



**Long Term Development Statement for
Western Power Distribution (South
West) plc's
Electricity Distribution System
November 2011**

**Introductory Section
(PART ONE ONLY)**

Western Power Distribution (South West) plc
Registered in England and Wales No.2366894
Registered Office:
Avonbank, Feeder Road, Bristol BS2 0TB

Although all reasonable efforts have been made to ensure the accuracy of data provided in this statement, Western Power Distribution (South West) plc (hereafter referred to as 'WPD') does not accept any liability for the accuracy of the information contained herein and, in particular neither WPD nor its directors or employees shall be under any liability for any error or misstatement or opinion on which the recipient of this Statement relies or seeks to rely.

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Western Power Distribution – Company Profile

Western Power Distribution is owned by PPL Global LLC, a subsidiary of PPL Corporation of Allentown, Pennsylvania.

Western Power Distribution (South West) plc (hereafter referred to as ‘WPD’) delivers electricity to 1.4 million customers over a 14,400 sq km service area in South West England.

Western Power Distribution also delivers electricity to South Wales and Midlands area of England.

The company employs over 6,250 staff across the four Distribution Areas.

As a distribution business we own the distribution system assets including 216,000km of network and 184,000 transformers plus associated switchgear. We are responsible for:

- Maintaining the electricity network on a daily basis
- Repairing the electricity network when faults occur
- Reinforcing the electricity network to cope with changes in the pattern of demand
- Extending the network to connect new customers

WPD is not involved in either the buying or selling of electricity to end use customers, which is the responsibility of electricity supply companies. For a list of supply companies please visit www.ofgem.gov.uk. WPD provides the electrical network to distribute electricity to these customers.

This statement covers the network in the south west of England.

The area in which we distribute electricity extends from Bristol and Bath in the north east, along the peninsula to Land’s End some 300km to the south west, and also includes the Isles of Scilly. The area is largely rural but includes the cities and towns of Bath, Bristol, Exeter, Plymouth, Taunton, Torquay and Weston-super-Mare as well as many other coastal resorts.

There is a wide spread of industrial and commercial activities within the area. Tourism and farming are also important to local communities. Business activity is generally concentrated on the population centres, in particular the north east of the area around Bristol and Bath. In contrast to the major cities we are also responsible for some of the most sparsely populated areas in the UK including Dartmoor and Exmoor National Parks.

For organisational purposes WPD’s network in the South West is divided into two regions. The Northern Region includes the densely populated areas of Bristol and Bath but also has a significant proportion of overhead network serving the rural outreaches of the Mendips and Exmoor.

Approximately 45% of our customers in South West England reside in our Northern Region, which is served by engineering depots in Bristol, Bath, Weston-super-Mare and Taunton.

The Southern Region is predominately rural in nature, has slightly more customers than our Northern Region and a higher proportion of overhead network with relatively long 11kV circuit length. It covers all of Devon and Cornwall and depots are located at Exeter, Torquay, Barnstaple, Plymouth, Bodmin, and Redruth.

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PART 1 Summary/Introduction

This statement is in two parts. This first part provides an overview of the distribution network in the South West and describes the detailed information contained in part 2.

[Apply For Access to Full Statement](#)

1.0 Purpose of Statement

This Statement has been compiled in accordance with Licence Condition 25, to assist existing and future users of Western Power Distribution's network in identifying and assessing opportunities available to them for making new or additional use of our Distribution System. It also gives contact details for specific enquiries.

The purposes of Licence Condition 25 are:

- (a) to secure the provision of information by the licensee which will assist any person who contemplates entering into distribution arrangements with the licensee to identify and evaluate the opportunities for doing so; and
- (b) to ensure the general availability of such information in the public domain.

2.0 Contents of statement

The statement contains data on the 132kV, 66kV and 33kV systems and the transformation level to 11kV. Due to the volume of data and speed with which it can become outdated, data on the 11kV and LV systems has not been included in the statement. Data on the 11kV and LV systems is available on request - a price list for the provision of this data is included as [attachment 1](#).

The statement also provides high-level information on the design and operation of all voltage levels of the WPD distribution network.

The detailed information section, in part 2 of this statement, contains information/data on the following:

- Geographic plans showing WPD's 132kV, 66kV and 33kV systems including the National Grid Transmission System within our geographic area of operation.
- Schematic diagrams detailing normal operating configurations of the distribution network
- Circuit data
- Transformer data
- Load information
- Fault level information
- Connected generators with a capacity greater than 5MW
- Equivalent NGT source network
- Areas of the network likely to reach the limit of their capability in the next 5 years

- All planned major developments to the system at 132kV, 66kV or 33kV that have financial authorisation to proceed and that will change the systems capability in the next two years. This excludes like for like replacements (which will not change the systems capability) and changes to the system caused by a new user or by an existing user where they have yet to agree terms for connection.

If you wish to view or download information from Part 2 of this statement then you will need to apply for full access. [Apply For Access to Full Statement](#)

The overall historic and future peak demand on the Distribution System is provided in Part 2 of this statement, it shows the winter peak and summer minimum daily demand curves for WPD and the annual load duration curve.

Information on the commercial terms for connecting to and using our network are contained in our Condition 5 Statements. These statements also give information on competition in connections. Technical requirements are detailed in our Distribution Code. Details of how to obtain these documents and useful contacts are shown in [attachment 2](#).

3.0 Contact details for further information

Please make requests for the full statement to:

Tony Berndes
Primary System Design Manager
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2101
tberndes@westernpower.co.uk

All other enquiries related to new connections or existing connections should be addressed to:

Western Power Distribution
Records Team
Lostwithiel Road
Bodmin
Cornwell
PL31 1DE

Telephone: 0845 601 2989
Fax: 01208892292

[New Connections Webpage](#)

New Guaranteed Standards of Performance for connections work began operation on 1st October 2010. These are set out in the Electricity (Standards of Performance) Regulations 2010 and the Electricity (Connection Standards of Performance) Regulations 2010. More information is also available from the [WPD website](#)

The Energy Networks Association also provide several Distributed Generation Connection Guides these are available from the [ENA Website](#)

Attachment 1 – Standard Network Information Price List

1. Geographic & Schematic Maps

<u>Description</u>	<u>Price</u>
1:2500 and 1:500 scale mapping in response to specific detailed requests.	Free of charge
Overview Map with 400kV , 132kV, 275kV, 66kV and 33kV network.	Free of charge
Information Map (A3) with distribution areas and local contacts	Free of Charge
Complete set of Distribution Maps at 1:25000 scale, A3 with OS background (South West area only), Or	£341.00
Individual Distribution Areas (as shown on “Information Map’s”) at 1:25,000 scale, A3 with OS background.	£35.00
Set of 132kV schematic diagrams	£50.00
Set of 33kV schematic diagrams	£80.00
Complete set of 11kv Schematic Diagrams (6 Distribution Areas) or	£90.00
Individual distribution areas at	£30.00

2. Network Data

a) Fault Outage Data - 132kV, 66kV or 33kV Circuit	£30 per cct
b) Circuit Impedance & Rating - 11kV Circuits (per circuit)	£20 per cct
c) 11kV Feeder Load Data (up to 5 circuits) Typical winter max and summer min	£30
d) Protection Settings (up to 10 circuit breakers)	£30

**** All prices above will be subject to VAT at the prevailing rate ****

3. Plant Data

PRICE

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|--|-----|
| a) Circuit Breaker rating (up to 10 circuit breakers)
Continuous and fault | £30 |
| b) 132kV, 66kV or 33kV Transformer (up to 3 transformers)
Rating, impedance, tap range and tap step | £20 |

4. Feasibility Studies – Illustrative Costs

Prior to making a formal Application for a Connection Offer you may request we undertake a Feasibility Study to establish the viability of making a connection to our Distribution System. We will carry out preliminary network analysis and provide an indicative connection assessment which will include the results of the network analysis and an outline of the engineering scheme to allow the connection. We will require payment in advance of the study being made and will notify you of the relevant study charges prior to commencing work.

Our charges associated with the provision of Feasibility Studies involving design in advance of a formal Connection Application are set out in the table below. Charges for any other activities, such as excavation works will be individually assessed and agreed with you before these are undertaken. The Minimum Charge will always apply. Additional charges will only be applicable where the Applicant amends their connection requirement which necessitates us to carry out further analysis or assessment:-

Category- Demand	Minimum Charge £	Additional Charge per hour £
Connection greater than 250kVA and up to 1MVA at LV	365	57
Connection greater than 250kVA and up to 1MVA at HV	365	57
Connection greater than 1MVA and up to 3MVA at HV	464	62
Connection greater than 3MVA and up to 10MVA at HV	1159	72
Connection greater than 3MVA and up to 10MVA at EHV	1739	72
Connection greater than 10MVA and up to 50MVA	1739	72
Connection greater than 50MVA	2318	72

Category- Generation	Minimum Charge £	Additional Charge per hour £
Connection of a Small Scale Embedded Generator	114	57
Connection of other generation at LV	373	62
Connection of generation at HV up to 1MVA	1449	72
Connection of generation at HV greater than 1MVA	2028	72
Connection of generation at EHV up to 10MVA	3187	72
Connection of generation at EHV greater than 10MVA	3187	72
Connection of generation greater than 50MVA	3767	72

Note:

“LV”, “HV”, or “EHV” in the table above denotes the highest voltage of assets installed including any associated Reinforcement or diversionary works.

Small Scale Embedded Generation (SSEG) is defined as a source of electrical energy rated up to and including 16 Amperes per phase, single or multi-phase, LV and designed to operate in parallel with our Distribution System

These charges are based on WPD’s direct labour and overhead rates at the time of print. Charges are subject to change. The above Feasibility Study charges are exclusive of VAT which should be added at the prevailing rate.

Terms

The charge for carrying out a Feasibility Study will normally be provided within 10 working days. Following payment and provision of appropriate data, studies will typically require 2 – 10 weeks depending on the complexity of the study work required.

High volume requests may take longer to process, and would be priced individually based on the time taken to compile the requested information, but would not exceed the rates above.

In the event that enquiries need information from original equipment suppliers e.g. to seek enhanced ratings, reverse power flows etc. WPD will use its best endeavours to obtain this, but cannot be held responsible for non-provision or delayed provision of information from such 3rd parties. Where such 3rd parties require payment for information, the costs of obtaining it will be advised.

Although all reasonable efforts will be made to ensure the accuracy of data provided, WPD shall have no liability in contract, tort or otherwise to the enquirer or any other person for any loss or damage resulting from any delay in providing the data or any reliance placed upon it whether or not WPD is proved to have acted negligently.

We reserve the right to exclude information that may be considered confidential to an individual customer.

Cheques should be made payable to Western Power Distribution (South Wales) plc.

**** All prices above will be subject to VAT at the prevailing rate ****

Attachment 2

Useful documents and contacts:

Distribution Code

This sets out all the material technical aspects related to connections to and operation of the distribution system. Copies are available from either Ofgem's or WPD's website www.ofgem.gov.uk or www.westernpower.co.uk . For queries related to the distribution code contact,

Nigel Turvey
Design & Development Manager
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2435
nturvey@westernpower.co.uk

Condition 5 Statements

Three statements are produced and updated annually in accordance with Condition 5 of our Licence that cover the following areas:

- i) Charges for the use of the network including a schedule of adjustment factors to be made in respect of distribution losses. This statement also gives a list of demand-constrained zones where restrictions may be applied to the use of certain timeswitch regimes for off peak loads.
- ii) Charges for the connection of new load or generation to the distribution network
- iii) Charges for distribution Metering and Data Services. These include meter provision and meter operation.

Copies of the statements are available from our website www.westernpower.co.uk
For queries related to these documents please contact,

Nigel Turvey
Design & Development Manager
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2435
nturvey@westernpower.co.uk

Radio Teleswitch Agreement

A number of off peak domestic supplies are controlled via a radio teleswitch which can vary the time an off peak regime is available. Users who would like to sponsor a particular regime need to become party to the Radio Teleswitch Agreement. For further information please contact;

Nigel Turvey
Design & Development Manager
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2435
nturvey@westernpower.co.uk

Use of System Agreement

Before an Authorised Electricity Operator can use the network to supply connected customers, they need to enter into a Use of System Agreement. Copies of our Use of System Agreement are available from;

Tim Hughes
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2148
thughes@westernpower.co.uk

Specifications

Users who require more information on the specifications used for equipment forming part of the distribution network should contact;

Paul Jewell
Policy Manager
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2413
pjewell@westernpower.co.uk

National Engineering Recommendations

A number of National Engineering Recommendations (including P2/5 – Security of Supply) are referenced in the Distribution Code. These are available from;

Energy Networks Association
18 Stanhope Place
Marble Arch
London
W2 2HH
Tel: 020 77065100

Network Data as listed in Attachment 1

Requests for the more detailed network data listed in attachment 1 or queries relating to this statement should be addressed to: -

Tony Berndes
Primary System Design Manager
Western Power Distribution
Avonbank
Feeder Road
Bristol
BS2 OTB

0117 933 2101
tberndes@westernpower.co.uk

Contact details for other interconnecting networks

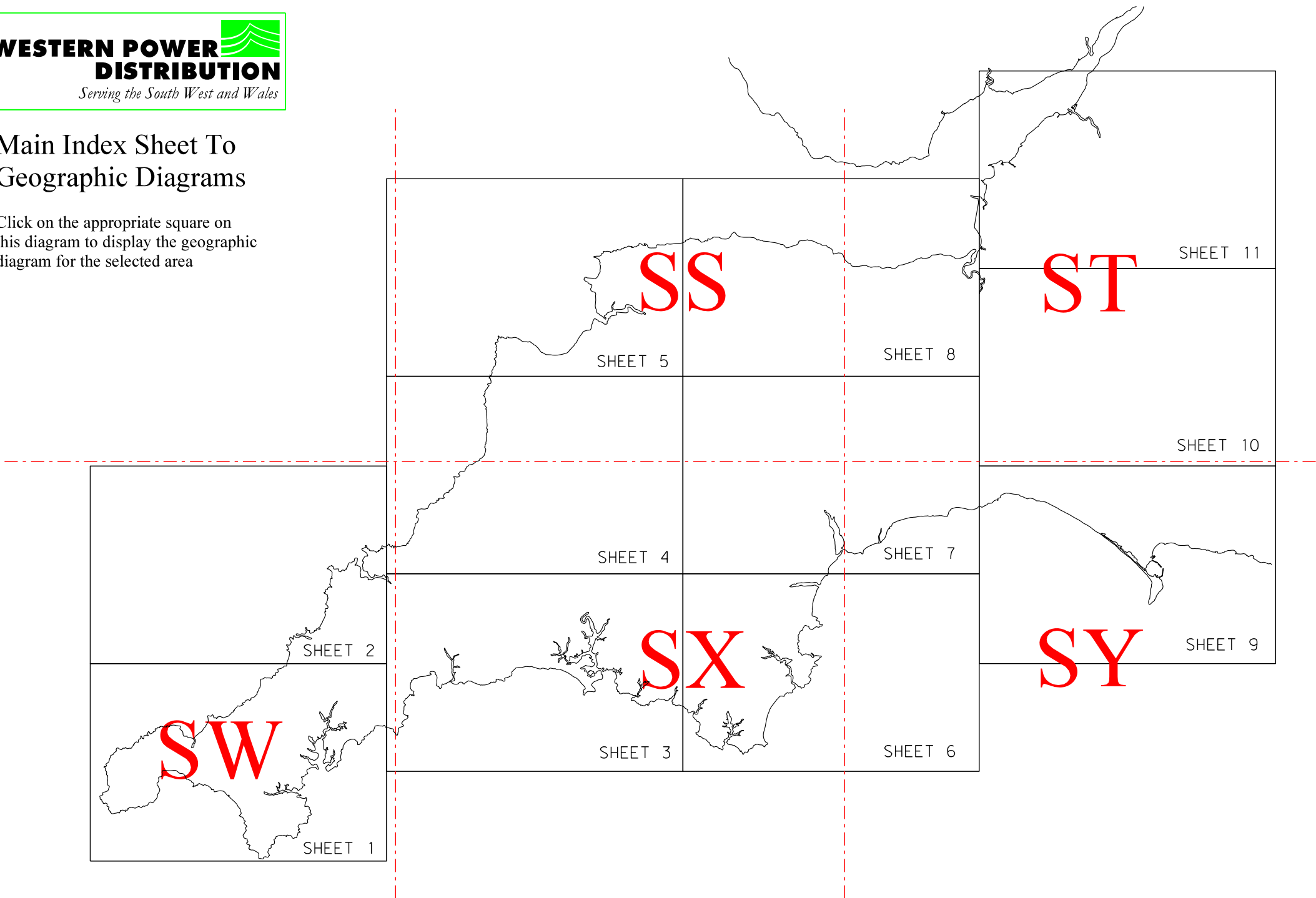
National Grid UK
NGT House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

Western Power Distribution (West Midlands)
Avonbank
Feeder Road
Bristol
BS2 OTB

Scottish Power Manweb
Manweb House
Chester Business Park
Wrexham Road
Chester
CH4 R9F

Main Index Sheet To Geographic Diagrams

Click on the appropriate square on
this diagram to display the geographic
diagram for the selected area



KEY TO SITES

Click on each site box to go to the associated diagram on which the site is shown

PLYMOUTH

SITE 1

1. TORPOINT ANTONY
2. TORPIONT TOWN
3. SALTASH DUNHEVED ROAD
4. CENTRAL INTAKE
5. NORTH INTAKE
6. NEWPORT STREET
7. ALMA ROAD
8. MERRIVALE
9. ARMADA STREET
10. ALEXANDRA ROAD
11. PLYMOUTH STW
12. PLYMSTOCK SOUTH
13. A.P.C.M.
14. EGGBUCKLAND
15. STENTAWAY
16. LONGBRIDGE
17. LINKETTY LANE
18. ST LEVAN ROAD
19. ADELAIDE ROAD
20. BUCKWELL STREET
21. WESTON MILL
22. OLD LAIRA ROAD
23. PRINCE ROCK LOCAL

TORBAY

SITE 2

1. MARLDON
2. HOLLICOMBE
3. LAWES BRIDGE
4. UPTON VALLEY
5. BARTON (COOME PAFFORD)
6. TORWOOD
7. ST MARYCHURCH

EXETER

SITE 3

1. ST THOMAS
2. COWLEY ROAD
3. MARSH BARTON
4. HAVEN ROAD
5. ATHELSTAN ROAD
6. EXMINSTER
7. COUNTESS WEAR
8. HEAVITREE
9. TOPSHAM
10. SOWTON
11. CLYST HONITON
12. PINHOE

BATH

SITE 4

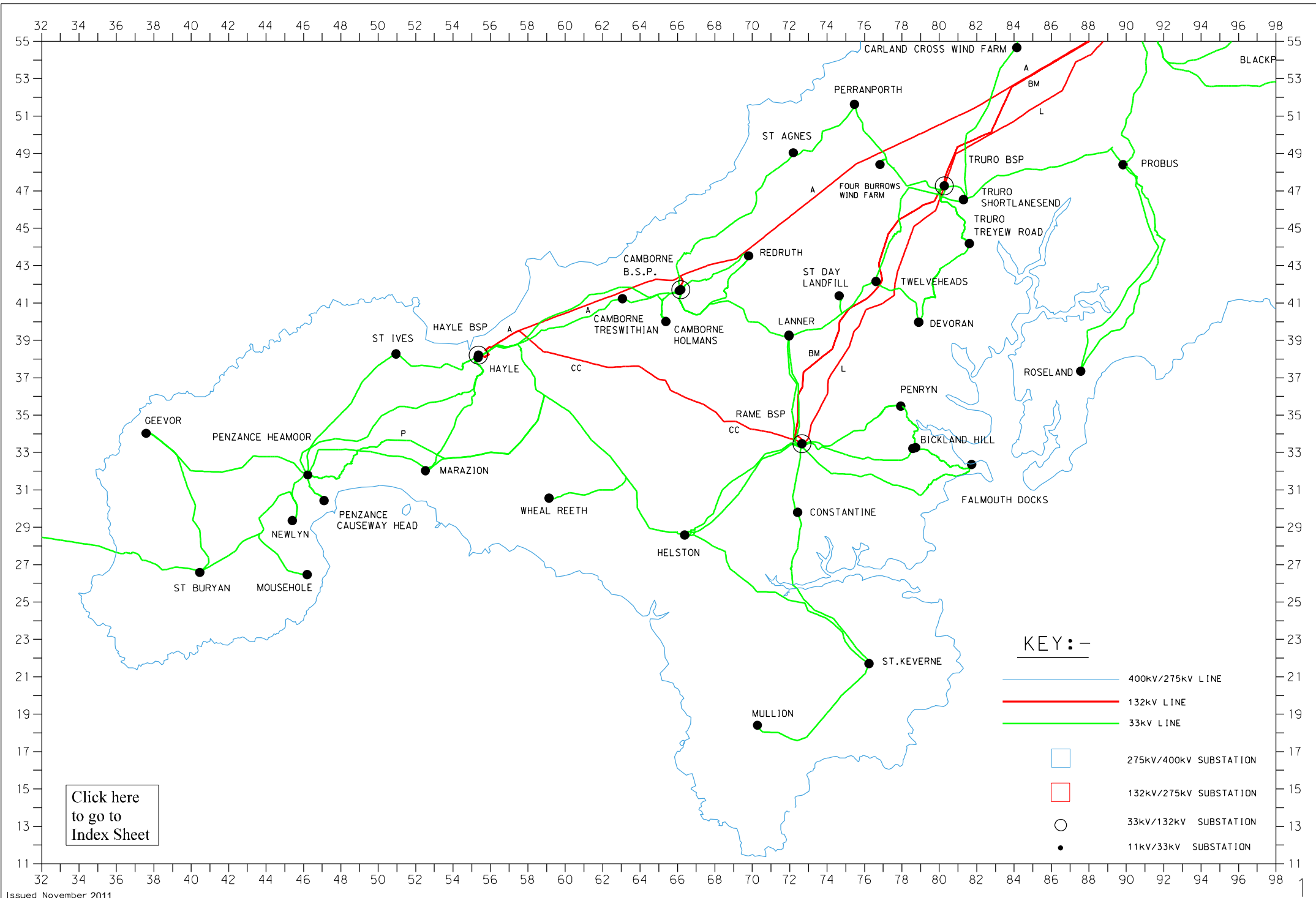
1. TWERTON
2. ENTRY HILL
3. PARK STREET
4. DORCHESTER ST
5. OLDFIELD PARK
6. COMBE PARK
7. BATHEASTON

BRISTOL

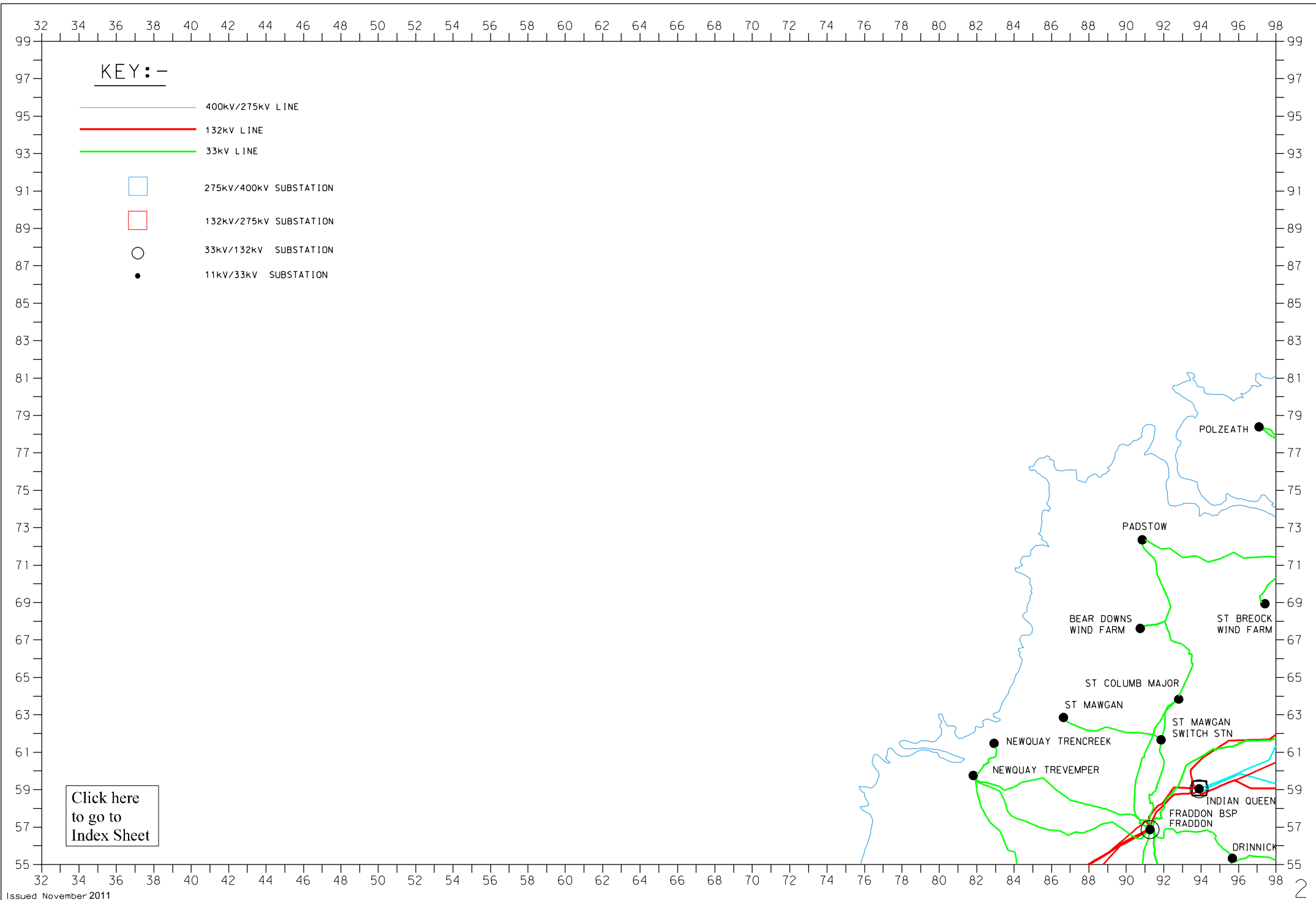
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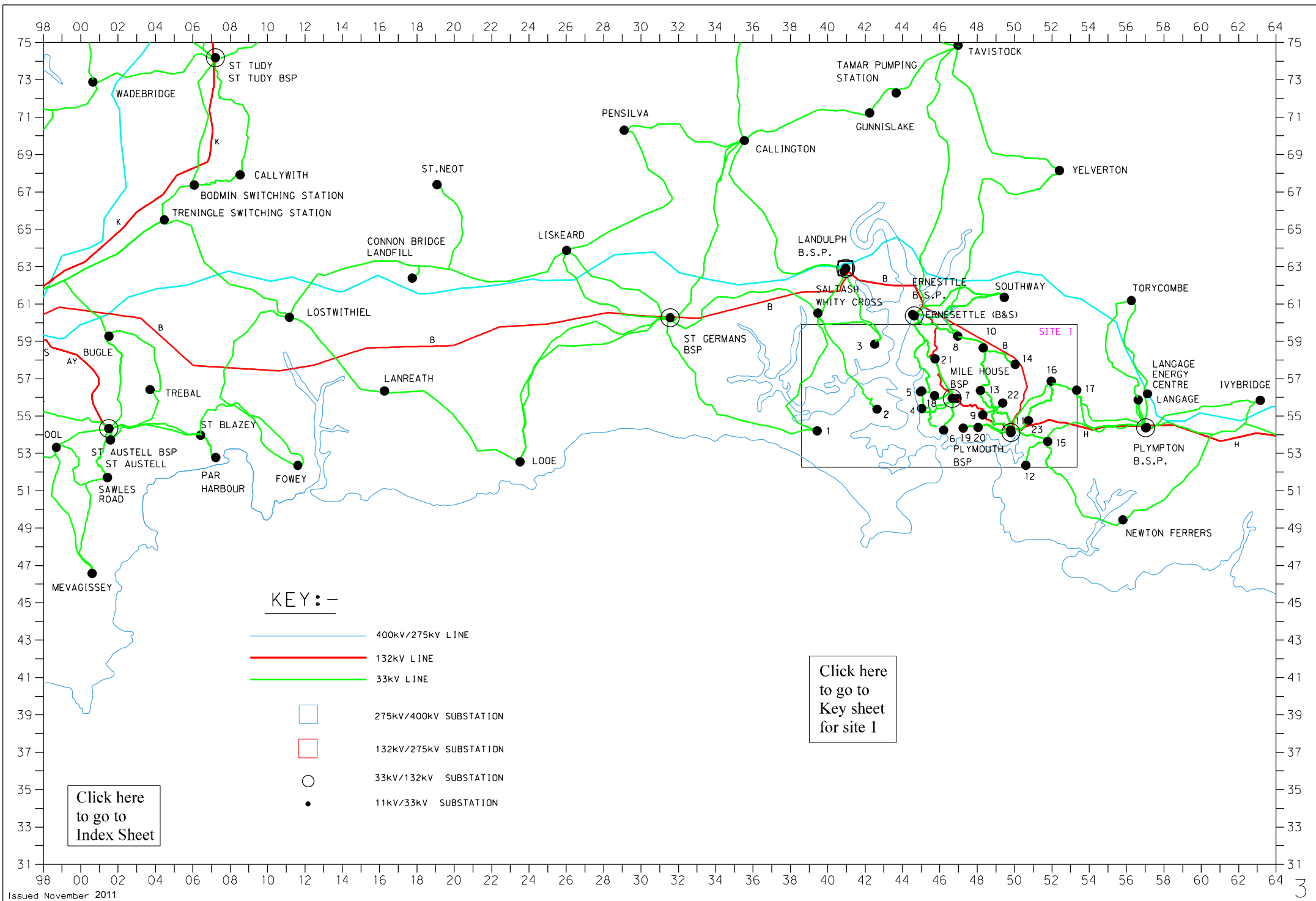
1. SEABANKS
2. GAS LANE
3. AVONMOUTH DOCKS
4. AVONMOUTH DC LOCAL
5. KINGSWESTON
6. STOKE BISHOP
7. CLIFTON DC
8. CAIRNS RD DC
9. CRIBBS CAUSEWAY
10. ST PAULS D.C
11. FEEDER ROAD DC
12. LOCKLEAZE
13. FILTON DISTRIBUTION CENTRE
14. ROLLS ROYCE TURBINE TEST SUB-STATION
15. ROLLS ROYCE
16. ALMONDSBURY DC
17. EASTVILLE
18. HEWLETT PACKARD
19. ABBEYWOOD
20. MOD INTAKE
21. WOODLAND WAY
22. WINTERBOURNE DC
23. MANGOTSFIELD DC
24. ASTRA ZENECA
25. EASTON-IN-GORDANO SW/STN
26. BROADWEIR
27. WESTERN APPROACH SW/STN
28. COTHAM PRIMARY SW/STN
29. SEVERNSIDE ICI

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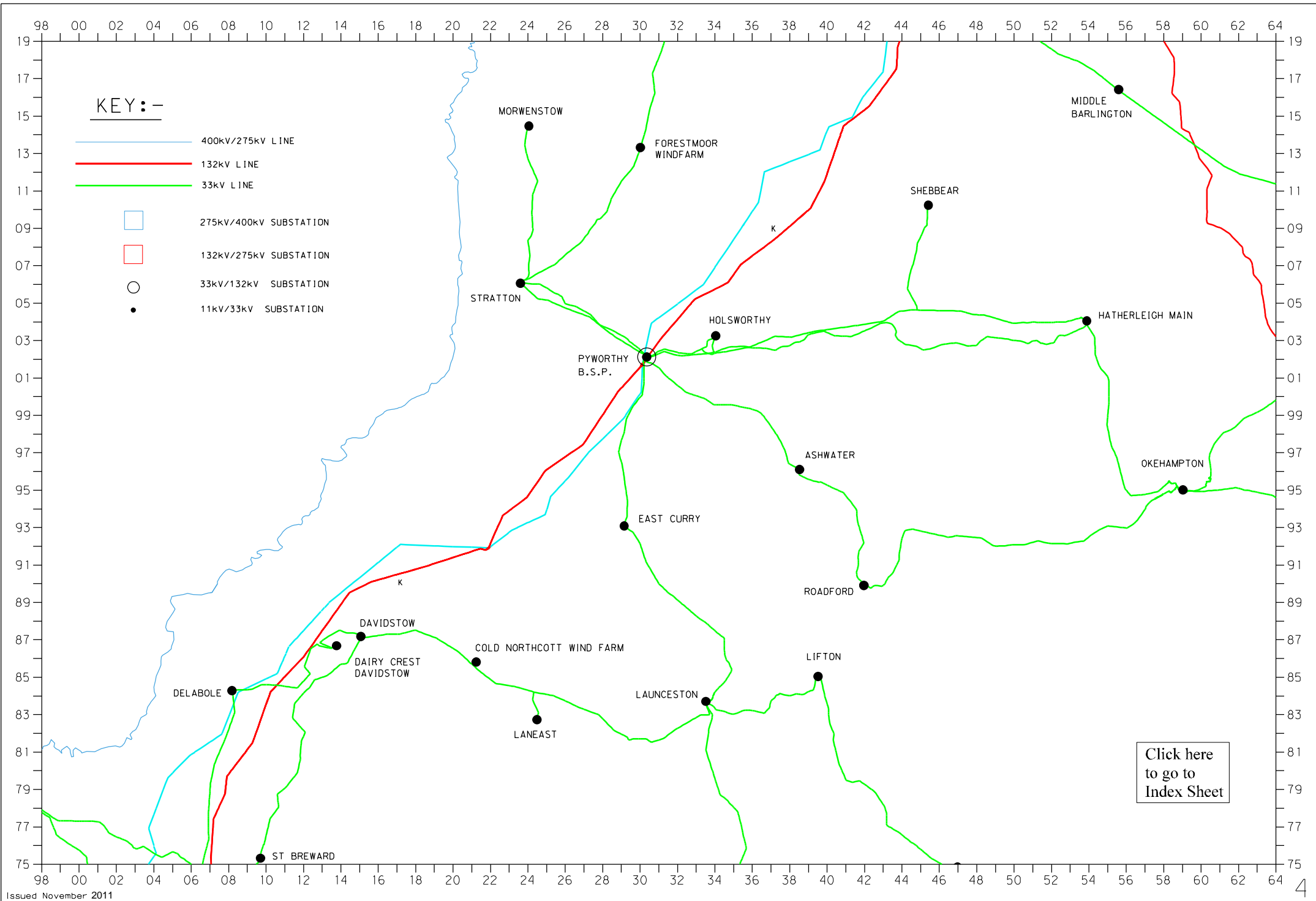


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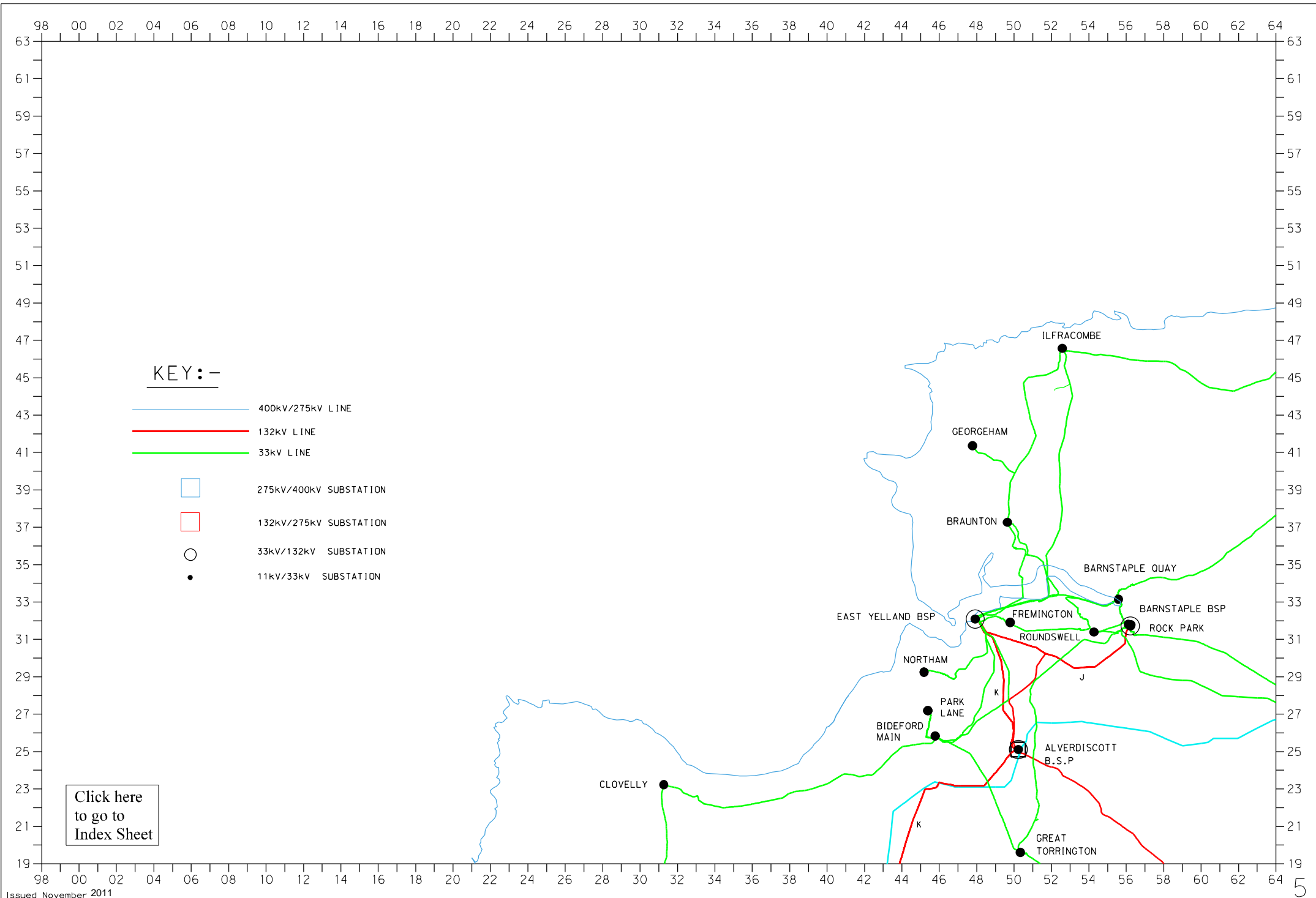
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- 132kV LINE
- 33kV LINE
- 275kV/400kV SUBSTATION
- 132kV/275kV SUBSTATION
- 33kV/132kV SUBSTATION
- 11kV/33kV SUBSTATION

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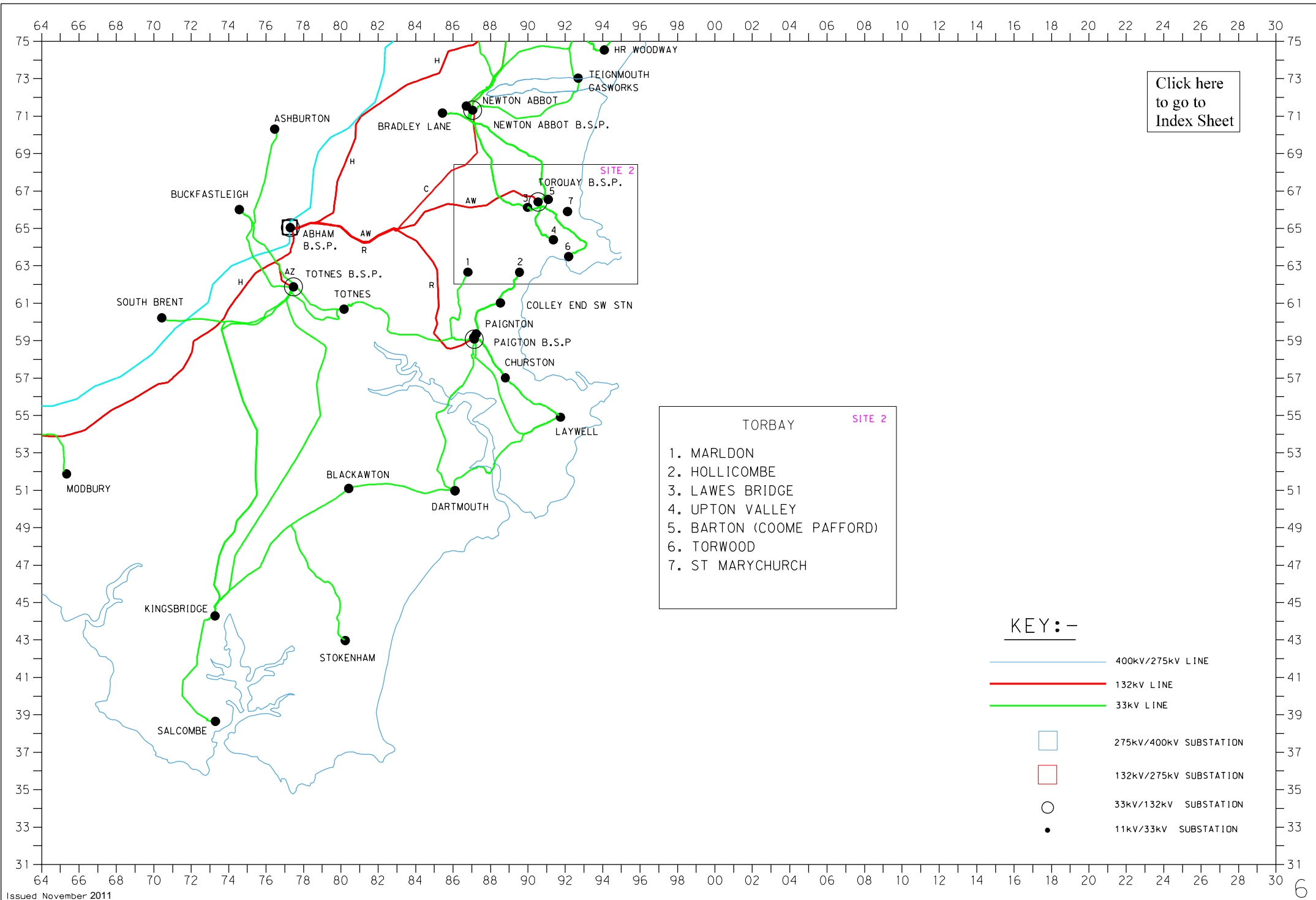
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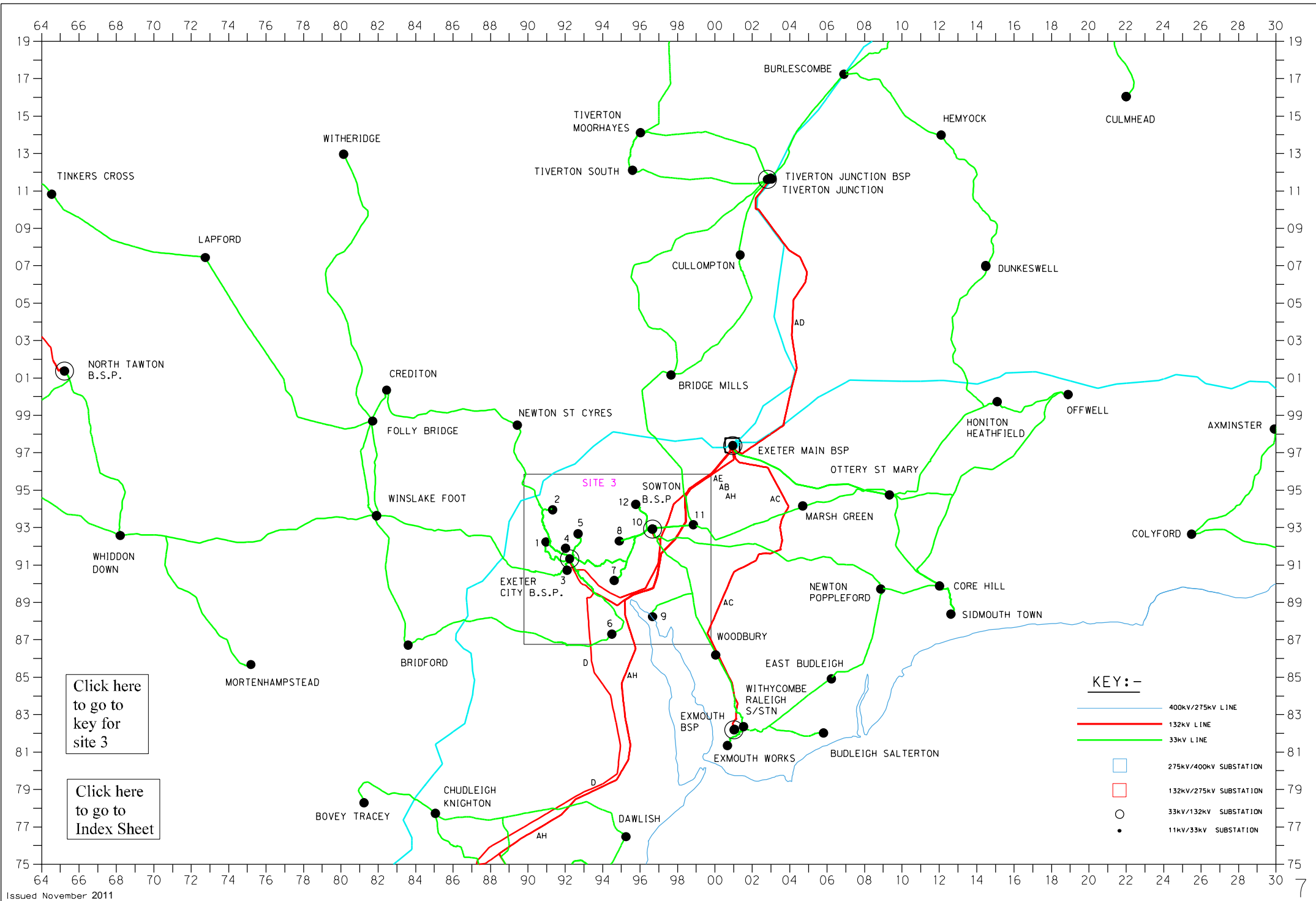


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1. MARLDON
 2. HOLLICOMBE
 3. LAWES BRIDGE
 4. UPTON VALLEY
 5. BARTON (COOME PAFFORD)
 6. TORWOOD
 7. ST MARYCHURCH

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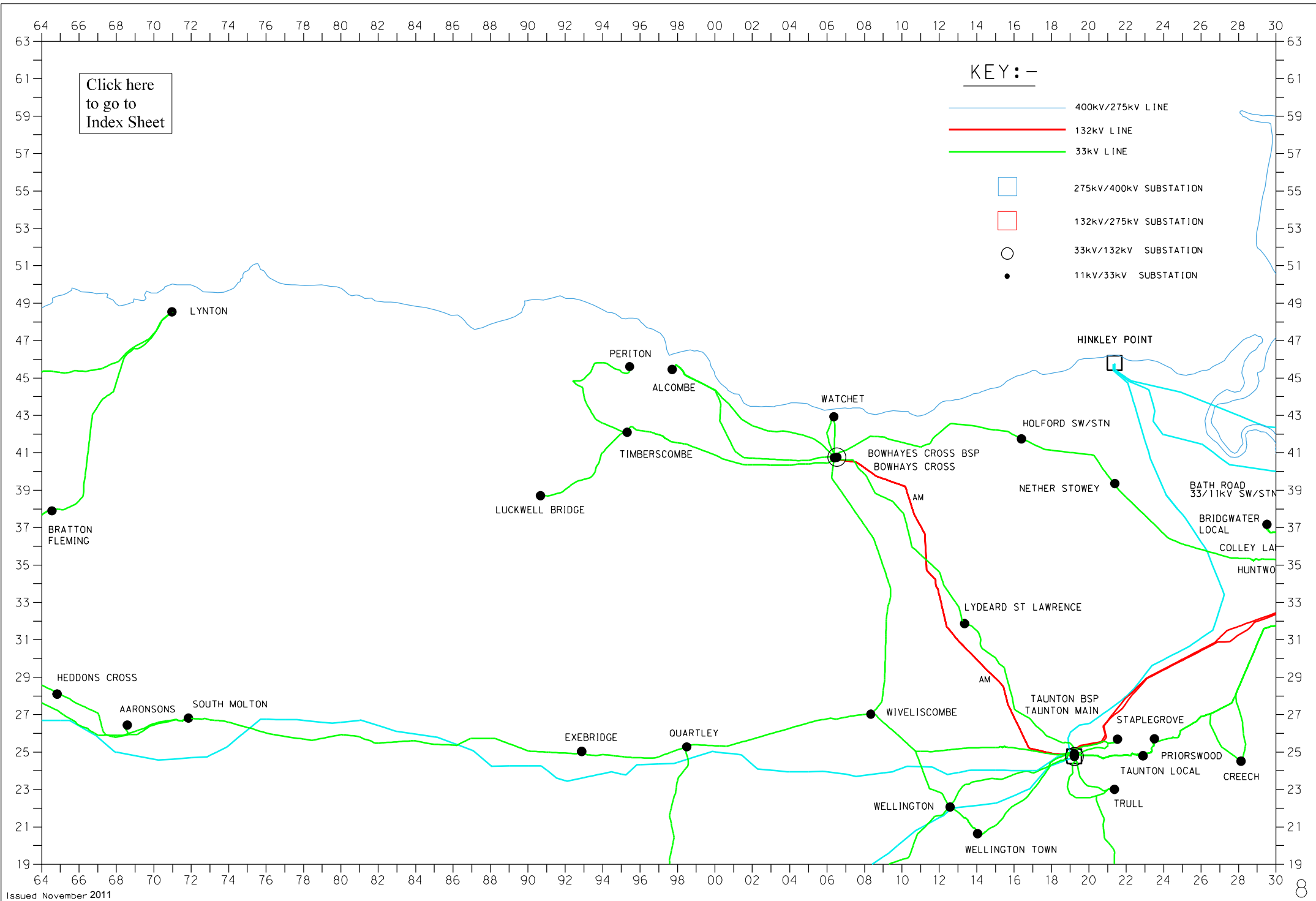
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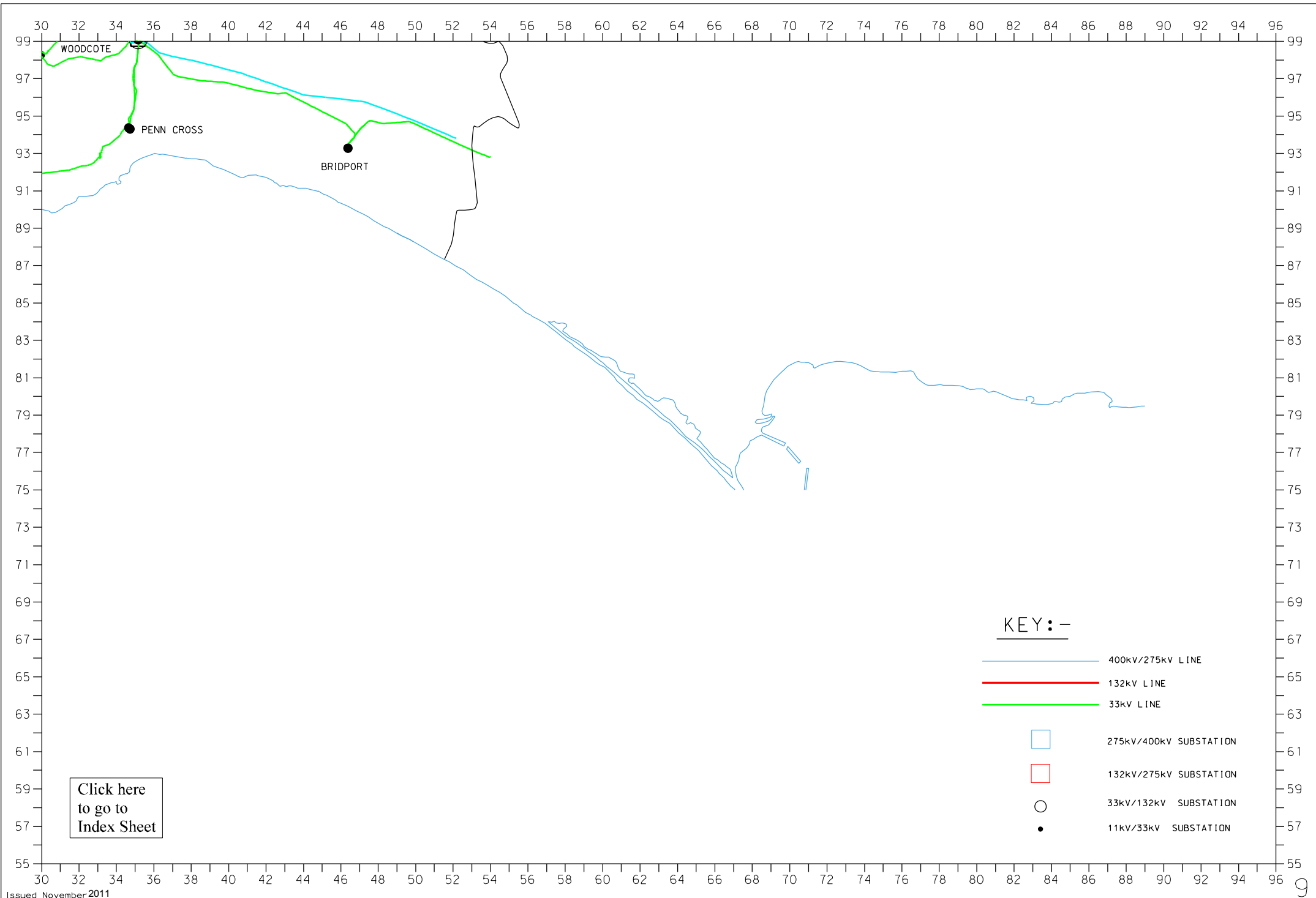


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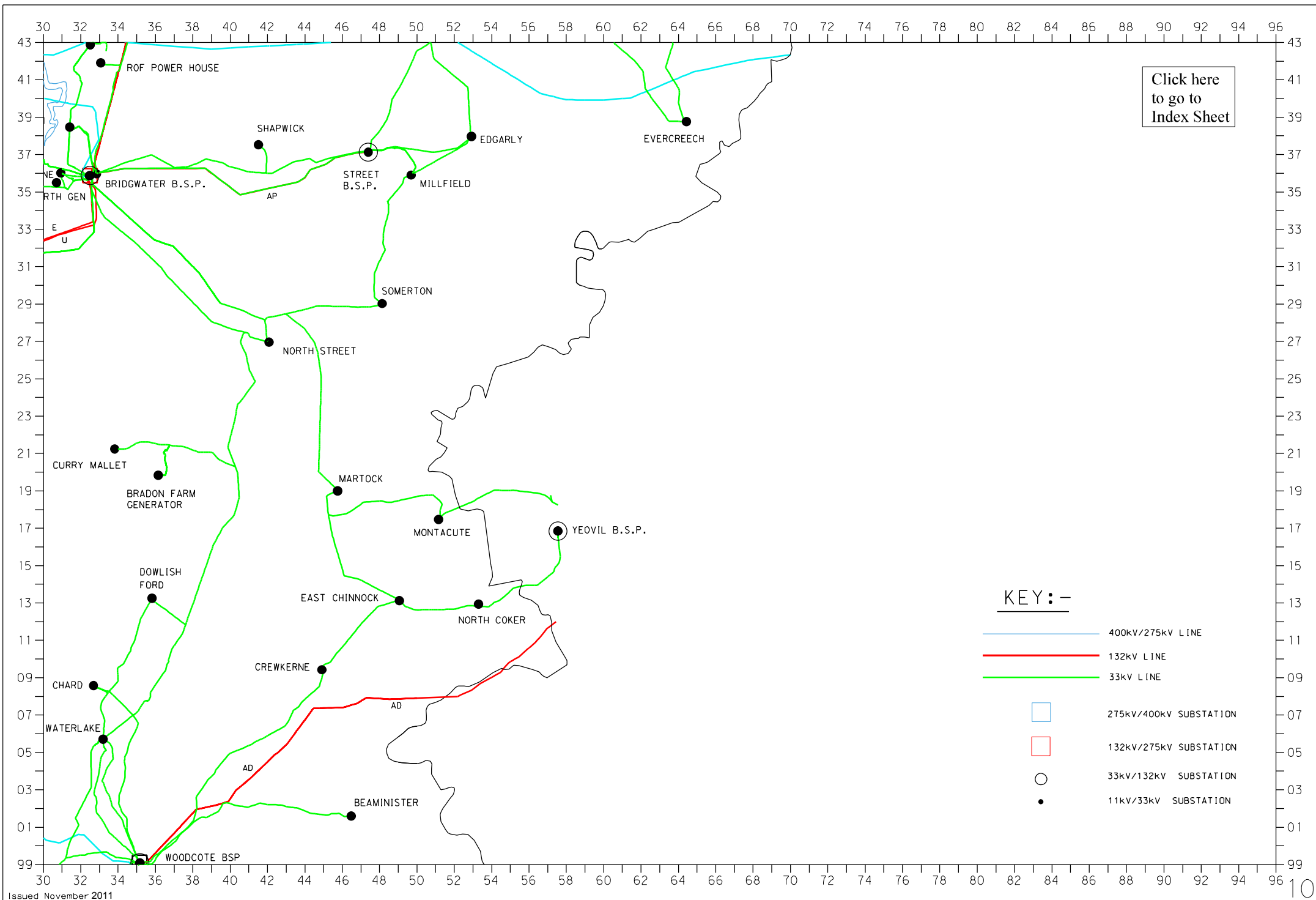


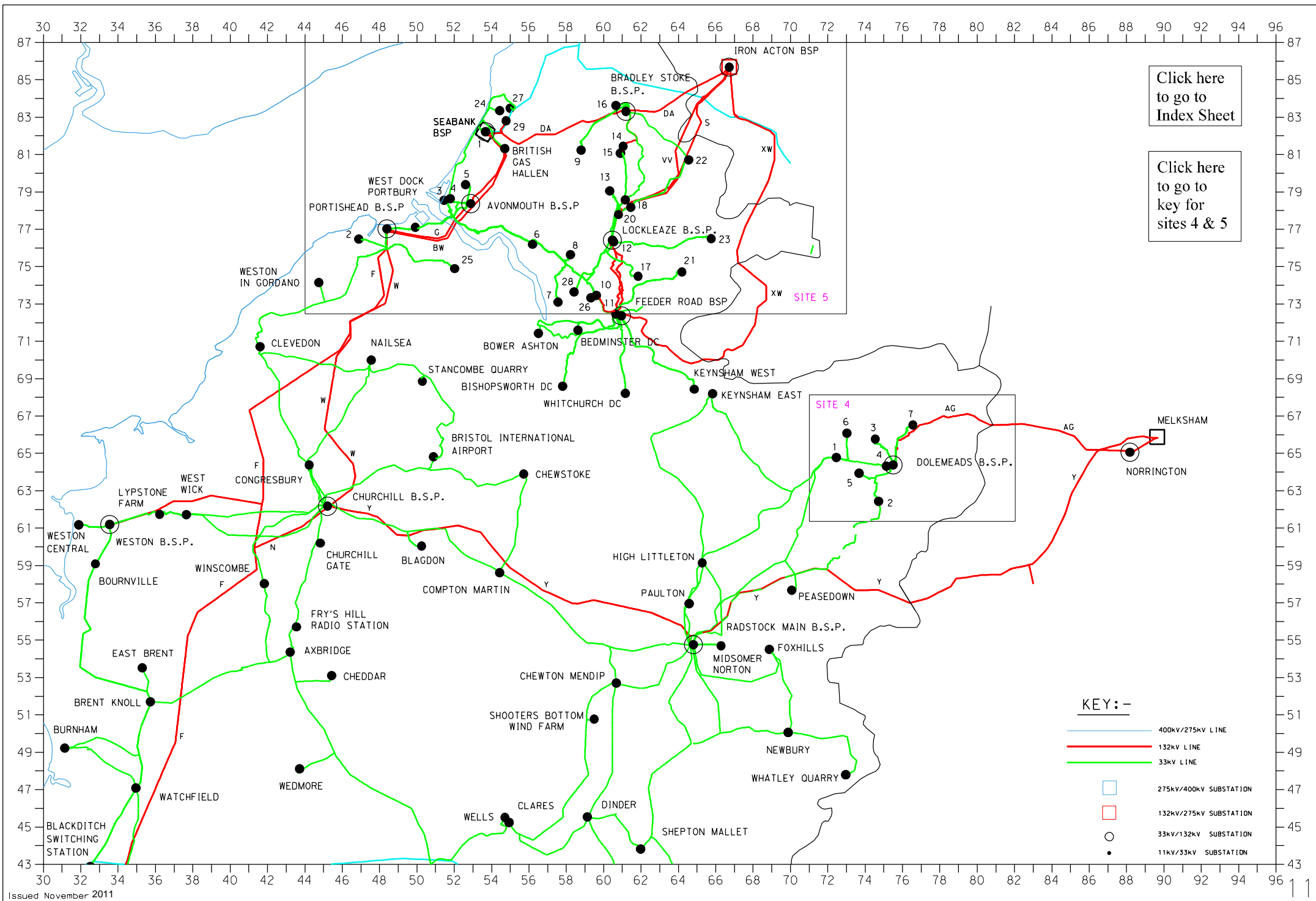


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KEY:-

- 400kv/275kv LINE
- 132kv LINE
- 33kv LINE
- 275kv/400kv SUBSTATION
- 132kv/275kv SUBSTATION
- 33kv/132kv SUBSTATION
- 11kv/33kv SUBSTATION