SP Electricity North West

High Voltage Network Earthing Data Tool

Guidance Document for Independent Connection Providers (ICP's)

July 2026

8/26/26

Index

1. Introduction

From July 2026, ICP's registered on the LRQA National Electricity Registration Scheme (NERS) will be able to gather HV Earthing data on our online HV Earthing tool in order to carry out earthing studies.

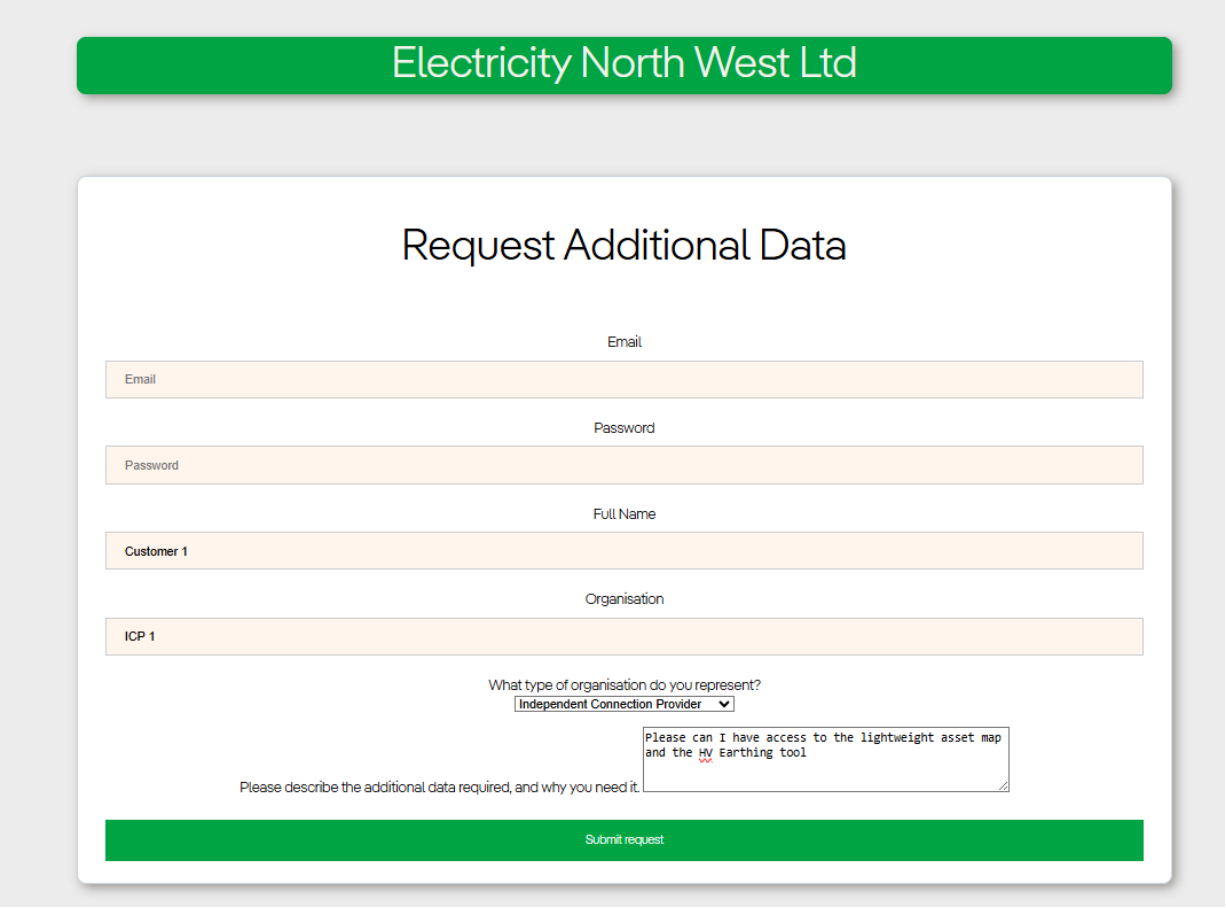
The tool provides a complete feeder trace back to the primary substation, together with the relevant cable information required to calculate earthing impedance at the point of connection. This information can also be exported for further use and record keeping.

Access to the HV Earthing Tool is provided free of charge and can be accessed via desktop and mobile devices through the SP Electricity North West website or the SP ENW Open Data portal.

2. Registration

1. To request access to the Lightweight Asset Map and the HV Earthing tool, please register here.

2. You will be asked to provide your contact details and the name of the organisation you represent. In the additional data comments section, please specify that you require access to the Lightweight Asset Map and HV Earthing Data Tool.



3. Once your request has been received, our Data Management Team will review your request and verify that your organisation is listed on the NERS register. Please note that this is a manual review process, so the timeframe for verifying access may vary.

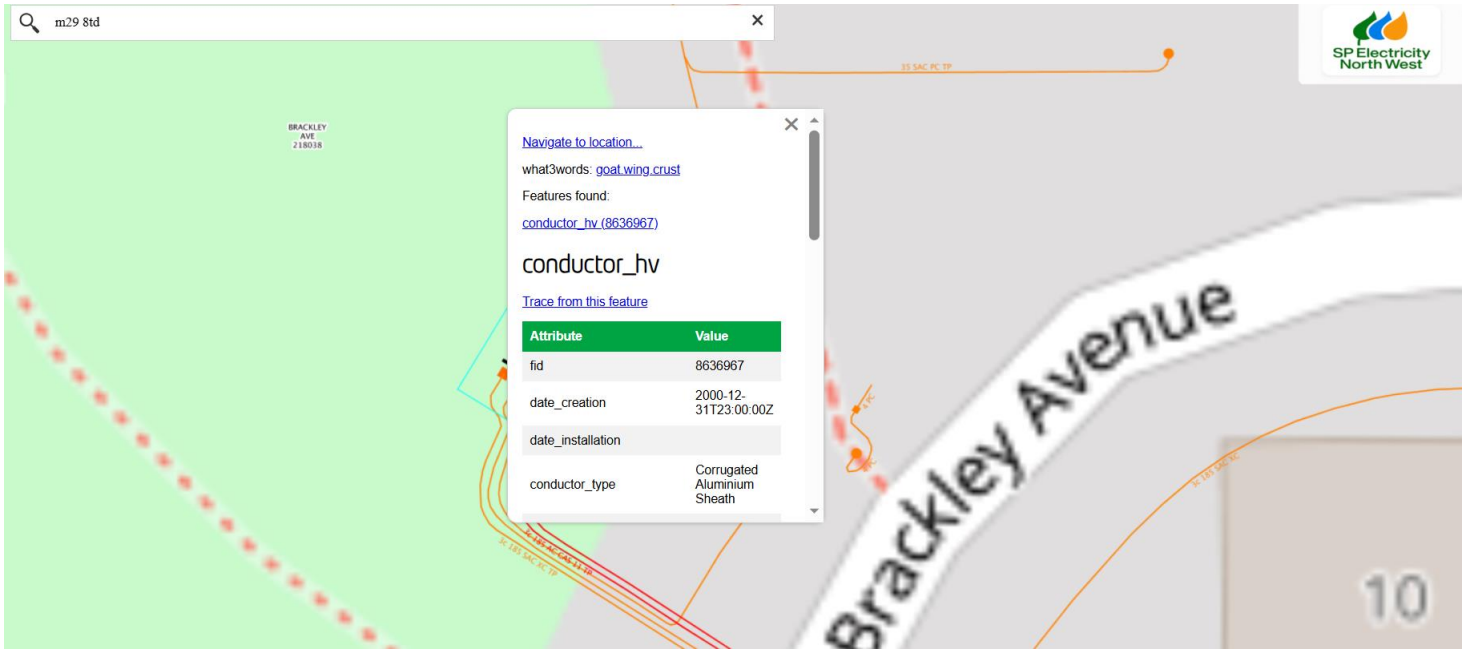
   If approved, you will be granted access and sent a link to the Lightweight Asset Map which includes the HV Eathing Data Tool.

3. How to use the HV Earthing Data Tool

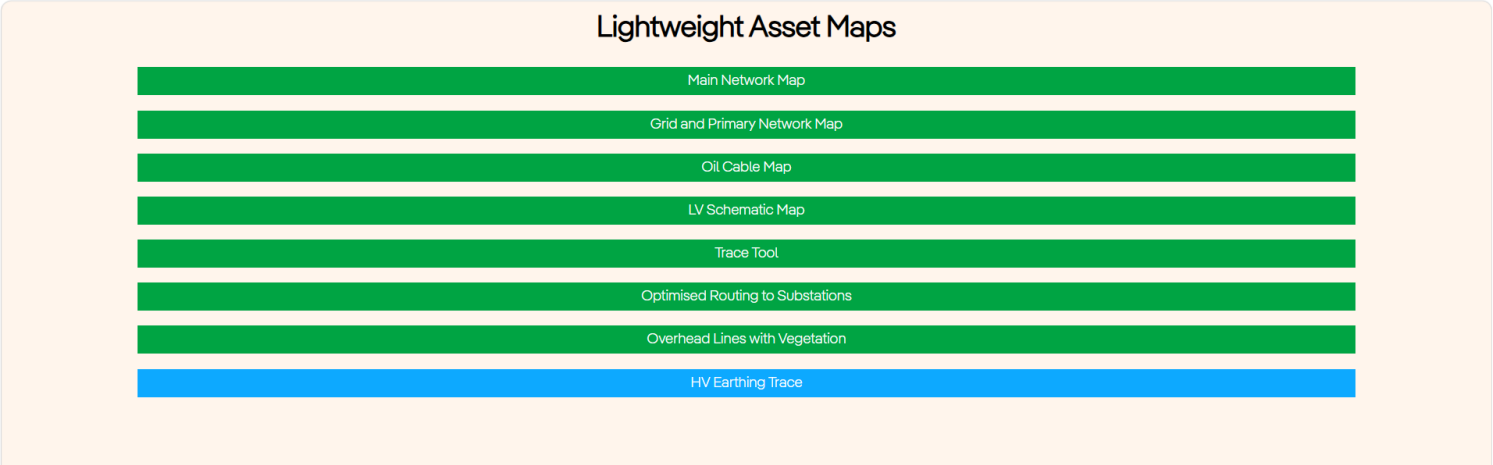
1. First, select the Main Network tab on the Lightweight Asset Map content page, which will open an interactive map displaying network data for the SP Electricity North West network.

2. Once the map is open, locate the point of connection by either entering the address in the search bar or zooming in to the relevant area on the map.

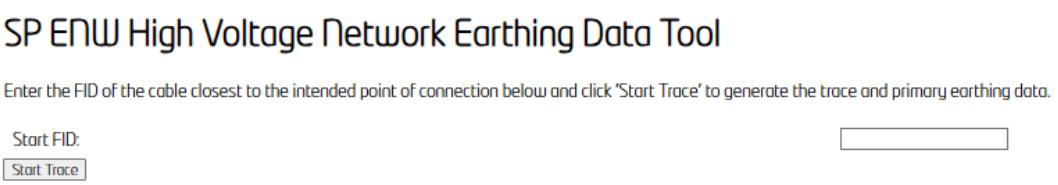
3. Once you have found the point of connection, click on the HV cable and copy the FID (unique identification) number.



4. You will then need to return to the Lightweight Asset Map content page by clicking on the SP ENW logo in the top right corner. Once you are on the homepage select the “HV Earthing Trace” tab.



5. Enter the FID number and select “Start Trace.” The tool will then display the results in a number of sections:



3.1. Understanding the HV Earthing Trace Results

1. The first section displays the trace back to the feeding primary substation under normal running arrangements. The table at the top provides primary substation earthing details, and the trace result table provides the parameters of each cable or overhead conductor between the selected point of the connection and the primary substation. Overhead sections are shown in red text, and switches on the trace route are shown in blue text for context. This table can exported to Excel using the ‘Export to Excel button above the table.

Normal Feed

Start FID	8636967
Primary Substation	LITTLE HULTON
Circuit	2053194CF42
Resistance of Primary Earth Grid (Ra): ohms	0.1000
Primary S/S Hot: (Yes / No / Not applicable to this project):	COLD
Primary S/S EPR (if hot / applicable) volts:	183

Export To Excel

Trace Results

Index	FID	Feeder	Length (m)	Ducted Length (m)	Conductor Type	Cable/OH line	Standard	Can be considered as S34 horizontal electrode
1 (exit point-POC)	8636967	2053194CF42	102.92		HV Underground	3c 185mm2 Aluminium Stranded Corrugated Aluminium Sheath	ENA TS 09-12	No
2	8639812	2053194CF42	43.94		HV Underground	3c 0.10in2 Copper Stranded		
3	8639818	2053194CF42	53.49		HV Underground	3c 0.10in2 Copper Stranded		

2. Subsequent sections provide the same information for abnormal running arrangements (defined as all running arrangements which can be conceived by opening the normal feeder head breaker, and closing a single Normal Open Point to back feed from another feeder). The title of each section indicates the source feeder and the Normal Open Point closed, and the results are in in the same structure as for the normal feeding arrangements.

Backfeed from 2053184CW22 via 2167314SW03 (JOHN ST ATHERTON: ALEXANDER ST/BRACKLEY AVE)

Start FID	8636967
Primary Substation	ATHERTON TOWN CENTRE
Circuit	2053184CW22
Resistance of Primary Earth Grid (Ra): ohms	0.1000
Primary S/S Hot: (Yes / No / Not applicable to this project):	COLD
Primary S/S EPR (if hot / applicable) volts:	188

Export To Excel

Trace Results

Index	FID	Feeder	Length (m)	Ducted Length (m)	Conductor Type	Cable/OH line	Standard	Can be considered as S34 horizontal electrode
1 (exit point-POC)	8636967	2053194CF42	102.92		HV Underground	3c 185mm2 Aluminium Stranded Corrugated Aluminium Sheath	ENA TS 09-12	No
2	11841724	2053194CF42			Switch	2180384SW02: BRACKLEY AVE - RATCLIFFE ST		
3	11841717	2053194CF42			Switch	2180384SW01: BRACKLEY AVE - ALEXANDER ST/JOHN ST		

3. Depending on how many feeds are connected to the primary substation. Earthing trace is given for normal and abnormal running arrangements.

4. Different text colours are used within the trace to identify each conductor type.

Conductor Type	Colour
Switch	Blue
HV Overhhead	Red
HV Underground	Black

5. The data can then be exported to an excel spreadsheet available to download. A guidance document outlining best practice will be available for download from our website.

4. Policy

Please refer to our Policy Index Library which contains all public facing, open – access documents available on our website. For operational policies, please regiser for access to our online portal.

For further information on Earthing Design for 11./6.6 kV Distribution Substations and Associated Equipment, please refer to our Code of Practice 333 policy document on our website here.

To hear about policy, events and process updates, please sign up to our ICP distribution list here.

5. Submitting Earthing Reports/ Studies

1. To submit your HV Earthing Reports and Studies, please email our Competition in Connections (CIC) team at cic@enwl.co.uk.

   Please submit your HV Earthing reports and studies in a separate email from your construction design submission, as these are reviewed by different teams and follow separate review processes. This helps ensure your documents are routed correctly and avoids any unnecessary delays in processing.

2. Please include "HV Earthing Study" and the relevant project (55) number in the email subject line.

   This will enable the CIC team to quickly identify your submission and forward it to the appropriate internal team for assessment.

6. Contact

For queries regarding the registration approval process, please contact our Plan Request team at PlanRequest@enwl.co.uk.

If the Lightweight Asset Network Data Map does not display data for a specific point of connection, please contact our Competition in Connections (CIC) team at cic@enwl.co.uk who will request the data from our Strategic Planning team.

The CIC team can also assist with any queries relating to the submission of HV earthing studies.