

WPD South West network capacity restriction

Background of generation connections in the South West

Over the last 3-4 years, WPD South West plc has seen a large number of requests for the connection of embedded generation schemes. The current position is:

- Connected generation capacity of 1.38GW
- Generation capacity with accepted offers but not yet connected 1.89GW
- Generation capacity currently offered but not yet accepted 0.74GW
- Winter maximum demand in the S West is 2.53GW
- Summer minimum demand in the S West is 0.98GW

As a consequence of this, much of the capacity available for generation connections has now been allocated, at all voltage levels including up to 132kV. This means that we now have to apply restrictions to our connection offers.

Capacity restriction on WPD's 132 kV network "F-route"

We have now reached the point where one of the most critical 132kV routes in the South West is now up to its full capacity. This route is referred to as F-route. It runs 82km from Bridgwater Grid Supply Point (GSP) to Seabank GSP (in the Bristol docks area), comprising two separate circuits carried on steel towers.

F-route is an important route out of the South West for generation. As a consequence, the connection of generation in any part of Cornwall, Devon, Dorset (WPD's area), Somerset and Bristol Docks causes power to flow through F-route. The amount of connected and committed generation in the South West has caused the predicted flows through F-route to reach the maximum ratings of the circuits.

National Grid's proposed 400kV circuit works associated with Hinkley Point C

In response to the proposal to build Hinkley Point C, National Grid has been working with WPD to develop its proposals for a new 400kV double-circuit route between Hinkley Point and Seabank. This would involve the removal of F-route, to allow National Grid to build their proposed 400kV line. The scheme was submitted for planning permission in 2014. Current plans are for the majority of the works to be finished in 2020, although this may be subject to change and subject to the planning permission being granted.

Impact of the capacity restriction on generation offers

All customers in the WPD South West plc region seeking the connection of new generation which contribute to flows on the F-route will presently have the following restrictions included in their connection offers:

- A delay of 3 - 6 years, subject to planning approval and the completion of National Grid's 400kV works
- The restrictions will apply to all generator connections requiring works at HV (i.e. 6.6kV or 11kV) or above

These restrictions apply to all Bulk Supply Points (BSPs) and all Grid Supply Points (GSPs) in WPD South West, except the following (covering the Bristol urban and north suburban areas and the Bath urban and suburban areas):

- Iron Action GSP
 - o Bradley Stoke BSP
 - o Feeder Road BSP
 - o Lockleaze BSP
 - o Seabank BSP
- Melksham GSP
 - o Bath Dolemeads BSP

In addition, there are likely to be other reinforcement works included in the connection offers (for more localised issues), plus a requirement to obtain a Statement of Works from National Grid indicating works required on the transmission system.

Connection Charging rules

The method of calculating connection charges is agreed nationally and approved by the energy regulator Ofgem. A connection charge may include the following components¹:

- The full cost of assets that:
 - o will be used solely by the connecting customer
 - o are over and above the minimum scheme, when asked for by the connecting customer.
- A proportion of the cost of network reinforcement where required. This calculated based on the share of new capacity created that will be used by the connecting customer. Generally the connecting customer only pays for reinforcement at the voltage level it is connecting to and one voltage level above.
- A rebate to the DNO or a previously connected customer under the Electricity (Connection Charges) Regulations 2002. This rebate will apply where the new connection uses network assets that were installed and paid for by a previous connection.
- Customers connecting generation equipment to the network will also have to pay for reinforcement in excess of £200/kW. This is known as the high-cost project threshold. Its application makes sure that other network users are not unduly affected by the additional costs caused by the complexity of some connections.

Whilst there are circumstances where we can reinforce ahead of need, these require us to demonstrate to Ofgem that the benefits outweigh the costs to the wider network user.

¹ See Ofgem document A Guide to electricity distribution connections policy
<https://www.ofgem.gov.uk/ofgem-publications/87259/guideelectricitydistributionconnectionsolicy.pdf>