

	EDF - Customer Operations NOT PROTECTIVELY MARKED Toolbox Talk ELEC 038	Issued: February 2024
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Building Network Operator

The document is a guide to Building Network Operators (BNOs) and covers various aspects related to their role and the identification of a BNO. It has been provided to help aid the correct reporting of service termination issues and reduce the number of incorrect reports currently being processed.

If you encounter a BNO arrangement, only report category A, B or C faults to the Distribution Business (DB) if the fault is relating to DB equipment (e.g. main service cable or main cut-out). Any other faults found on the BNO equipment should be dealt with using an electricity deficiency notice to inform the customer. If anything immediately dangerous is encountered, phone your manager and disconnect the supply if necessary.

A Building Network Operator (BNO)

As defined in ENA ER G87, the BNO is the entity that owns or operates the electricity distribution network within a multiple-occupancy building, extending from the intake position to customer installations. The BNO can be the Distribution Business (DB), another licensed distributor, or a third party exempt from an electricity distribution license, such as a facilities management company. This role is typically assumed by building owners, landlords, developers, or similar entities in control of a building's infrastructure. The BNO may appoint a third party to act as the network operator on their behalf, and specific licensing requirements apply based on the scale of distribution.

Multi-Occupied Building

As defined in ENA ER G87, refers to any building divided into multiple premises, including flats or industrial units. The design and operation of building networks within these structures adhere to BS 7671 regulations, with additional regulatory obligations for multi-occupied buildings such as fire regulations and Health and Safety requirements. The Building Network Operator (BNO) is responsible for addressing safety considerations, ensuring compliance with regulations, and conducting necessary testing to guarantee the building's electrical infrastructure's safety and quality.

The following scenarios are where a BNO may be introduced.¹

Scenario 1 - Conversion of single use to multiple use:

When converting a single use building into multiple units, customers often need a temporary builders supply (TBS) with a Residual Current Device (RCD). The building network design,

¹ All images in this document are for illustrative purposes only. Normal safe working practices and procedures should be observed when working on or near any depicted scenarios or elements.

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installation, and upgrades are the responsibilities of the customer's accredited electrician, complying with safety regulations.

Scenario 2 - New Build:

In a new build scenario, the Building Network Operator (BNO) installs the building network according to standards, and a Distribution Business or an Independent Connections Provider (ICP) designs and installs the new connection to the building. The customer's supplier installs meters, and a distribution board may be needed, with the recommendation of a standalone isolator.

Scenario 3 - 11kV supply to high rise (New or conversion):

For high-rise buildings with an 11kV supply, the BNO installs the Low Voltage (LV) network. An accredited Independent Distribution Network Operator (IDNO) may manage customer-owned 11kV installations. Customer-owned switch rooms house private transformers, and the BNO is responsible for safety and adherence to regulations.

Scenario 4 - New Build with Distributed Generation:

For new builds with Distributed Generation (DG), the process varies based on the DG capacity. Different processes (G98 or G99) are followed, requiring applications to Distribution Business assessments, and permissions for energization. The BNO or individual must adhere to the specific processes outlined for their DG capacity.

Equipment in a BNO Installation:

In a Building Network Operator (BNO) installation, several key identifiers and equipment can be found that may help to indicate that this is a BNO environment and not managed by the DB.

Red Head Links

These are sturdy, withdrawable links or alternative devices strategically employed as isolation points, especially in scenarios where individual flats have their own meters. Their purpose is to facilitate a secure and accessible means to isolate specific electrical connections. While these can sometimes form part of the distribution network, they may be an indicator of a BNO environment.

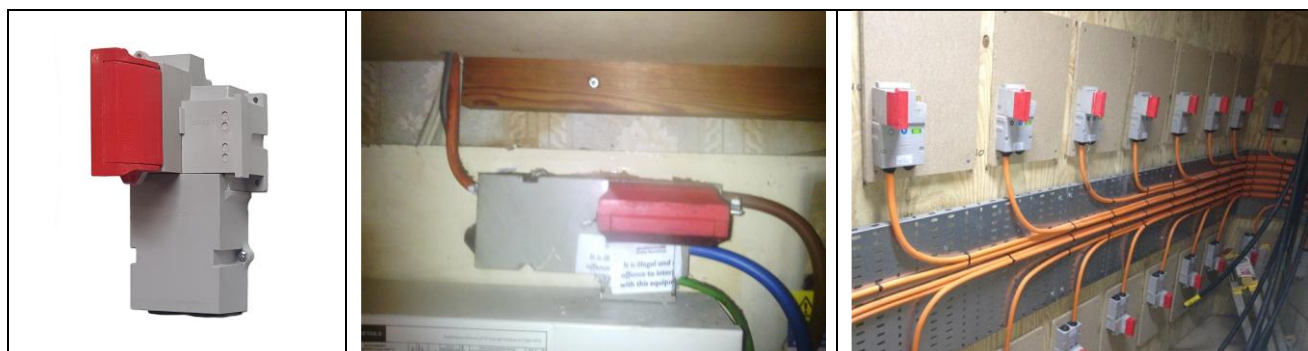


Figure 1 - Examples of a Red Head link from Henley

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Steel Wired Armoured (SWA) Cables

Deployed from the distribution board to individual properties, SWA cables offer a robust infrastructure, ensuring a distinct pathway for neutral earth supply. The armoured design provides added protection, making them suitable for diverse and demanding environments.

Distribution Boards

Customers install distribution boards for properties with more than four units. These boards serve as crucial components, segregating the main power supply and incorporating withdrawable fuses dedicated to each dwelling. They play a pivotal role in managing and securing the electricity distribution within the building. Where a distribution board is present, this could indicate a BNO environment, further investigation may be needed.



Figure 2 - Distributions Boards with missing phase barriers - Not DB equipment and should not be reported to the DB.

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Bus-Bar Riser

Solid copper bars, housed within trunking, are a common feature in tall buildings where conventional cable installation is challenging. The BNO owns and maintains these bars, providing a reliable and efficient means of transporting electricity vertically through the structure.

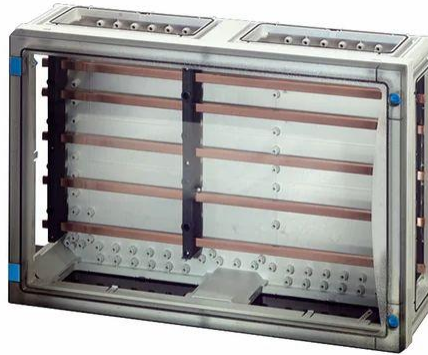


Figure 3 - Example of Busbar risers in a distribution box - Not DB equipment in a multi-occupancy building

Switch Fuse

Essential in scenarios where meters are positioned remotely, customers install switch fuses to offer secondary protection. These devices play a crucial role in safeguarding the electrical infrastructure by providing an additional layer of control and isolation.



Figure 4 - Stock image of a switch fuse isolator

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Low Smoke and Zero Halogen (LSOH) Cables

Deployed for distances exceeding 10 meters within buildings, LSOH cables adhere to stringent fire safety standards specified in BS 7671. Their composition minimizes the release of harmful smoke and halogen gases in the event of a fire, enhancing overall safety within the building.



Figure 5 - Red Link Fuses fed by LSF Cable - both strong indicators that this is BNO equipment and not DB.

Further Information

There is more detailed information available on BNO setups and arrangements, along with diagrams typifying what can be encountered on site. This can all be found in **Tab 13-04** in the Safety Binder,