# Primary Network Design (PND) East Midlands – About the team

### Who we are

The Primary Network Design (PND) team are responsible for undertaking the power system analysis and network design associated with both new connections and reinforcement on the 132kV, 66kV and 33kV (EHV) distribution network throughout National Grid Electricity Distribution (NGED).

Alongside power system analysis, some of our primary outputs include connection offers, technical reports, capital sanctions and technical support to other NGED teams.

The wider team comprises of circa 50 design staff, across 4 discrete teams, primarily based at our offices at Avonbank in Bristol, Tipton in Birmingham, Pegasus Business Park in Castle Donington and Lamby Way in Cardiff. It handles significant numbers of both new connection and reinforcement projects ranging in capital value from £50k to over £35m. The successful candidate will be part of largest regional team out of the four license areas.

Working from our office at Pegasus Business Park in Castle Donington alongside hybrid working, the East Midlands PND team covers the whole East Midland licence area from extreme North of Derbyshire to coastal line in Lincolnshire encroaching on the border line with West Midlands all the way to extreme south of Northamptonshire. We are regularly mobile throughout the area and engineers have the opportunity to arrange customer meetings and site visits as required to complete their duties. Transport provisions such as hire vehicles/mileage allowances are available as appropriate, as is accommodation in instances where travel time is particularly significant.

As part of NGED, a Distribution Network Operator, we play a fundamental role in the UK’s transition to energy sustainability and security. We look forward to welcoming enthusiastic and committed new members to our positive and respectful team, who have the skills and drive to help us deliver for our customers.

### Our work

The team’s main workflow comes from new customer connections and network reinforcement projects. PND undertake power system analysis to ensure that both new connections and reinforcement projects comply with the relevant internal policies and other requirements such as EREC P2, P18, P28, ESQCR and the Distribution Code etc.

New connections

PND act as the main point of contact for customer connections on the EHV and 132kV network and we are expected to deliver high levels of customer service to all. We are involved in the full lifetime management of both new load and generation connections, from pre-application through to commissioning. The average life span of a project from acceptance to commissioning is 2-4 years and involves interaction with multiple internal and external stakeholders with an opportunity to deal with innovative problems on day to day basis.

Reinforcement:

PND are responsible for identifying 132kV and EHV network deficiencies i.e. thermal overloads, voltage compliance issues and fault level exceedances triggered by new connections. NGED’s Distribution System Operator (DSO) team highlight future general load growth constraints.

For both reinforcement triggers, PND lead on the network design of appropriate solutions and the production of technical approval documents, capital sanctions and play a key part in the co-ordination of internal stakeholders to monitor reinforcement scheme development and progress.

Earthing and power quality (PQ):

Each PND team includes PQ and earthing specialists covering the design, monitoring and assessment of earthing systems and power quality across the 132kV and EHV network.

Support to other NGED teams:

Alongside our other core responsibilities we provide technical support to other NGED teams including:

* Guidance to local 11kV planning engineers regarding the impact of high voltage connections on the EHV network; and
* Advice to NGED’s major projects team regarding asset replacement projects.

Transmission interface:

PND maintain an important interface with both transmission entities (NGET and NESO) who assess the impact of additional demand and generation connections to the network and the development of new and existing Grid Supply Points (GSPs. e.g. 400/132kV substations).

### Team Structure

The below table shows the current numbers of permanent positions within the South Wales team.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Primary Network Design – East Midlands** | | | | |
| **Team Manager** | **PND Engineer – Grade 8** | **Project Support Specialist – Grade 6** | **Team Support – Grade 4** | **Graduate Engineers** |
| 1 | 12 | 4 | 2 | 1 |

Training tends to be on the job; however, an individual training plan will be agreed which could include formal courses and placements with other NGED teams as required.

As part of our hybrid working approach and in line with our current policy, team members who are not on formal training schemes (graduate or trainee schemes) are able to apply for a mix of office and home working. The current structure is up to two days working at home and the remaining time in the office. Hybrid working will only be considered following any initial training and is subject to business need.

### Other NGED teams and interfaces:

In order for PND to achieve our key outputs we maintain a number of important internal interfaces. These key relationships enable us to work collaboratively with colleagues across multiple teams and disciplines in order to deliver projects.

A brief summary of PND’s major internal interfaces are detailed below:

* DSO team:

The DSO team takes a strategic approach to the changes in customers' needs, and uses modelling and innovative solutions such as flexibility to ensure that NGED can continue to run an economic, efficient and reliable network for our customers.

* Engineering design:

The Engineering design team prepare electrical, protection/control, mechanical and civil designs for schemes to construct, extend or modify electricity substations energised at up to 132kV. Primary outputs consist of detailed engineering drawings to facilitate the real world build of conceptual network changes, and the calculation and issuing of protection settings.

* Major projects:

NGED’s major project team are responsible for the capital delivery of all maintenance, asset replacement, new connections and reinforcement works on the EHV and 132kV network.

* Other teams:
  + Consents and wayleaves
  + NGED Telecoms