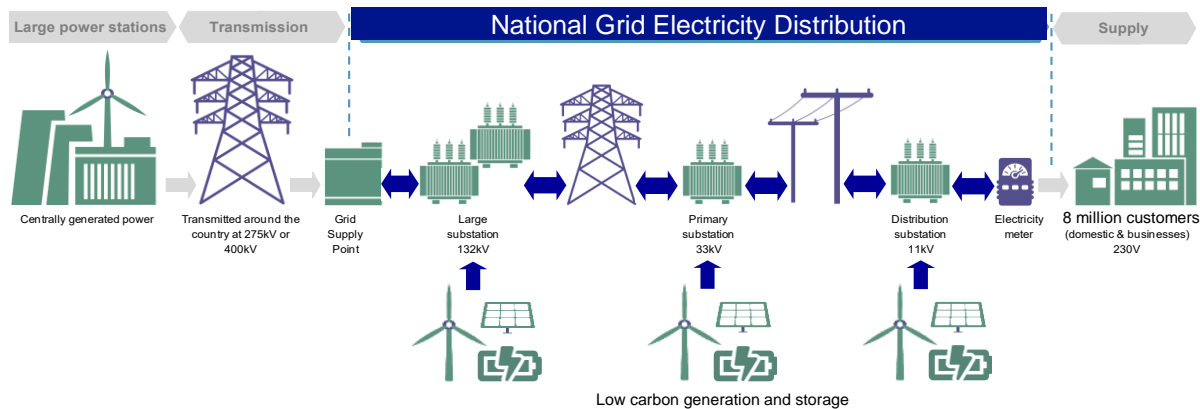
190,000

Substations



Who we are and what we do

- We operate the local electricity network, distributing power to 8 million homes & businesses
- Covering the East and West Midlands, South Wales and South West England

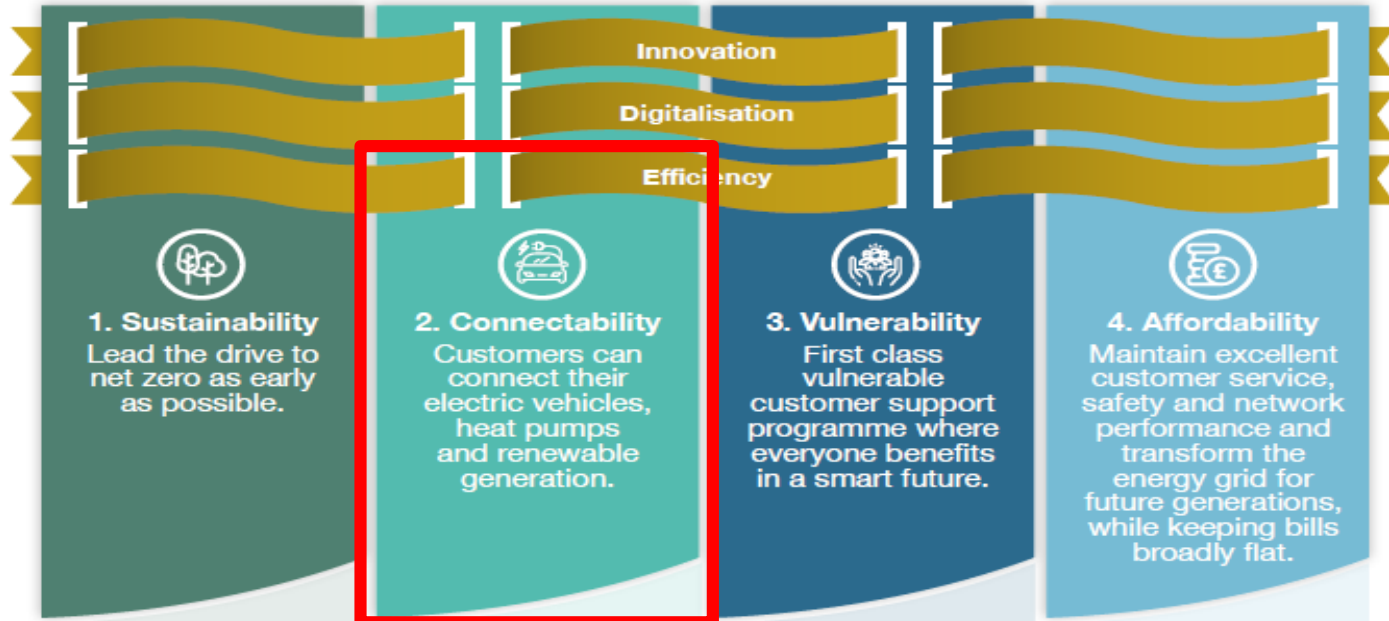


ED2 – An ambitious vision for the future

Our Business Plan contains 42 core commitments and over 400 wider commitments that we will deliver in RIIO-ED2 while keeping bills broadly flat

“RIIO-ED2”:

Revenue = Incentives + Innovation + Outputs (Electricity Distribution 2)



national**grid**



CiC Workshop

25th May 2023

Paul Costelloe

Team Lead - Utilities

CiC Workshop

Who Are LRQA ?

- Formerly Lloyd's Register (LR) now owned by Goldman Sachs Asset Management
- World-Wide accreditation body appointed as Operator of the National Electricity Registration Scheme (NERS) under a Memorandum of Understanding (MoU)
- Controlled by NERS Advisory Panel (NERSAP)

CiC Workshop

What is NERS ?

- **Technical assessment of Infrastructure Connection Providers (ICPs)**
- **'Contestable' connections work**
- **'Partial' Assessment**
- **'Full' Assessment**
- **Surveillance Visits**

CiC Workshop

Scopes of NERS Accreditation

- Design
- Project Management
- Construction

CiC Workshop

Scopes of NERS Accreditation

- 353 NERS Organisations
- 179 GIRS Organisations
- 200 WIRS Organisations

CiC Workshop

Scopes of NERS Accreditation

- **Design**

- LV Cable Networks

- HV Cable Networks (11kV, 33kV, 66kV, 132kV)

- Substation Layouts (11kV, 33kV, 66kV, 132kV)

- Self-Determination of Point of Connection (PoC)

- OHL (LV, 11kV, 33kV, 66kV, 132kV)

CiC Workshop

Scopes of NERS Accreditation

- **Project Management**

 - Civil Works

 - Cable Laying (LV, 11kV, 33kV, 66kV, 132kV)

 - Cable Jointing (LV Dead, LV Live, 11kV, 33kV, 66kV, 132kV)

 - Substation Installation (11kV, 33kV, 66kV, 132kV)

 - Network Connections (Jointing and Operational)

 - Highway Electrical Equipment (Transfers, New Connections)

CiC Workshop

Scopes of NERS Accreditation

- **Construction**

- Civil Works

- Cable Laying (LV, 11kV, 33kV, 66kV, 132kV)

- Cable Jointing (LV Dead, LV Live, 11kV, 33kV, 66kV, 132kV)

- Substation Installation (11kV, 33kV, 66kV, 132kV)

- Network Connections (Jointing and Operational)

- Highway Electrical Equipment (Transfers, New Connections)

CiC Workshop

What are the benefits ?

- Accreditation recognised by all UK Network Operators
- Independent assessment and registration process
- Accreditation mark to represent achievement
- LRQA website listing of registered service providers



ICP Forum Minutes

- Issued following the meeting
- Any Omissions / Corrections
- Acceptance as a true record



Minutes of the NERS Provider Forum

Microsoft Teams Meeting on 11th October 2022 10:00am

Attendees:

Paul Costelloe	Graham Commons	Martin Burns
Les Thomas	David Padayachee	Stephen Hindle
Bill Jones	Jason Everall	Omer Atuf
Adrienn Szabo	Michael Doward	Paul Hardy
Andy Barnes	Steve Ellis	Paul Wragg
Barry McMillan	Phillip Henderson	Rebecca Lewis
Bill Robertson	Joe Herron	Riaan Allen
Brian Culler	James Barker	
Ritchie Graham	Jamie Berry	
Matt Cocker	Jason Critchley	
Gary Madgwick	John Groves	
Blake Edwards	John Wylie	
Simon Burnett	Katie Yates	
Christopher Stallwood	Mick Beeby	

1. Introductions

PC thanked everyone for their attendance and reiterated that due to the number of attendees, formal introductions were foregone. The agenda was reviewed and the arrangements for this Teams Meeting were described.

2. Apologies

As this was a Teams meeting and there were no restrictions to numbers, over 300 invitations had been sent and there had been 70 original acceptances. With 35 attending on the day, due to the nature of the open invitation, only attendees are identified in the minutes.

3. Acceptance of Previous Minutes

The minutes of the last meeting had been issued previously and were accepted as a true record of the meeting.

A brief overview of the various topics documented in the minutes was provided and the actions discussed under item 4 below.

NERSAP Minutes

Minutes of the 66th NERSAP Meeting Microsoft Teams on 25th October 2022

Attendees:

Mel Swift (MS)	GTC	mel_swift@gtc-uk.co.uk (Chairperson)
Paul Costelloe (PC)	LRQA	paul.costelloe@lrqa.com (Secretary)
Stephen Davies (SD)	LRQA	stephen.davies2@lrqa.com
Kyle Smith (KS)	NG	ksmith3@westernpower.co.uk
Paul Thomas (PT)	SPEN	paul.thomas@spenergynetworks.co.uk
Martyn Crocker (MC)	UKPN	martyn.crocker@ukpowernetworks.co.uk
Paul Wragg (PW)	Power On	paul.wragg@poweron-uk.co.uk
Steven Matthias (SM)	SPEN	steven.matthias@spenergynetworks.co.uk
Les Thomas (LT)	LRQA	les@kayanelconsultingtd.com
Gareth Pritchard (GP)	HEA	gareth.pritchard@thehea.org.uk
Andy Thomas (AT)	SSL	andy.thomas@sse.com
Tracey Taylor (TT)	ENWL	tracey.taylor@enwl.co.uk
Chris Roe (CR)	UCCG-EoN	chris.roe@eonenergy.com
Symon Gray (SG)	EA	symongray@energyassets.co.uk

Apologies:

Apologies had been received from:

Dave Ellis	LRQA	dave_ellis@lrqa.com
Michael Proctor	LRQA	michael.proctor@lrqa.com
Nigel Evans	LRQA	nigel.evans@lrqa.com
Eirwyn Thomas	PSUK	ct@powersystemsuk.co.uk
Simon Burnctt	Morrison ES	simon_burnctt2@morrisones.com
Colin Jamieson	ESPUG	colin_jamieson@espug.com
Karl Miller	LRQA	karl.miller@lrqa.com

1. Introductions

There were no new attendees requiring introduction to the meeting.

2. Apologies

Apologies were received from those identified above.

3. Nominations and Appointment of Vice Chairperson

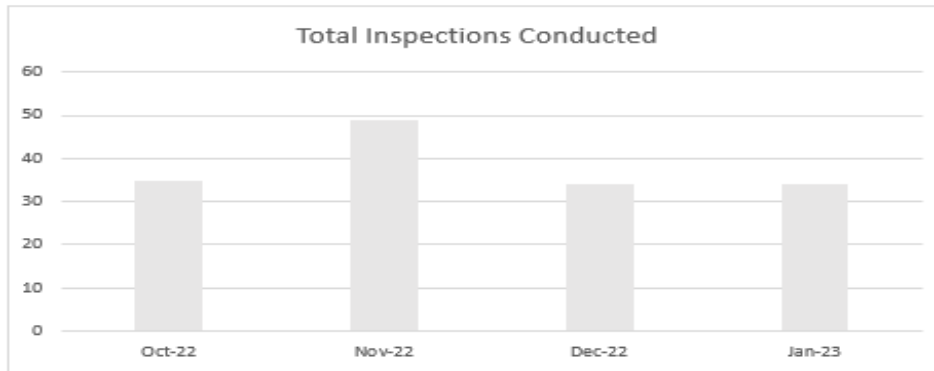
The Chairman reminded the panel that his tenure officially ends shortly and there is an urgent need to appoint a Vice Chairperson. The Chairman advised that he was happy to have his tenure extended if the meeting so decided, in order that the Vice Chairman could gain more experience of the panel meetings before being appointed as Chairman in the future.

LRQA Report. – Surveillance Visits Performed



NERS SV Assessment Statics
October 22 - January 23

Total Surveillance Visits Conducted (all Network Operators)



Total Inspections Conducted

Owner	Period (month)				
All	Oct-22	Nov-22	Dec-22	Jan-23	
	35	49	34	34	152

LRQA Report – SVs by Network Operator

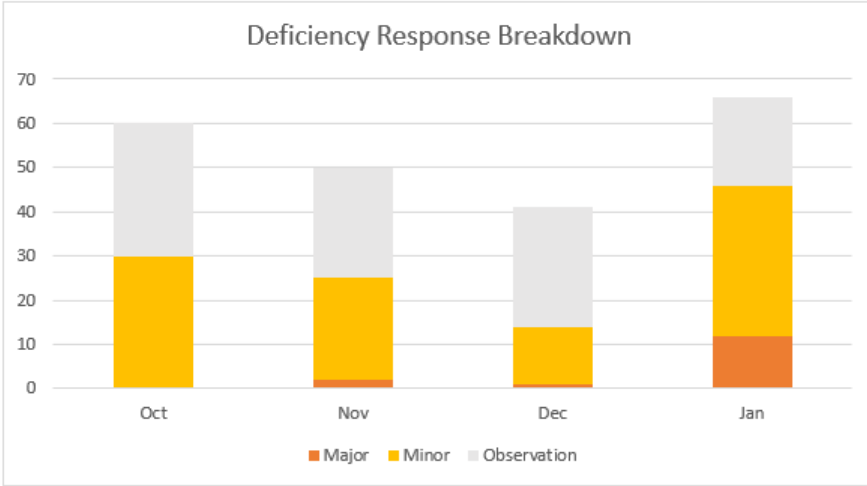


Surveillance Visits Conducted (by Network Operator)

Provider	Oct-22	Nov-22	Dec-22	Jan-23
BUUK	0	4	2	0
Design Only	0	6	4	1
Eclipse Power Networks	0	0	3	0
Electricity North West	1	7	2	0
Energy Assets Networks	1	2	3	1
ESP Utilities Group	4	0	1	4
Fortbury Assets Ltd	0	0	0	0
Fulcrum	0	0	0	0
Harlaxton Energy Networks	1	0	0	0
Independent Power Networks Limited	0	0	0	0
Indigo Power	0	0	0	0
Last Mile Asset Management	0	2	2	5
Leep Utilities	0	0	1	0
MUA Group	0	0	0	0
Murphy	0	0	2	1
National Grid Energy Distribution	3	8	0	2
Northern Ireland Electricity Networks	0	0	0	0
Northern Power Grid	5	2	2	3
Office Visit	2	1	2	1
Scottish & Southern Electricity Networks	6	5	4	0
SP Energy Networks	4	3	3	6
The Electricity Network Company Limited	0	0	0	0
UK Power Distribution	2	1	0	1
UK Power Networks	6	8	3	9
Utility Assets	0	0	0	0
Vattenfall	0	0	0	0
	35	49	34	34

LRQA Report - Deficiencies

Deficiency Responses (all Network Operators)



Deficiency Response Breakdown

	Oct	Nov	Dec	Jan	
Major	0	2	1	12	15
Minor	30	23	13	34	100
Observation	30	25	27	20	102
Total					217

LRQA Report - Deficiencies

Frequent Deficiency areas

Item

Passports in place and completed	39
COSHH Assessments (All Substances on Board)/ Data Sheets availab	15
Work instruction, Job Card	14
Method Statements	12
Are Fuel / Gas Storage arrangements satisfactory	10
Is All Safety Equipment In date/ calibrated?	9
Other training eg cable winch	7
Certificates Of Competence available and compliant	6
Are all Portable Tools/Leads in date /Serviceable?	5
Document Control – current review status	5

LRQA Report – Deficiencies by Network Operator

Deficiency Response (by Network Operator)

Provider	<input type="checkbox"/>		
BUUK	0	0	0
Design Only	0	0	0
Eclipse Power Networks	0	0	0
Electricity North West	0	0	0
Energy Assets Networks	0	0	5
ESP Utilities Group	0	2	3
Fortbury Assets Ltd	0	0	0
Fulcrum	0	0	0
Harlaxton Energy Networks	0	0	2
Independent Power Networks Limited	0	0	0
Indigo Power	0	0	0
Last Mile Asset Management	0	0	0
Leap Utilities	0	0	0
MUA Group	0	0	0
Murphy	0	0	0
National Grid Energy Distribution	0	5	4
Northern Ireland Electricity Networks	0	0	0
Northern Power Grid	0	0	0
Office Visit	0	6	2
Scottish & Southern Electricity Networks	0	2	10
SP Energy Networks	0	0	0
The Electricity Network Company Limited	0	0	0
UK Power Distribution	0	0	0
UK Power Networks	0	15	4
Utility Assets	0	0	0
Vattenfall	0	0	0

Oct-22		
Major	Minor	Observ
0	0	0
0	0	0
0	0	0
0	0	0
0	0	5
0	2	3
0	0	0
0	0	0
0	0	2
0	0	0
0	0	0
0	0	0
0	0	0
0	0	1
0	0	0
0	0	0
0	5	4
0	0	0
0	0	0
0	6	2
0	2	10
0	0	0
0	0	0
0	0	0
0	15	4
0	0	0
0	0	0

0 30 30

Nov-22		
Major	Minor	Observ
1	6	3
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	1
0	0	0
0	0	0
0	5	6
0	0	0
0	1	2
0	0	0
0	4	5
0	0	0
0	0	0
0	1	0
1	6	8
0	0	0
0	0	0

2 23 25

Dec-22		
Major	Minor	Observ
0	0	0
0	0	0
1	3	8
0	0	0
0	0	1
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	2	0
0	0	0
0	0	0
0	1	5
0	0	0
0	0	0
0	1	5
0	0	0
0	0	0
0	0	0
0	6	5
0	0	0
0	0	0

1 13 27

Jan-23		
Major	Minor	Observ
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
1	7	1
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
10	11	1
0	0	0
0	0	0
0	0	0
0	2	3
0	0	0
0	1	2
0	1	1
0	0	0
0	0	0
0	2	0
1	10	12
0	0	0
0	0	0

12 34 20

Further Information



Requirements Document National Electricity Registration Scheme (NERS)



Issue v9

CiC Workshop

25th May 2023

Please contact
Paul Costelloe
Paul.Costelloe@lrqa.com



Electricity
Distribution

Framework Network Access & Adoption Agreement

Kelly McLaughlin
Connections Strategy Engineer

national**grid**



What is the Framework Network Access & Adoption Agreement:

The Framework Network Access and Adoption Agreement (“FNA & AA”) is intended to govern the overall relationship between NGED and an Independent Connection Provider (“ICP”). The FNA & AA specifically sets out the terms on which:

- i) the ICP will access NGED’s network to carry out contestable connection works; and
- ii) NGED will adopt the ICP’s contestable connection works on energisation.

ICP Options – DSR's

The options for Low Voltage are:

Competition in Connections code of Practice	Option 1	Option 2
Description	ICP works to their own DSRs procedures and Policy. ICP Authorise their own Staff.	ICP works to NGED DSRs procedures and Policy. NGED to authorise ICP Staff.

ICP Options – DSR's

The Option for High Voltage are:

Competition in Connections code of Practice	Option 1	Option 2	Option 3	Option 4
Description	ICP works to their own DSRs procedures and Policy. ICP Authorise their own Staff (only available with option 3).	ICP works to NGED DSRs procedures and Policy. NGED Authorise ICP Staff.	NGED transfers control of a specific part of the distribution system to ICP control Only available with Option 1	ICP authorised SAP Switches to NGED DSRs procedures and Policy. Work on 'Defined System' under ICP DSRs procedures and Policy.

Extension of Contestability Agreements:

- **Issue and Return of Keys for Access to NGED Substations**
- **Rent a Test Probe**
- **LV Cable Identification Service**
- **Self inspection**
- **Self Determination of a Point of Connection**

To Sign onto the FNA&AA

Please email NGED.connections@nationalgrid.co.uk

Include:

Company Registered Name –

Company Registered Address -

Company Registration Number –

Contact Name for notices –

Contact Address for notices –

Contact fax & email address for notices –

As part of the registration process, you are required to declare the Distribution Safety Rules Option that your organisation shall comply with when undertaking Low and High Voltage Operational activity on the existing NGED network.

national**grid**

Electricity
Distribution

Operational Safety Requirements

John Perry
Health & Safety Adviser

nationalgrid



CiC CoP Option Basics

Option 1



ICP authorises own CPs, APs and SAPs for work on NGED network using ICP DSR's, procedures and Policy (SMS)

ICP

Option 2



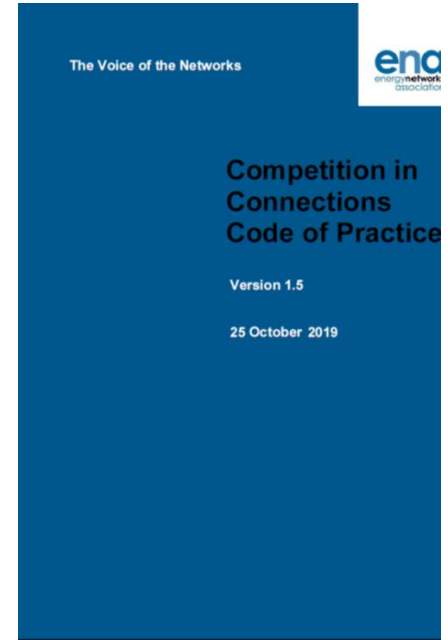
NGED authorises ICP CPs, APs and SAPs for work on NGED network using NGED DSR's, procedures and Policy (SMS)

NGED

Option 3



Not a true option as it facilitates the transfer of network control between NGED and the ICP



Low Voltage Available Options

CiC CoP Options	OPTION 1	OPTION 2	OPTION 3
REQUIREMENTS	NERS Accreditation for the scope of work & Registered with NGED Connections	NERS Accreditation & NGED Authorisation Procedure as per current NGED OS:7 Policy & Standard Techniques (Treated as if authorising a contractor) & Registered with NGED Connections	Not Applicable for the LV Network

High Voltage Options 1 & 3

CiC CoP Options	OPTION 1 ICP authorises own CPs, APs and SAPs for work on NGED network using ICP DSRs procedures and Policy (SMS)	OPTION 3 Transfer of Control to ICP
REQUIREMENTS	<ul style="list-style-type: none">• Option formally selected by the ICP registered with NGED Connections.• NERS Accreditation for the scope of work.• SMS checks as per ST:OS7H.• Progressive authorisation levels based on the Table of Operations found in ST:OS7H.	Allowed

High Voltage Option 2

CiC CoP Options	OPTION 2 NGED authorises ICP CPs, APs and SAPs for work on NGED network using NGED DSRs procedures and Policy (SMS)	OPTION 3 Transfer of Control to ICP
REQUIREMENTS	<ul style="list-style-type: none">• Option selected by the ICP registered with NGED Connections.• NERS Accreditation for the scope of work.• NGED Authorisation Procedure as per current NGED OS:7 Policy & Standard Techniques (Treated as if authorising a contractor)	N/A as control of the network is with NGED at all times.

High Voltage Option 4 (hybrid of the CiC COP Options)

<p>A hybrid combination of option 1 & 2. This is not a recognised stand alone <u>CiC CoP</u> Option.</p>	<p>Option 4</p> <p>ICP authorised SAP Switches to NGED DSRs procedures and Policy.</p> <p>Identification, Work and testing under ICP DSRs procedures and Policy.</p>	<p>OPTION 3</p> <p>Transfer of Control to ICP</p>
<p>REQUIREMENTS</p>	<ul style="list-style-type: none"> • Option selected by the ICP registered with NGED Connections. • NERS Accreditation for the scope of work. • SMS checks as per ST:OS7 (This decides if the ICP has equivalent or better operation safety management to WPD)* Completed by NGED Safety • ICP SAP Briefing & Test as per ST:OS7H. Completed by appropriate EO. • ICP Operational Site Checks as per ST:OS7H. Completed by NS SAP. <p>*Note: An ICP authorisation is considered equivalent to NGED authorisation for switching on the NGED network if they have an equivalent SMS as NGED. This is similar to arrangements for the NEWSAC Agreement.</p>	<p>NGED retain control of the NGED network but it is released to the ICP under a “RELEASE FOR IDENTIFICATION, WORK & TESTING” document.</p>

Competition in Connections Code of Practice

- Changing between nominated Options is not routinely allowed.
- Making a charge for reflective costs incurred by NGED when facilitating ICP's is allowed and may include:
 - Remedial works.
 - SMS Checks.
 - Operational site checks.
 - Authorisation.
 - Investigations.
 - Operational briefings and tests.
- A formal inspection regime is in place **but not** administered by NGED safety or included for information in this part of the briefing.

What you need to do for HV work on NGEDS network?

What do you need to do:

- ICP selects option they wish to work to.
- Any initial enquiry to carry out work under this process shall be referred initially to the policy team – nged.connpolicysupport@nationalgrid.co.uk
- ICP accredited under NERS with the appropriate scopes covering all work they wish to undertake.
- ICP staff have adequate and recognisable CVs, training records and authorisations in accordance with ICP's DSRs
- ICP to pass a safety management system check - The objective of the check is to ensure that the ICP operational procedures & distribution safety rules are as a minimum equivalent to NGED Policy & Standard techniques, and the ENA Model Distribution Safety Rules.

What you need to do for HV work on NGEDs network?

What do you need to do:

- **These checks will be carried out by a member of the Operational Safety team who will utilise and complete the “SMS checklist/record form”**
- **The ICP when informed of the results of the check will then have an opportunity to rectify any deficiencies identified and resubmit for a re-check. Upon successful submission of the SMS the ICP will be allowed to progress to the Planning and Schedule of Responsibilities Meeting.**
- **Upon completion, the reports shall be sent to the NGED Safety Team for retention and circulation to the ICP, Lloyds Register, and the NGED Distribution Manager for the area the work is proposed.**

Operational Site Checks

- **A minimum of 5 successful Operational site checks for each ICP SAP shall be carried out before they are allowed to operate alone on the NGED system.**
- **After successfully completing 5 check further checks can be carried out on an ad hoc basis at the discretion of NGED.**
- **The Check will be carried out by a NGED person who holds the correct authorisation level that would allow them to carry out a NGED Field Check on an equivalent NGED SAP, or an appropriate member of the NGED Operational Safety Team.**
- **Form/Checklist to be completed and returned via E-mail to the Safety Help Mailbox**

Guidance for the completion of NGED – Operational Site Checks

- The check can be completed up to the point the Safety Document (NGED Release for identification, work & testing) is issued.

Or

can be completed after the cancelation of the Safety Document (NGED Release for identification, work & testing).

- There is no requirement for a NGED Operational Site Check to extend the full duration of a job only at the pre or post NGED release document. Work under ICP Safety Rules are not part of these NGED – Operational Site Checks.
- The person carrying out the NGED Operational Site Check does not supervise the ICP SAP or others in any respect.

Inspection and Monitoring for Safety

- NGED reserve the right to inspect and monitor the works conducted by any ICP engaged in activity on its distribution network.
- Any non-conformities relating to the work being carried out, shall be brought to the attention of the person in charge of the works on site verbally, and be followed up by a formal report highlighting the areas of non-conformity and the required remedial action.
- For any major non-conformities that in the view of the NGED representative could create danger arising from the NGED electrical network, an immediate cessation of the works may be ordered and the affected network made safe pending further investigation and reported to the NGED Safety Helpline.

Further reading:

- NGED Connections Policy Support nged.connpolicysupport@nationalgrid.co.uk
- NGED, Safety Help Line nged.safetyhelpline@nationalgrid.co.uk
- John Perry Operational Safety Advisor jperry@nationalgrid.co.uk

national**grid**

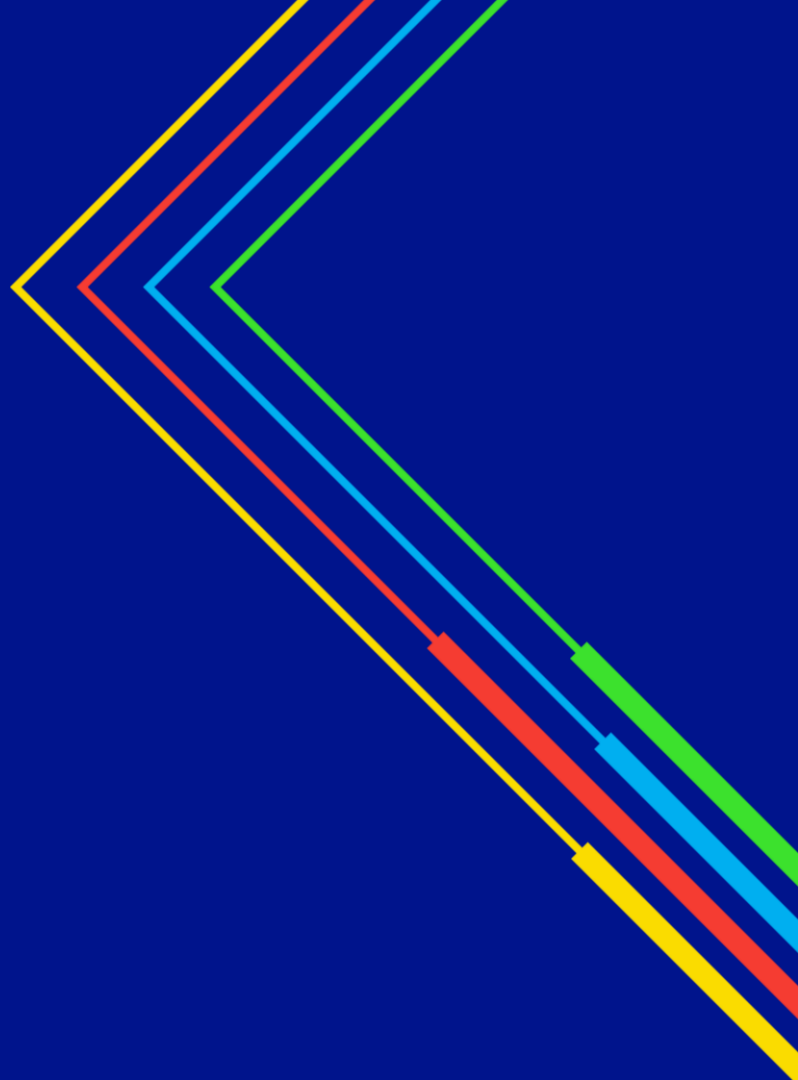


Electricity
Distribution

Online Services: Enquiry Tracker and ICP Portal

Kate Sheehan
Connections Strategy Engineer

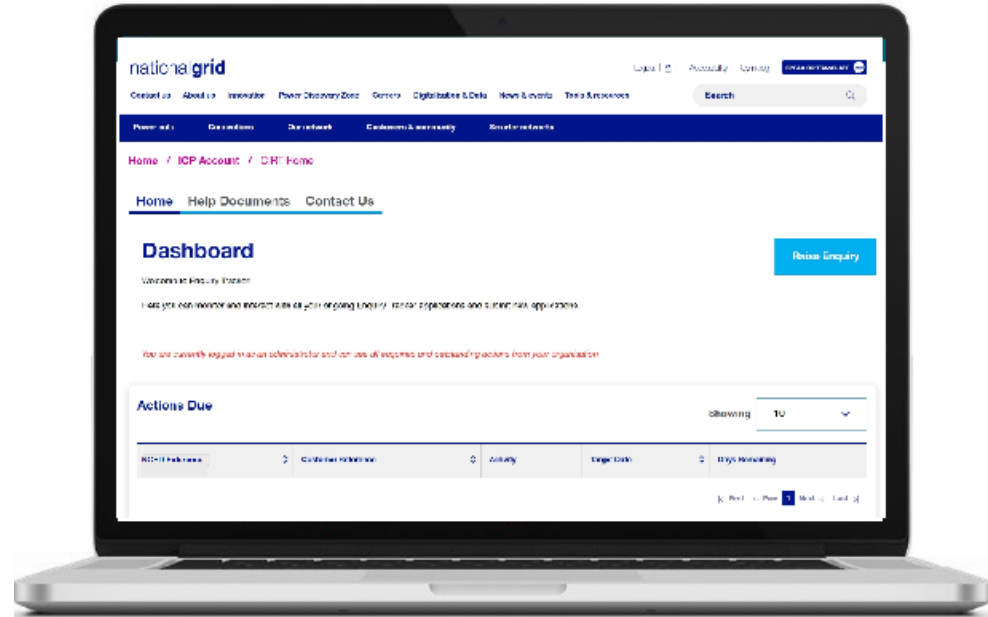
nationalgrid



Enquiry Tracker

Allows Customers to:

- Access a secure, web-based application
- Remotely monitor progress of enquiries for new connections
- Interface directly with our main enquiry management system, CROWN.
- View real-time updates highlighting the latest tasks for both NGED and the user.
- View regulatory and NGED's own target dates for completion of activities.
- Accept and decline quotes



Enquiry Tracker

Benefits

- Upload relevant documents as minimum information and supporting information.
- Our staff can request additional information for an application directly from our database to enquiry tracker.
- Customers can view the progress of their enquiry via an enquiry timeline.



[Home](#) / [ICP Account](#) / [CIRT Home](#)

[Home](#) [Help Documents](#) [Contact Us](#)

Dashboard

[Raise Enquiry](#)

Enquiry Tracker

Access to Enquiry Tracker

Customers are able to register for access to Enquiry Tracker at a company, departmental or individual level.

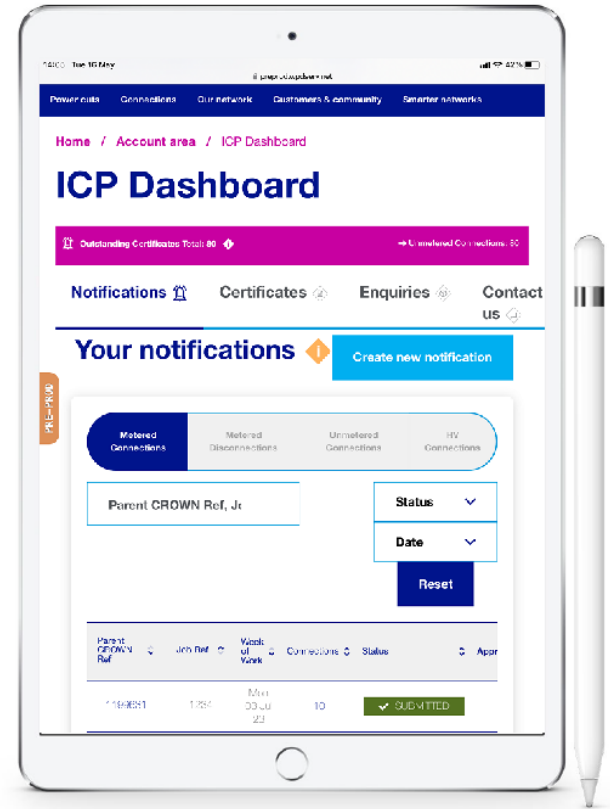
Registration requests should be sent to;

NGED.enquirytracker@nationalgrid.co.uk

ICP Portal

The ICP Portal is an online system which enables connection providers to:

- Create an application for connection
- Submit self-determined Point(s) of Connection
- Submit details of self-connections, e.g. live jointing notifications
- Receive confirmation of whether a self-connection is approved or rejected; and
- Submit completion certificates, as-laid plans and associated documentation



ICP Portal

Western Power Distribution - ICP x image of an ipad for presentatic x Email - Kate Sheehan - Outlook x | +

https://preprod.wpdserv.net/icp-dashboard

nationalgrid

Logout | Accessibility Cymraeg **SPEAK OR TRANSLATE**

Contact us About us Innovation Power Discovery Zone Careers Digitalisation & Data News & events Tools & resources Search

Power cuts Connections Our network Customers & community Smarter networks

Home / Account area / ICP Dashboard

ICP Dashboard

PRE-PROD

Outstanding Certificates Total: 80 → Unmetered Connections: 80

Notifications Certificates Enquiries Contact us

Your notifications

Create new notification

Metered Connections Metered Disconnections Unmetered Connections HV Connections

Chat with National Grid

ICP Portal

Requires an admin user to act as main point of contact.

The registered admin user can add additional users within the company

To register as an admin user, please send the following details:

- The name of admin user for your company
- Their email address
- Company name; and
- Location or depot address

to nged.enquirytracker@nationalgrid.co.uk

national**grid**



Electricity
Distribution

ICP Downstream Designs



Seth Treasure
Policy Engineer
System Design & Power Quality

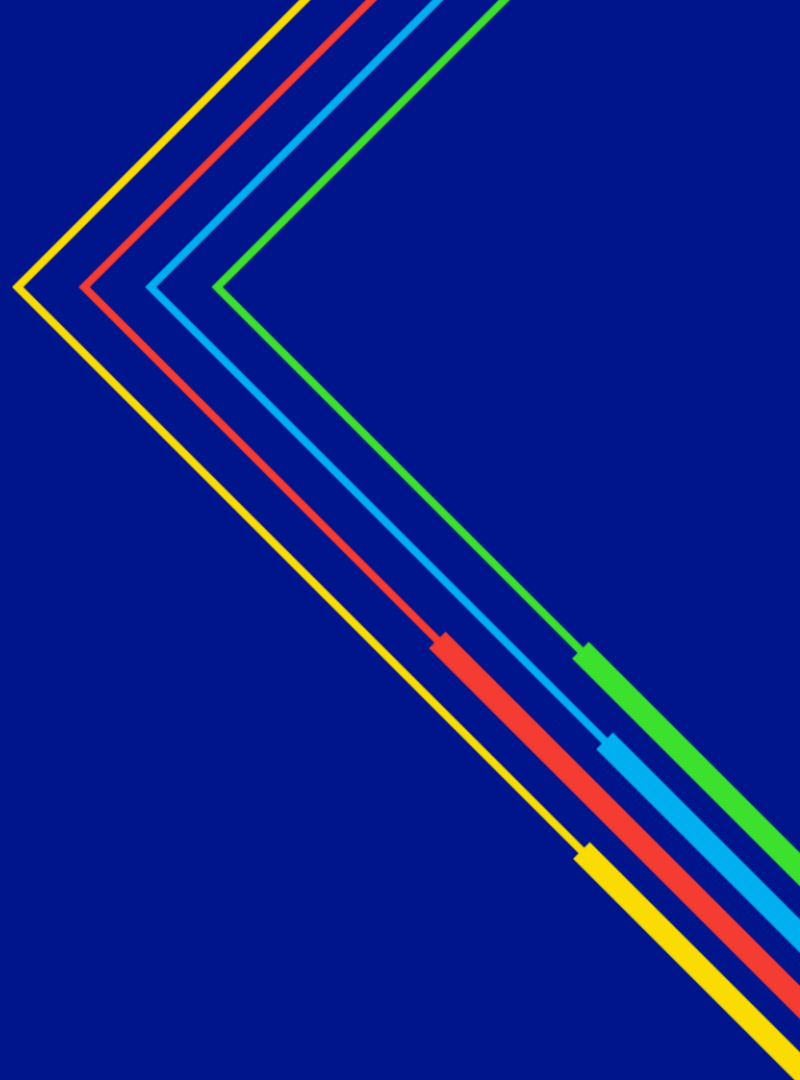
nationalgrid

Topics

- Scope of Involvement
- Determination of the Point of Connection (POC)
- Matrix Designs
- Technical Assessment
- Design Submissions

Electricity
Distribution

Scope of Involvement



Scope of Works

NGED have no obligations to networks that are run and operated by third party companies - Independent Distribution network Operators (IDNOs)

Only assets that will be owned and operated by NGED are to be assessed by NGED

Where equipment or the connection may cause interference with NGEDs wider system, NGED are obligated to assess the impact of the connection

Scope of Works

For example,

On a site with a unit type substation setup with LV metered customers, only the RMU, HV cables and overall access / egress will be assessed.

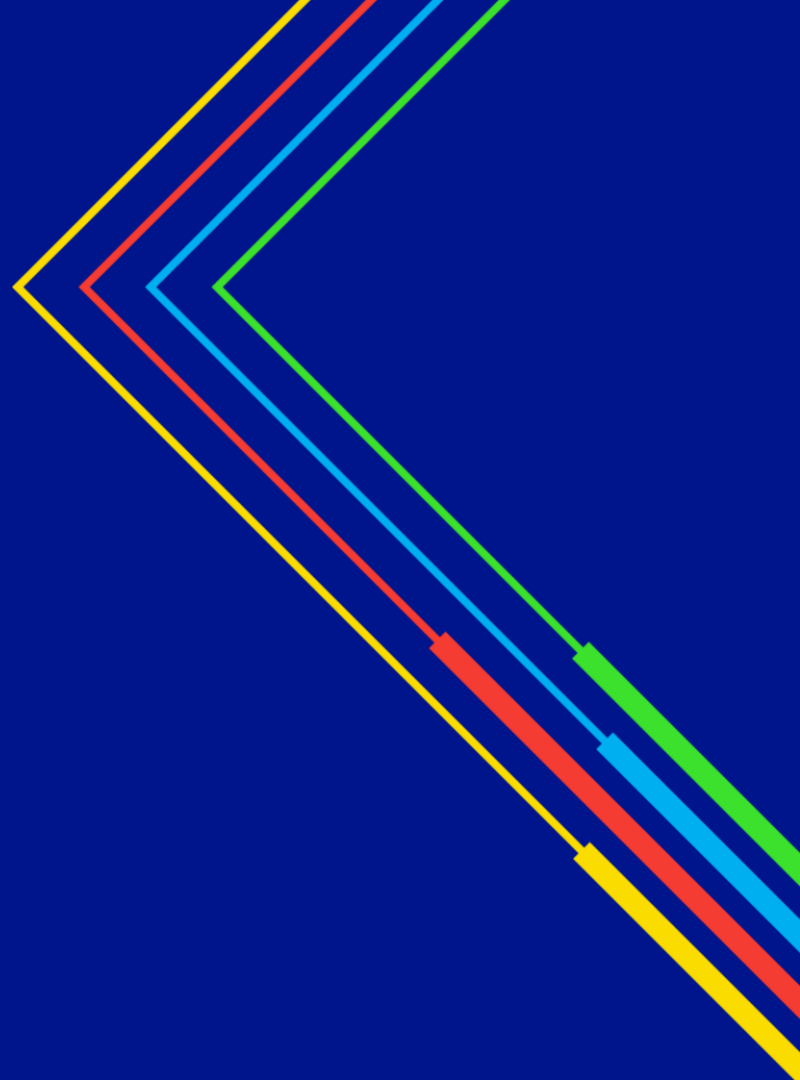
Although evidence may have to be provided to NGED to ensure compliance with Power Quality or Earthing Standards.

Scope of Works

If the Independent Connection Provider (ICP) are to undertake any analysis of the NGED network, these assessment would also need to be critiqued by NGED

Electricity
Distribution

Determining the Point of Connection



Two available options for ICP to determine the Point of connection:

- Provision of a standard design matrix which if followed correctly shall enable the quick determination of the point of connection with minimal network analysis.
- ICP undertakes technical design analysis.

Determining the Point of Connection

NGED's Simplified Connection Processes

Connection Voltage	Comments	Policy
Low Voltage up to 5kVA	Multiple metered & unmetered connections	ST: SD5F
Low Voltage up to 200kVA	Aggregate load – No maximum number of properties	ST: SD5B
High Voltage	HV & LV metered – No limit of circuit	ST: SD4D
High Voltage	HV & LV metered - Up to 500kVA	ST: SD4E

No reinforcement of network – ICP's able to 'fill up' circuit capacity of underground circuits compliant with set characteristics

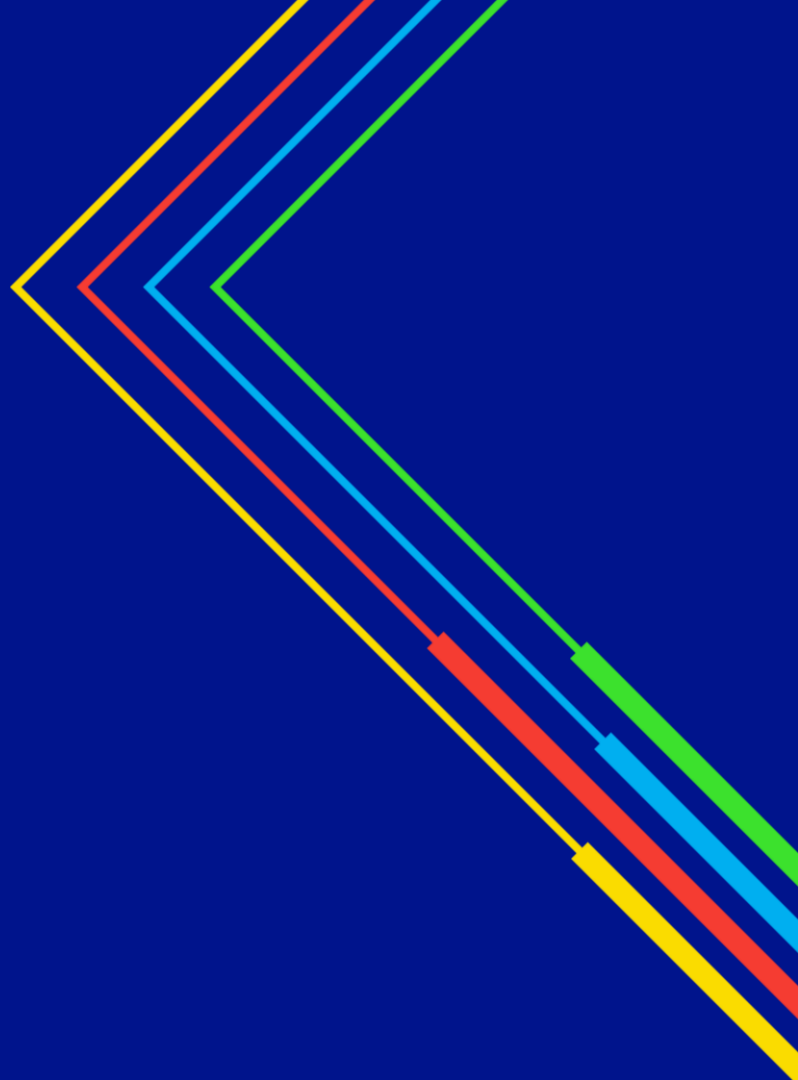
Technical Designs by ICP's

Connection Voltage	Comments	Policy
Low Voltage	Connection of load onto circuit – OH & UG	ST:SD1F
High Voltage	Connection of load onto circuit – OH & UG	ST:SD4A

No reinforcement of network – ICP's able to 'fill up' circuit capacity
Open to all overhead and underground circuits – no interactive quotes

Electricity
Distribution

Matrix Designs



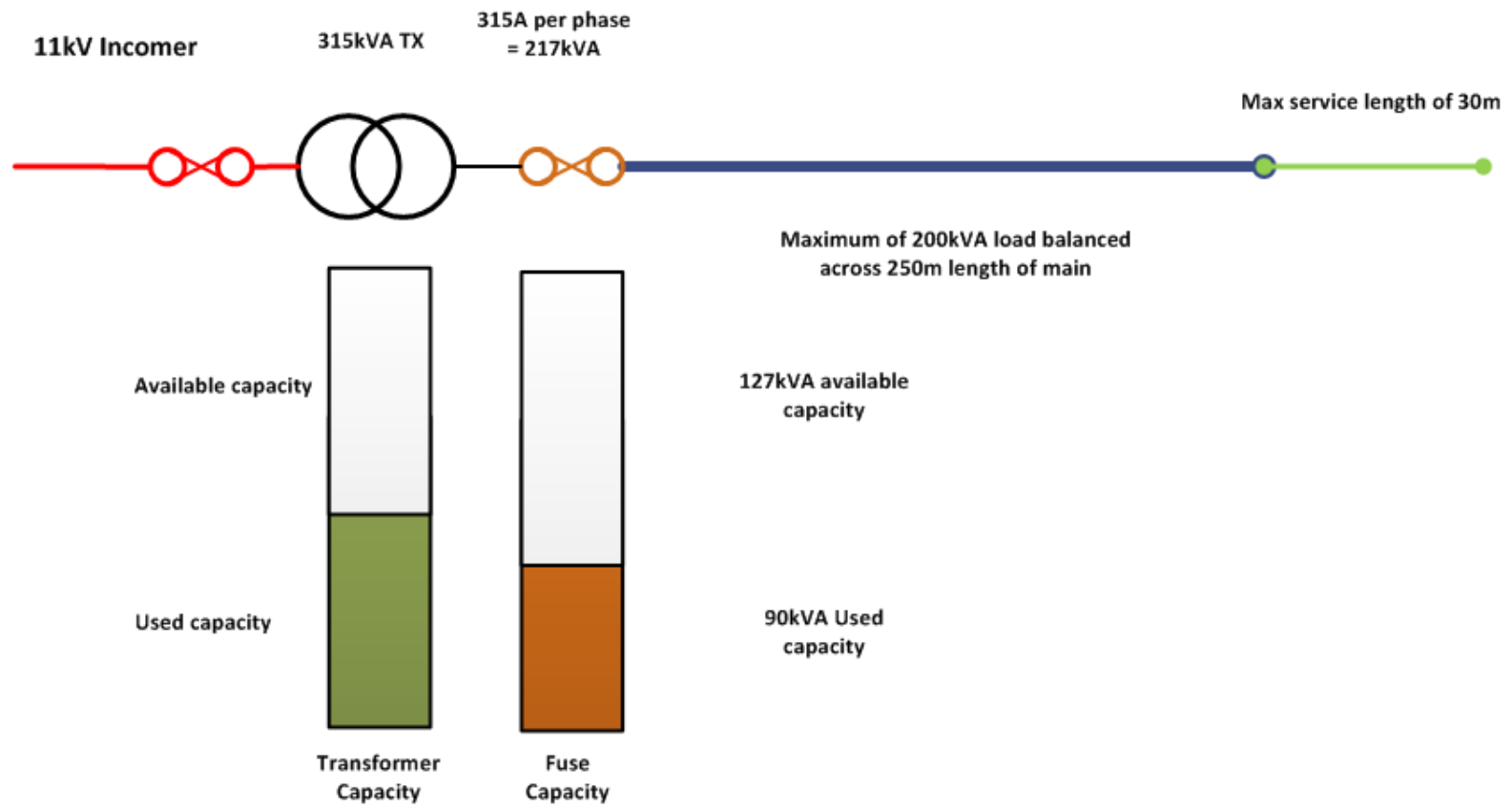
Matrix Designs

The Matrix / Simplified assessment procedures include a check list of the requirements

Information on compliance can be obtained via access to NGED online data and mapping portals or where required more technical data from the Network Services teams.

Matrix Designs – Main Requirements

- Balanced load
- No ducted cables or 'grouped' cables
- For up to 200kVA demand (figures differ for single point load and 6.6kV networks)
- Transformer to be rated $\geq 315\text{kVA}$
- Maximum overall load per fuse way to be $\leq 217\text{kVA}$
- Continuous three phase network
- Mains cable to be rated at ≥ 373 amps (≥ 185 w/con)
- Maximum mains cable length of 250m
- Maximum service length of 30m
- No relevant warning hand symbols present on the EMU mapping system
- Only G98 compliant generation
- Limited acceptance of heat pumps and low carbon technologies



Example check lists

Check list for confirmation of compliance to Standard Technique: SD5B

Enquiry Number	
Address	
Does the connection conform to the following requirements?	
The requested load is $\leq 200\text{kVA}$ and evenly balanced	
The Distribution transformer is rated $\geq 315\text{kVA}$	
The requested load is $\leq 150\text{kVA}$ for a single point load onto a 315kVA distribution transformer	
The Distribution Transformer has sufficient capacity (Existing load including ASC + Proposed load)	
The Maximum load on the individual transformer fuse way is $\leq 217\text{kVA} / 315\text{A}$ per phase	
The existing network has a continuous three phase conductor with a minimum conductor size of 185mm ² aluminum or equivalent rating for a copper conductor	
The maximum length of conductor from the Low Voltage cabinet to the point of connection of the furthest service joint is $\leq 250\text{m}$ for loads $\leq 150\text{kVA}$	
The maximum length of conductor from the Low Voltage cabinet to the point of connection of the furthest service joint is $\leq 200\text{m}$ for loads $\geq 150\text{kVA}$	
The service length is $\leq 30\text{m}$	
Any Generation complies to Engineering Recommendation G83 or G98 (as applicable)	
The Low Voltage Network does not have any warning hand symbols present	
Any voltage disturbance / flicker contributions adhere to clause 5.2.1	
Any voltage distortion / harmonic contributions adhere to clause 5.2.2	
The connection arrangements comply with standard technique: SD5A	
The connection materials comply with ENA Engineering Recommendation G81	

A1.4 Matrix Assessment

The designer assesses compliance with the requirements of clause 3.3. (a) – demand less than 25% of the lowest rated cable

Circuit 1 from Primary Substation A	
Utilisation Factor	21% (72.43A)

Circuit 2 from Primary Substation A	
Utilisation Factor	24% (81.09A)

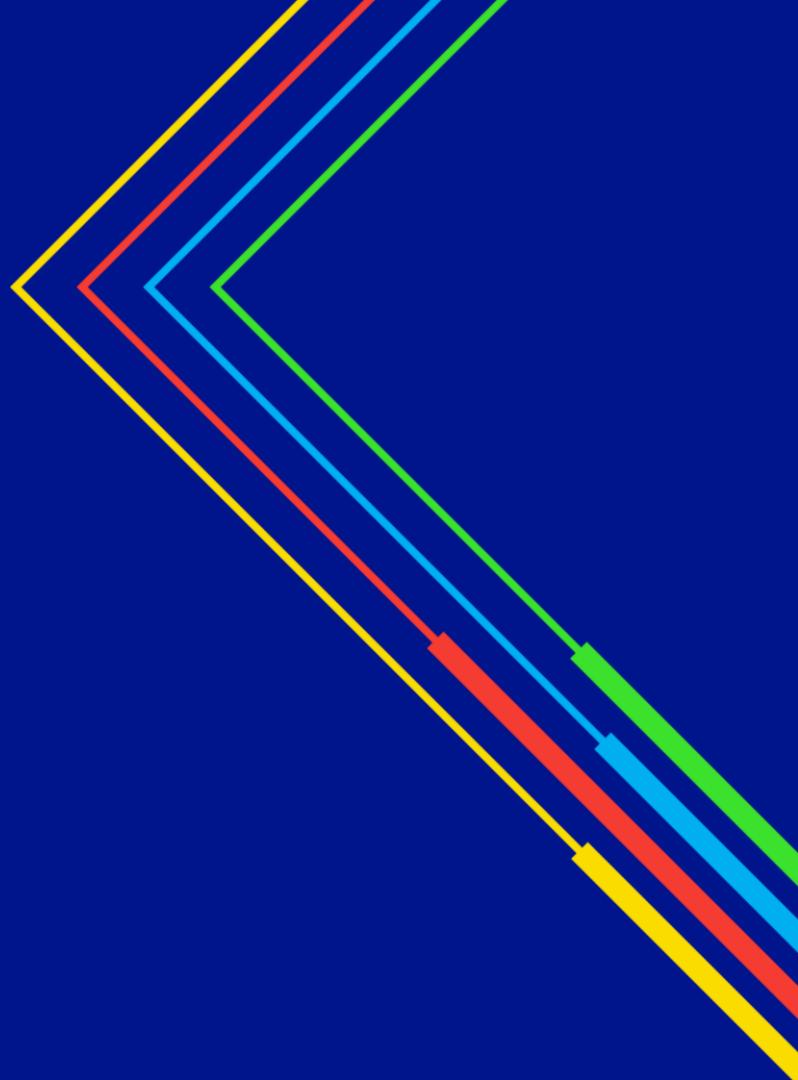
Circuit 3 from Primary Substation B	
Utilisation Factor	15% (36.74A)

The designer assesses compliance with the requirements of clause 3.3. (b) – demand less than 50% of the lowest rated cable.

Abnormal Running Arrangements	Utilisation Factor
Circuit 1 and Circuit 2	45 % (21+ 24)
Circuit 1 and Circuit 3	36 % (21 + 15)
Circuit 2 and Circuit 3	39 % (24 + 15)

Electricity
Distribution

Technical Assessments



Technical Assessments

When an ICP has undertaken technical analysis to determine the point of connection or has designed an extension asset that will be adopted by NGED. The ICP shall provide NGED with the following information;

Technical Assessments

Copies of input and output from the design package used;

- a statement of the design parameters used;
- a drawing showing the network layout to a suitable scale showing, routes, joint positions, cable sizes, link boxes and LV phase connections;
- Confirmation that the design meets the requirements of the appropriate Standard Techniques.
- Technical data relating to a stage 2 assessment for compliance with ENA EREC G5, G98, G99, P28, P29.

Example Check List for Technical HV Assessment

High Voltage Design - Design Submission form

Site Address

Designer

Company Name

NGED Auditor

Managed Unit

Requested load (demand only) kW

Number of MPAN's to be created

Power Factor

Load profile - cyclic or sustained?

Any motors / generators $\geq 50\text{kW}$? * *Fault Levels to be considered*

Rating of primary transformers MVA

Total Load on primary substation MVA

Single transformer primary? **

Apportionment or Potential refund symbols? ***

Design Parameters

Date & Time of maximum demand

Network load profile - Cyclic or Sustained?

Season with highest utilisation factor

Design Voltage of System V

Name of Primary Substation

Target voltage of primary S/S V

Total Band width of primary S/S tap changer relay %

Primary voltage used for calculations V

External Enquiry No

Internal Enquiry No

Date

Connecting onto circuit no -
Location / between

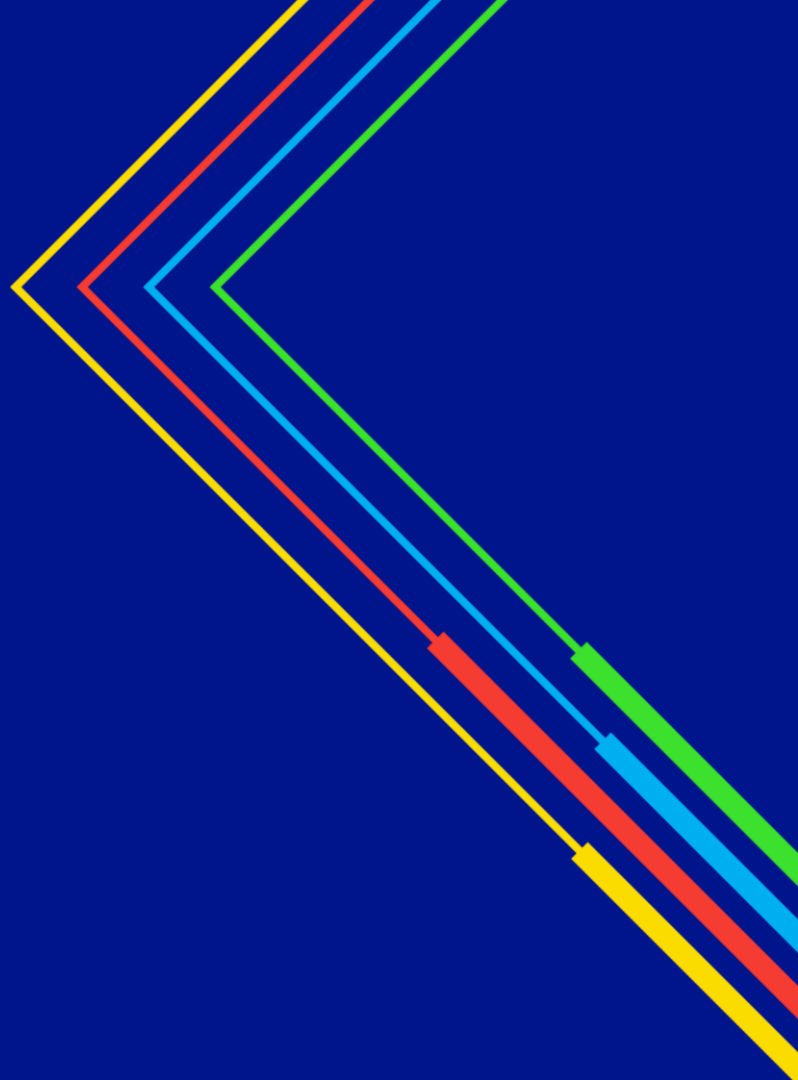
Relevant backfeed circuits -

Load on Circuit kVA

Load on Backfeeds kVA
 kVA

Electricity
Distribution

Design Submissions



The ICP shall,

- Confirm competence for proposed works (design of)
- Confirm company to undertake works
- Detail proposed materials – assessment against NGED G81 material appendix
- Detail how the POC has been determined (matrix or Technical assessment)
- Detail the assessment of the extension asset (where appropriate)
- Show POC and cable routes on a plan of the site
- Show position of any earthing systems (PME electrode at end of DNO network)

Design Submissions

The ICP shall,

- Confirm overall apparent power requirement (kVA)
- Confirm ADMD values used
- Confirm type of heating
- Confirm protection arrangement (where appropriate)
- Confirm type / number of any proposed connection of LCT
- Confirm compliance with NGED design standards
- Confirm location of Point of Supply

Design Submissions

The ICP shall,

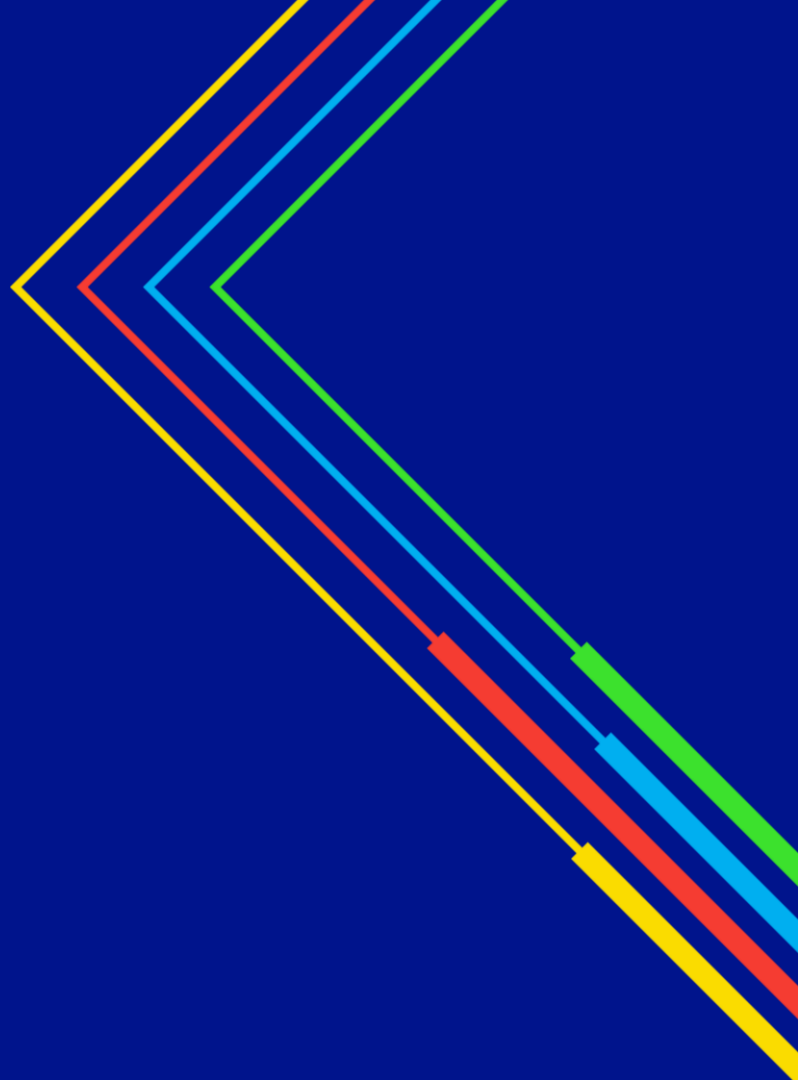
- Show calculations confirming appropriate connection characteristics (matrix or technical assessment)
- Detail earthing arrangements (PME/SNE/TT)
- Any additional assessments required for the determination of Hot/Cold sites
- Earthing segregation requirement if any
- Any additional assessments for works in close proximity to fuel filling stations
- Any additional assessment required to confirm compliance with PQ standards (connection of EVCP)

Design Submissions

Electricity
Distribution

NGED Review

nationalgrid



NGED Review

NGED will review the design submission against the applicable Standard Techniques

NGED may also have an opinion for compliance with Core Industry Standards i.e. does the design provide a connection that is,

- Safe to install
- Safe to inspect
- Safe to maintain
- Dcode – Maintainable, Coordinated, Efficient and Economical

national**grid**

Electricity
Distribution

Earthing

Graham Brewster
Engineering Policy

nationalgrid



Scope

Earthing is a broad topic. It extends from LV to 132kV and includes design, materials, installation & measurements.

We've used this opportunity to discuss the **design of earthing systems for ground-mounted distribution substations**

Contents

01 Earthing Design Policy

02 Earthing Design Tool

03 Earthing Design Submission Form

04 Earthing Report

05 Soil Resistivity & Structure

06 Online Training

07 IDNO Connections

08 Questions & Answers

Earthing Design Policy

NGED earthing design policy for GM distribution substations has a two tier structure

- TP21DD prescribes the high-level overarching policy covering all types of GM substation
- TP21G* suite of documents prescribe the standard earthing designs for particular types of GM substation
 - Includes an Earthing Design Tool


Electricity Distribution nationalgrid

Company Directive

STANDARD TECHNIQUE: TP21DD/1

Design of Earthing Systems
Part D
Ground Mounted Distribution Substations

Summary
This Standard Technique defines the earthing design requirements for ground mounted distribution substations which are to be owned or adopted by Western Power Distribution.

Author: Graham Brewster
Implementation Date: April 2022
Approved By: 
Carl Ketley-Lowe
Engineering Policy Manager

Date: 13th April 2022

Target Staff Group	Network Services Teams, Engineering Trainers & ICs
Impact of Change	AMBER - The changes have an impact of current working practices that are not safety critical - Communication at next team meeting or retraining programme
Planned Assurance Checks	Policy Compliance Specialists shall confirm whether the requirements have been complied with during their sample checking of completed jobs

All references to Western Power Distribution or WPD must be read as National Grid Electricity Distribution or NGED

NOTE: The current version of this document is stored in the NGED Corporate Information Database. Any other copy in electronic or printed format may be out of date. Copyright © 2022 National Grid Electricity Distribution

ST: TP21DD/1 April 2022 - 1 of 43 -

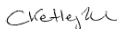
Electricity Distribution nationalgrid

Company Directive

STANDARD TECHNIQUE: TP21GA/1

Standard Earthing Designs
Part A
Unit Substation in a Freestanding GRP or Masonry Housing

Summary
This Standard Technique describes the standard earthing design to be employed on 'unit' type ground mounted distribution substations accommodated within freestanding GRP or masonry housings which are to be owned or adopted by Western Power Distribution.

Author: Graham Brewster
Implementation Date: April 2022
Approved By: 
Carl Ketley-Lowe
Engineering Policy Manager

Date: 13th April 2022

Target Staff Group	Network Services Teams, Engineering Trainers & ICs
Impact of Change	AMBER - The changes have an impact of current working practices that are not safety critical - Communication at next team meeting or as part of a retraining programme
Planned Assurance Checks	Policy Compliance Specialists shall confirm whether the requirements have been complied with during their sample checking of completed jobs

All references to Western Power Distribution or WPD must be read as National Grid Electricity Distribution or NGED

NOTE: The current version of this document is stored in the NGED Corporate Information Database. Any other copy in electronic or printed format may be out of date. Copyright © 2022 National Grid Electricity Distribution

ST: TP21GA/1 April 2022 - 1 of 34 -

Earthing Design Tool (EDT)

- Enables a non-specialist to generate an earthing design
- NGED recommend ICPs use the EDT where at all possible
- Three methodologies can be employed
 - Basic
 - Intermediate
 - Advanced
- Basic methodology does not require any information from NGED

The screenshot displays the Earthing Design Tool (EDT) software interface. The window title is "19210_EDT_v1.0hm - Excel". The interface is divided into several sections:

- SUBSTATION FORMAT [DESIGN STEP A]**:
 - Substation format: Design Input 0, dropdown menu showing "Standard Earthing Design - T9210-0".
 - Is the ground mounted distribution substation a special design?: Design Input 1, dropdown menu.
- PRELIMINARY ASSESSMENT [DESIGN STEP B]**:
 - Is the ground mounted distribution substation within 20m of a problematic location?: Design Input 2, dropdown menu. A note states: "Engage Earthing Specialist to carry out design if actual separation distance does not exceed minimum permitted by at least 5m".
- NETWORK DATA [DESIGN STEP C]**:
 - Select methodology?: Design Input 3, dropdown menu showing "Basic" with a blue selection box.
 - Select the system voltage: Design Input 4, dropdown menu showing "V".
 - Select method for identifying the source substation: Design Input 5, dropdown menu.
 - Select the source substation from the dropdown list: Design Input 6, dropdown menu.

The bottom of the interface includes a navigation bar with links: "Read Me", "Disclaimer", "User Guide", "Job Input", "Design Input", "Publish Report", and a "Calculate" button.

Earthing Design Submission Form

Intermediate & Advanced methodologies may require information from NGED

- Information provided on 'Earthing Design Submission Form'
- Information normally provided within 10 working days
- See Section 8 of SD1F

Data Collection Form - High Voltage Design - EPR Study nationalgrid

Site Address: _____

NGED Designer - requested by: _____ Enquiry No: _____

Message Unit: _____ Date: _____

Connecting onto primary on - _____
 Connecting onto circuit on - _____
 Connecting location / between - _____

Sent to: _____
 Area: **West Midlands**
 NGED, PSD West Midlands: caged.prd@westmidlands@nationalgrid.co.uk
 NGED, PSD Proratec WHM: caged.prd@proratec@nationalgrid.co.uk;

HV system Voltage - **110kV** Voltar Earthing System at Primary Resistor

Primary substation earthing system impedance (Ω): **0.1** Ω

Primary substation EPR - Transfer potential - Required for substation sites: **400** V **110V** Fault **600** V **66kV** Fault

Fault clearance time at primary site for above fault condition - Required for substation sites: **0.2** S **110V** Fault **2** S **66kV** Fault

Date provided by: _____ Date: _____

Impedance at Primary Substation busbar on 100 MVA base

	R (Ω)	X (Ω)
Z1	30.38	87.19
Z2	30.38	87.19
Z0	91.44	644.42

Fault current at HV busbar check value: **16.45** A (Single phase) **3450** A (Three phase)

Settings relating to: **110V Circuit Breaker**

Primary: IDMT OT Ratio: **700** A Secondary: **1** A

IDMT EF Current Setting: **40** Secondary Amps

IDMT EF time-current characteristic: **Standard Inverse**

IDMT EF time multiplier setting: **0.25** Date provided by: _____ Date: _____

Note: these instantaneous / definite time settings - calculations to be based on actual source fault clearance time

Impedance at: **MT Terminals (NGED Subarea)**

Impedance of HV network in subar **Impedance of HV network on 100 MVA base (C)**

Guidance: **R (Ω)** **X (Ω)** **R (Ω)** **X (Ω)**

	R (Ω)	X (Ω)	R (Ω)	X (Ω)
Z1	1.972	2.001	21	162.975
Z2	1.972	2.001	22	162.975
Z0	4.404	14.01	Z0	744.122

Issued to: **South Treasurer**


For use: **National Grid Electricity Distribution**


Company: _____ Date: **02/06/2025** Print to PDF

Earthing Report

The EDT generates an 'Earthing Report' in pdf format

- Earthing Report to be submitted as a minimum for Design Approval
- NGED prefers both completed EDT & Earthing Report to be provided
- Page 3 lists the keynote design information





EARTHING DESIGN REPORT

FOR

UNIT SUBSTATION INTEGRATED WITHIN

Licence Area: East Midlands

Substation: Student Accommodation

Address: 37-41 Lower Parliament Street, Nottingham

Earthing Design By: NGED

NGED Managed Unit: 1223

NGED Designer: Graham Brewster

NGED Crown Enquiry: 3735125

Date: 09/05/2022

Time: 17:18:17

Report Compiled Using Earthing Design Tool: TP21G_EDT

ER_NGED_EM_3735122_09-09-2022-17-18-17 Page 1 of 10

KEYNOTE DESIGN INFORMATION

Format	Unit substation integrated within larger building	
International Telecommunication Union (ITU) Classification	Cold	
NGED Third Party Impact Classification	Low EPR	

	HV Faults	EHV Faults
EPR	86	294
Earth Fault Clearance Time	3.40	3.40

HV "Perimeter" Electrode	Not Applicable
Minimum Length of Insulated HV "Tail" Electrode	To achieve HV separation distance
Minimum Length of Bare HV "Tail" Electrode	75 m
Number of Conductors (Min 100mm Apart) in "Tail" Electrode	1

Operator's Standing Surface	Stance grating
-----------------------------	----------------

HV & LV Earth Electrodes	Combined
HV / LV Link	Inserted
Length of LV Electrode	m

Minimum HV Separation Distance to Railway, Tramway, Metallic Pipeline, Bulk Storage Tanks For Petroleum or Flammable Liquids, Zoo, Stable, Pond/Lake Used For Commercial Fishing, Outdoor Swimming Pool, Outdoor Paddling Pool, Outdoor Shower, Telephone Exchange or Customer TT Electrode	0.0 m
---	-------

Minimum HV separation distance to LV system whose neutral is earthed at a single point	m
--	---

Minimum HV separation distance to LV system whose neutral is earthed at multiple points	0.0 m
---	-------

Comments

Target Commissioning Resistance Values	
HV Earth Electrode alone [#]	≤ 18.88 Ω
LV Earth Electrode alone [#]	≤ Ω
HV Earth Electrode on completion [‡]	≤ 1.13 Ω

[#] prior to connecting HV cables, LV cables, and bonds to customer earthing system
[‡] after connecting HV cables, LV cables, and bonds to customer earthing system

ER_NGED_EM_3735122_09-09-2022-17-18-17 Page 3 of 10

Soil Resistivity & Structure

It's in everyone's interest to use realistic values for soil resistivity & structure

Soil resistivity & structure influences electrode resistance and HV separation distance

Ideally obtained by on-site measurement

Use of assumed values comes with some risk

Risk can be minimised by using realistic values for the location in question

NGED uses location-based values provided by British Geological Survey

NGED cannot provide these values to ICPs

Online Training

Eight voiced-over Powerpoint presentations have been prepared for ICPs on the use of the EDT

The presentations are available via the NGED technical information website

<https://www.nationalgrid.co.uk/tech-info>

(nb. there is also a 'User Guide' embedded within the EDT)



IDNO Connections

Three arrangements employed at GM substations, namely, NGED HV switchgear close-coupled to an IDNO:

- HV cable
 - HV metering unit
 - HV/LV transformer
- In the case of the first two, NGED is the majority asset owner, therefore:
 - Owned and maintained by NGED
 - Designed and installed in accordance with NGED earthing policy
 - In the case of the last one, the IDNO is the majority asset owner, therefore:
 - Owned and maintained by IDNO
 - Designed and installed in accordance with IDNO earthing policy

IDNO Connections

**NGED HV switchgear
close-coupled to an
IDNO HV/LV
Transformer**

NGED expects to receive assurances that:

- The electrode resistance is less than 20Ω
- Touch voltages experienced by NGED staff are within tolerable limits
- Voltages imparted on any nearby NGED LV network are within tolerable limits

Something to reflect on...

- G88 requires NGED and IDNOs to ensure the maximum physical separation of their underground assets, for example, by laying their cables on opposite sides of a road
- Is it appropriate for IDNO earth electrodes to be laid with NGED HV cables?

national**grid**



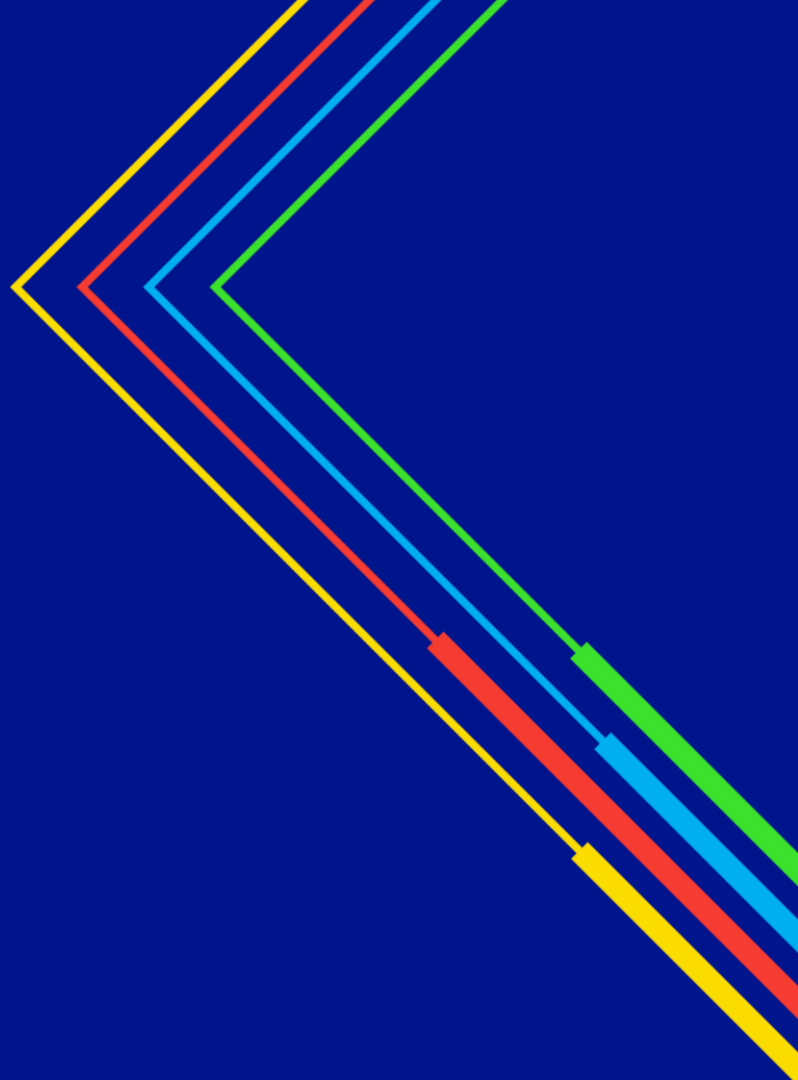
**Electricity
Distribution**

BCA's & SSA's

Kyle Smith

Connection Strategy Engineer

national**grid**



Bilateral Connection Agreement (BCA)

Bilateral Connection Agreement

- A BCA is required when an IDNO is to adopt the downstream network.
- BCA are to include information related to the connection characteristics.
- Within the BCA should be a schematic drawing and plan showing POC, POS and boundary of IDNO site.
- BCA's are raised between NGED and the IDNO.

Characteristics of the Connection			
Name(s) of substation:	TBC		
Substation Ref No(s): (If LV connection provide feeding s/s number)	TBC		
Connection Point description:	LV	LV Pillar - Outgoing terminals of the supply side heavy duty out-out - IDNO owned	Tick
		No Link Box required - Please specify *	
	LV	IDNO owned Link Box - Source side cable entry into the joint shell interface	
	LV	WPD owned Link Box - Load side cable entry into the joint shell interface	
	HV	at a point on the underground cable feeding the User's development that is [131m] outside the boundary of the Company's substation	
HV	The first bolted connection on the outgoing bushings of the Company's 11kV Circuit Breaker		
	at a point on the underground cable feeding the User's development that is [60m] outside the boundary of the Company's substation		
Other (Please specify)*	IDNO Owned Breach Joint		
Joint Installed by:	TBC		
Type & rating of protective fuse device at the interface	TBC		
Voltage(s) of Connection: (i.e. 230/400V)	TBC		
Voltage(s) of Metering: (i.e. 230/400V) - If no Metering N/A	N/A		
Type of connection: Firm Automatic Firm Alternative Switched Single Circuit	N/A		
Maximum Import Capacity:	XXXkVA		
Maximum Export Capacity:	XXXkVA		

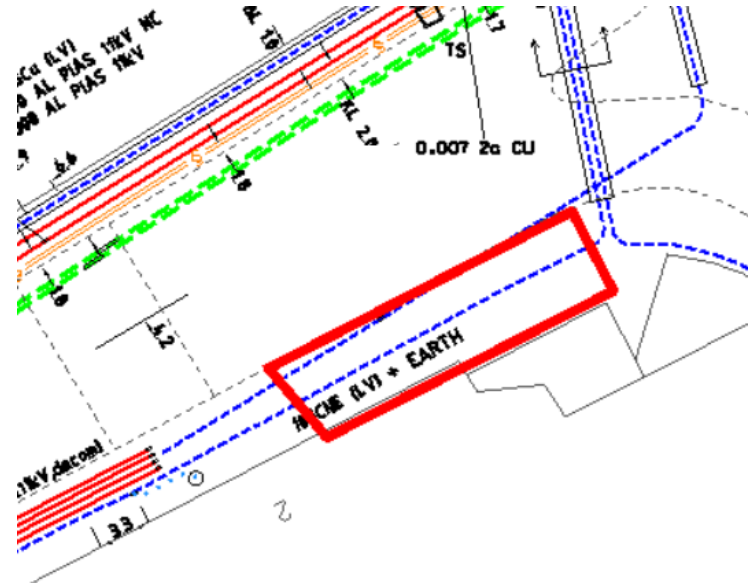
For import capacities 500kVA and above ramp up capacities must be entered below
Please indicate whether 3 or 5 year ramp up according to the Connection Offer

complete ramp up required capacity	Upon Energisation	1 st Anniversary	2 nd Anniversary	3 rd Anniversary	4 th Anniversary	5 th Anniversary
	kVA	kVA	kVA	kVA	kVA	kVA

Site Specific Agreement (SSA)

Site Specific Agreement

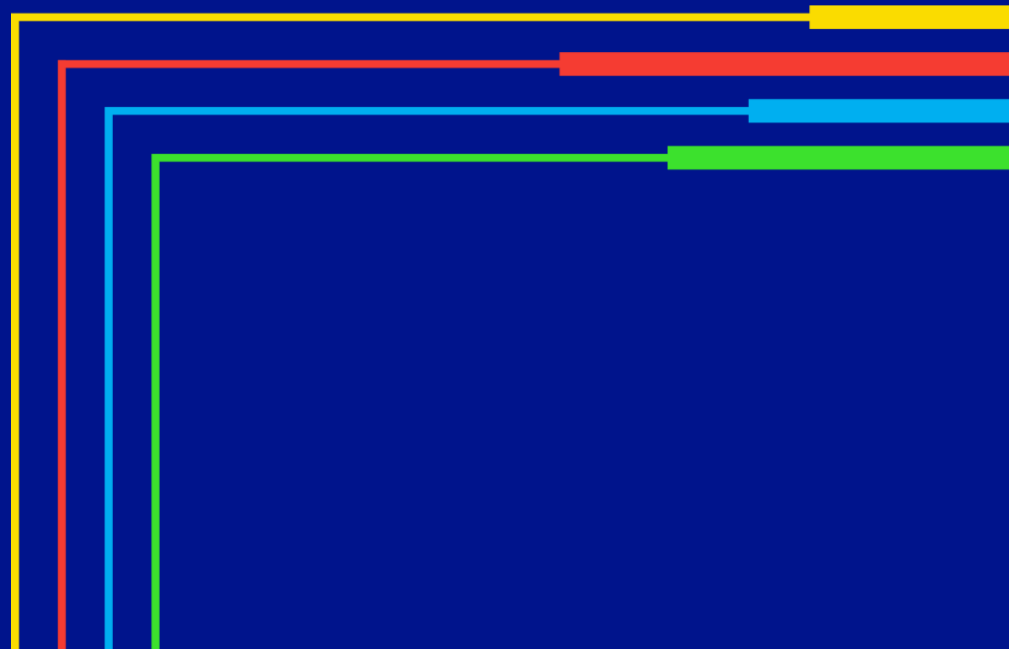
- SSA's are required when an ICP is to install an asset that NGED is to adopt.
- They include details of the works NGED are carrying out and works the ICP are carrying out (which NGED are to adopt). Detailed from the downstream design which was provided.
- They are to include a plan of the site
- These agreements are between NGED and the ICP



Electricity
Distribution

Inspections

nationalgrid



Connections onto NGED's network

How long does an ICP have to provide us to connect to the network?

- For unmetered supplies, ICP's have to provide NGED with 5 working days notice of their intended connection, this is done through the ICP Portal.
- LV connections ICP's need to provide 10 Working Days
- HV connection ICP's need to provide 20 Working Days.

Where NGED is to be completing the closing joint, this is also the minimum time an ICP needs to provide to request the connection.

Inspections

Inspection Categories

- Inspections are generated through NGED's systems when an ICP request to carry out works or when a downstream design has been approved.
- An ICP can operate at a different inspection level for each category type.
- Inspections are category specific.

Category	Activity
Mains	LV Mains
Mains	HV Mains
Mains	Trenchless
Mains	LV Joints
Mains	LV Terminations
Mains	HV Joints
Mains	HV Terminations
Mains	Pole erection
Substations	Foundations
Substations	Transformer/Switchgear Feeder Pill
Substations	HV Substation Pre-Commissioning
Substations	HV Operations Pre-commissioning
Final Connections	LV mains Connection to pre-existing
Final Connections	HV mains Connection to pre-existing
EHV Mains UG	33kV Underground cables
EHV Mains UG	66kV Underground cables
EHV Substations -	Earthing System - Testing
Associated 11kV P	11kV Primary Switchgear - Installati
Associated 11kV P	11kV Primary Switchgear - Cold Cor
Associated 11kV P	11kV Primary Switchgear - Local Int
Associated 11kV P	11kV Primary Switchgear - Protecti
Associated 11kV P	11kV Primary Switchgear - Remote
Contestable Desig	Contestable Design Audit (Demand
Contestable Desig	Contestable Design Audit (Generati

Inspections

Inspection Levels and moving up levels

Inspection level 1 to 3 – Incur a percentage of inspections and move up levels once 20 passed inspections have occurred.

Self-inspect Level 1 and 2 – ICP percentage of inspections very low and an ICP must request to be put onto a SIL, once they have been allocated Level 3 status.



Inspections

Why do National Grid Electricity Distribution carry out Inspections?

Inspections of ICP work whilst they are carrying out activities on NGED's network are to be carried out to ensure that:

- Working in a safe manner.

- Following all the relevant standards as per the activity being carried out.

- Materials being used are of correct specification.

Inspections

Inspections Failures and categories.

Category 1, 2 or 3 failure

ICP Failed to attend site at pre-arrange time / date

ICP cancelled / rearranged works with short notice.

ICP failed to provide time/date of works.

ICP provided time / date with insufficient time.

ICP completed works prior to arranged/arranging inspection.

Inspections

What does a failure mean for an ICP?

A failed inspection means a range of things happen for the ICP:

- Charged for the inspection.

- Could be moved back up to a higher inspection level (therefore meaning more inspections raised)

- Will then be required to restart the count of 20 inspections to be lowered to the next level.

Inspections

Useful Documents which can be found on NGED's website.

ST:NC2N – The ICP operating manual

ST:NC2L – ICP HV and LV connections under NGED DSR's and ICP DSR's

ST:NC2M – Inspection, Recording and Commissioning using the inspection and monitoring regime.

national**grid**

Electricity
Distribution

Consents

Beckie Downing

Consents & Planning
Manager

nationalgrid



Who Does What.....

- The ICP should negotiate its own legal rights with landowners for this period.
- The ICP will be liable for landowner claims relating to any reinstatement and damage which may occur. Prior to adoption NGED has no liability to the landowner for the works or assets. ICPs are responsible for acquiring both *on-site consents* (i.e. on the customer's land) and *off-site consents* (i.e. on land owned by a third party) in this respect.
- Our standard terms and template legal documents should always be used for the purchase of land and rights over land for the assets which we will adopt. We will require these legal rights to be acquired in NGED's name prior to adoption of the equipment. In other words, all legal rights must be in place when ownership of the asset transfers to NGED.

Planning Permission

- Statutory consents or other permissions (e.g. substation planning permission or consent to work in the vicinity of a protected site) are often required. Unless otherwise agreed with us, it is the ICP's responsibility to secure these consents and permissions.

Section 37 for overhead lines

- New overhead lines usually require s.37 (planning) consent.
- s.37 applications have to be submitted by NGED, but it is for an ICP to undertake all necessary consultations and provide us with the information to enable an application to be submitted to the Secretary of State.
- The s.37 process can incur significant delays and it is important for this to be factored into an ICP's development programme. Land rights for the route must be in place before a s.37 application can be submitted to the Secretary of State (DESNZ), but a temporary wayleave (on our standard terms) can be used for this purpose if a delay in completing an easement is likely. This should be discussed and agreed with us before it is progressed by an ICP.

Legal Process for IDNO

- When an enquiry for a connection to an embedded network is made by an IDNO (or its agent), it will be routed to the NGED Planner for that area. The Planner will then produce for the applicant the minimum cost technically compliant scheme in connection with NGED's Connection Charging Methodology Statement. Once the connection point has been agreed the IDNO will produce a plan which will show in sufficient detail the substation together with access arrangements and cabling.
- Once the plan has been agreed by both parties, the IDNO shall instruct their solicitors with all the relevant details. The IDNO's solicitors should provide the site name, NGED's reference and a copy of the plan to NGED's solicitors as soon as possible following their instruction.

Legal Process for IDNO continued

- National Grid Electricity Distribution (NGED) has agreed a form of template lease and transfer (freehold) for use with land owners. An IDNO shall enter into a lease or transfer containing the agreed template rights with the land owner in the form of the agreed template documents in respect of the substation, access and cabling. NGED will rely on the Contracts (Rights of Third Parties) Act 1999 to enforce the rights set out in the direct agreement between the IDNO and the landowner.
- Except for the insertion of any particulars, an IDNO shall not alter the Relevant Clauses of the agreed template document without obtaining NGED's prior written consent. Relevant Clauses are those clauses giving NGED rights or that affect NGED, such as restrictive covenants

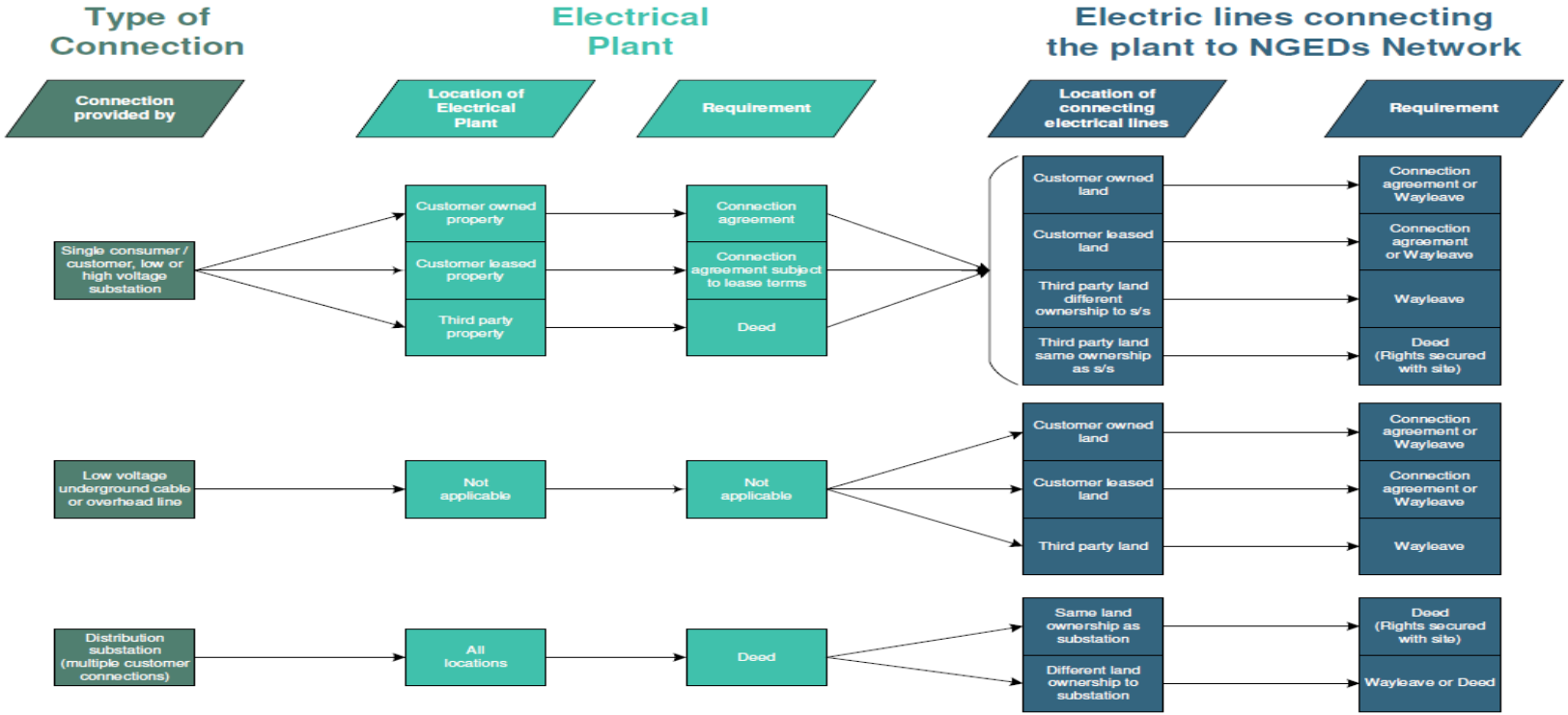
Electric Vehicle Charge Point Connections

- The extent and nature of a charge point operator's onsite footprint will determine if the Connection Agreement can be regarded as a lawyer-light solution to the legal rights needed for our connection assets. Our customer must ensure that they satisfy the terms of the Connection Agreement in these instances.
- Any NGED assets which are located outside our customer's boundary will have to be regarded as located on third party property; the Connection Agreement will be unsuitable for these assets and so formal rights will be needed. When ground-mounted electrical plant relating to a charge point connection is located on third party property, it (together with any associated lines) must be secured with a deed.
- When electric lines are the only NGED asset on third party property we will accept the use of a wayleave.

Electric Vehicle Charge Point Connections

- We need the legal rights over third party property to be in place before we start any connections works on that property. Similarly if it we're not responsible for doing the connection installation we will need appropriate legal rights to be in place before we adopt the asset.
- Additionally, if the assets or works require any statutory consents, these must be properly secured before works are commenced or assets adopted. It's important to note that we have a legal duty to mitigate our impact on the environment and so compliance with all relevant legislation is paramount in that respect.
- Finally our operations are governed by statute. Any terms and conditions associated with any documentation that provides us with consent/authority to place and maintain our assets on third party property will need to be such that they enable us to deliver on our statutory obligations.

Electric Vehicle charge point connections



national**grid**

Close and thank you

Summary

Feedback

- Any further feedback on today's topics

What would you like to see next time?

- Is there a topic you would like to be discussed in our next forum?

Other events

Events

- Connections Workshop 2023 – Wednesday 15th November 2023

Follow National Grid on LinkedIn for updates

[National Grid - News & events](#)



national**grid**