

Unmetered Supplies to Openreach Broadband Cabinets

Summary of the Questions and Answers associated with obtaining an unmetered supplies to Openreach superfast broadband roadside cabinets

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1. Summary

The purpose of this document is to provide a comprehensive list of Questions and Answers that have been raised throughout the period of Openreach's application for charge codes for broadband cabinets.

Q1: What is the equipment?

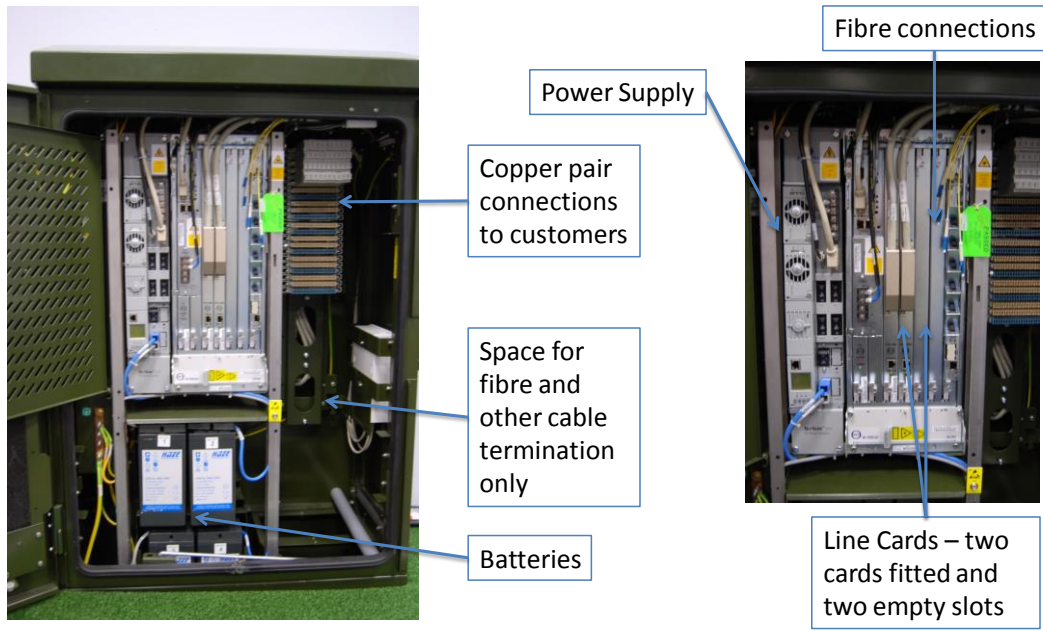
A1: The architecture of each cabinet is:

- **Base load** - power supply unit (including a battery charger), fans, wide area network fibre connection
- **Incremental load** - network card(s), added incrementally with a minimum of one card and maximum of four or six cards (dependent on cabinet model) within each cabinet.

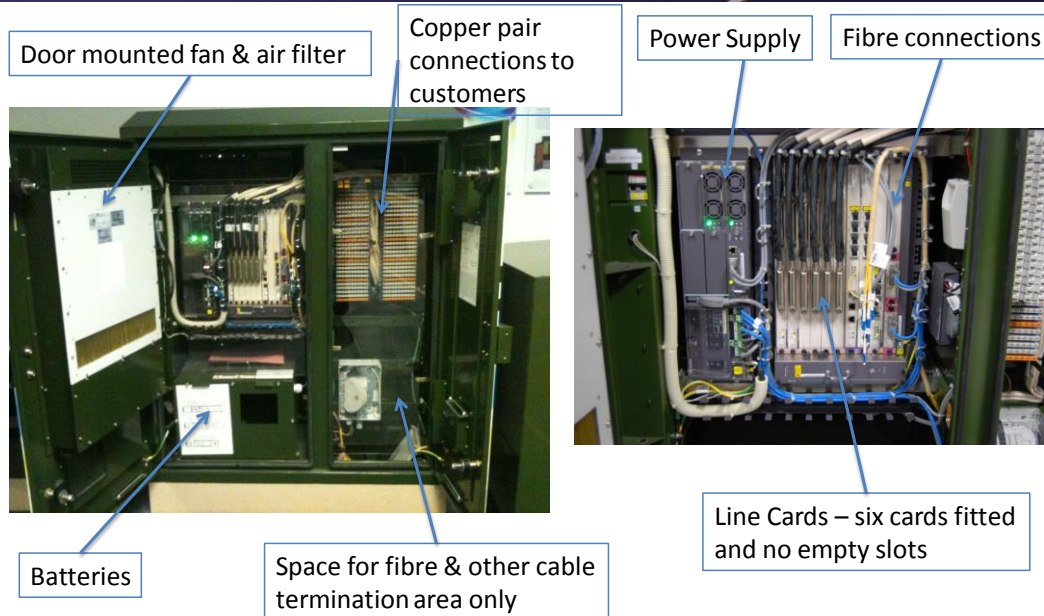
To appropriately reflect the cabinet consumption, the proposed charge codes are based on cabinet model and the number of ports in use. All cabinet designs are of a common layout, varying slightly by manufacturer and cabinet size.



Cabinet layout – ECI M41



Cabinet layout – Huawei MA5603



The communications cabinets are a continuous electrical load, the key features are:

- Equipment loading is a continuous flat profile, throughout the day/week/year
- There are no frost/condensation heaters installed in the cabinets
- There are cooling fans associated with the power supply, but these run continuously and included within the base load. One model (ECI M41) includes a temperature controlled fan rated at up to 20W an average value is included.

Q2: Why change to unmetered connections?

A2: When the fibre cabinet deployment was commenced some years ago there was uncertainty over the cabinet electrical loading and a number of Distributors were hesitant about provision of unmetered supplies. With all the associated political and business imperatives, rather than enter into a prolonged debated with the electricity industry, Openreach commenced deploying cabinets including an 'advanced meter'.

Since the fibre cabinet roll-out programme commenced, there are now over 40,000 cabinets installed with metering. The programme has accelerated so that in 2014/15 a further c.20,000 cabinets will be fitted. Any time delays associated with metering have a significant impact on the speed of cabinet deployment. It is estimated that by installing a meter, that an additional ten days is incurred in the programme for the delivery of each cabinet. With c.400 cabinets being installed per week, this equates to an additional 4,000 days delay each week.

Openreach are committed to minimise the costs of rolling out fibre cabinets, particularly when bidding from Broadband Delivery UK (BDUK) public funding. A review of the programme has identified significant time, cost and logistics savings though moving to use unmetered connections for these small and predictable loads. Logistics savings simplify the process significantly leading to time and cost savings for all parties. Cost savings will be reflected in reduced costs for high speed broadband services and faster

roll-out of broadband services will lead to improved service to broadband customers. Distribution Network Operators (Distributors) will also benefit from a reduced administration cost for generating c.400 new MPAN registrations each week.

Q3: What are the Operational benefits to unmetered supplies?

A3: The operational one-off activities include:

- Administration of applying for an MPAN for each cabinet debate/agree roadside address details which are complicated as they are not associated with a particular premises (costs fall to Openreach & Distributor)
- Obtaining supplier appointment and appointing agents for each individual cabinet (Openreach, Distributor, electricity supplier, meter operator, data collector and data aggregator)
- Metering installation (Openreach and meter operator)
- Installing remote meter reading capability (involving Openreach for provision of phone line, meter operator & data collector)
- Logistics of scheduling meter installation following electrical connection but prior to cabinet communications equipment commissioning (involving Openreach, meter operator).
- Resolving issues and consequences following from any part of the structured process not following exactly as intended. (involving all parties, particularly prospective broadband customers when service provision is delayed)

It is estimated the above process can add two weeks to the installation process, when it fails it can take many weeks to resolve

Engineering advantages (some distribution policies may differ) have also been identified:

- Smaller cable sizes and cut-out, reducing costs to Openreach and going forward the Distributor
- Lower supply capacity (100amp reduced to 25amp) reduces the Distributor's concern of breaching the statutory obligations to remain within voltage limits. This enable use of longer cable runs using smaller cables, or connection to existing smaller cables saving costs in the design and installation as well as reduced trenching, reinstatement and traffic management disruption.
- Distributors have a 70 page Independent Connection Provider metered agreement that requires signature for each cabinet connection, whereas a single agreement will cover multiple unmetered connections. A single unmetered agreement will reduce administrative time/effort for the Distributor and the ICP.

The on-going operational costs:

- Agents costs of Meter Operator, Data Collector and Data Aggregator
- Communications line rental (Openreach are required to pay published rates)
- Identification & resolution of meter and/or communication failures
- Supplier standing charges to reflect each MPAN
- Distribution Use of System charges result in higher costs than unmetered charges
- On-going meter reading/data collection/site inspection, Supplier licence condition for visit every two years. Due to access control to cabinets, this has to be an Openreach accompanied visit.
- Invoice validation and administration which requires the invoice for each MPAN (~40,000) to be verified prior to payment

Q4: Is the consumption below 500W?

A4: Using the Oct 2013 billing consumption data which was available for working communications from a sample of 35,053 cabinets only 72 had a consumption above 500W. So 99.8% of the cabinet population have consumption below 500W. Across the whole population the average cabinet consumes 203 w/hour.

The commercial roll out of Fibre to the Cabinet (FTTC) has been the main driver for Openreach in recent years. As the density of customers connected to each cabinet declines then the business case for installing cabinets in rural areas does not justify the investment. The UK government¹ recognised this as a barrier to achieving the ambition of:

We want achieve a transformation in our broadband access, with everyone in the UK able to access broadband speeds of at least 2 megabits per second (Mbps) and 90% of the UK receiving far greater speeds (at least 24Mbps)

The government is therefore investing over £500m to provide high speed broadband to rural communities.

The cabinet roll out over the next few years will therefore mostly occur in rural communities. These rural communities, by definition, have a lower number of customers within reach of any one cabinet. Therefore the future cabinets can be expected to have a much lower utilisation as fewer customers will be within range of each cabinet.

Proportionally the number of cabinets with 1 or 2 cards will increase. These cabinets consume much less than 500W.

Q5: How would Openreach ensure that when new equipment is installed, the existing charge codes are reviewed?

A5: Any technology changes to the existing design will be highlighted to UMSSOs and any impact on charge codes will be assessed and new codes mutually agreed as required. As previously raised, Openreach is heavily regulated by Ofcom and are unable to install any other Customer equipment within the cabinet.

Q6: Which Distributors have already agreed to UMS?

A6: The following Distributors have agreed to bi-lateral agreements (in line with this national application)

- Western Power Distribution (WPD) – 4 areas
- Scottish & Southern Energy Power Distribution (SSEPD) – 2 areas
- UK Power Networks (UKPN) – 3 areas
- Northern Power Grid (NPG) – 2 areas

These Distributors are providing unmetered supplies to broadband cabinets. The first of which occurred in the autumn of 2013 and has progressively increased.

The two Distributors covering the three remaining areas are awaiting the outcome of the Elexon charge code application.

¹ www.gov.uk/government/policies/transforming-uk-broadband

Q7: Are there any sockets installed within the cabinet?

A7: No, there are no 13amp /230v sockets within the cabinet. Any portable equipment used by operatives is battery powered, or occasionally powered from a vehicle.

Q8: How do Openreach ensure the monthly inventory report is accurate and maintained for as long a UMS supply is present in the cabinet?

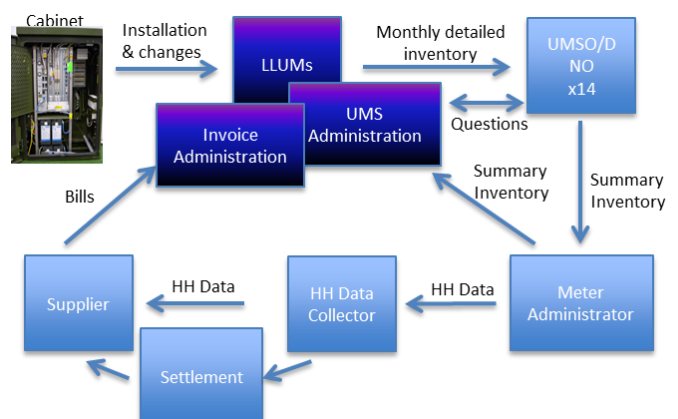
A8: Openreach has taken on the concerns by the UMSO that historically other telecom national unmetered equipment owners have been criticised for failing to maintain accurate inventory. This perceived failure has been specifically addressed as part of the consideration by Openreach in the application for unmetered supplies.

- Openreach already maintains a database (called LLUMS) of all FTTC cabinets.
- LLUMS already records the location details, equipment installation/commission dates and details of the equipment installed within each cabinet. LLUMS is pivotal to the effective management of the network.
- A report is run on LLUMS using the existing detailed inventory and a conversion algorithm provide the agreed charge codes and quantities. Due to the expected deployment of cabinets it has been agreed, that the detailed inventory is emailed to each Distributor each month.
- The monthly inventory report reflects addition of new cabinets, changes to existing cabinets such as adding/removing a card, connecting or ceasing to use ports and removal of cabinet.
- The submission of the monthly inventory report is supported by a dedicated team within Openreach. This team is the point of contact for the UMSO where there are inconsistencies or queries associated with the inventory submission.

In addition to the data processing and storage defined above, Openreach has implemented a robust set of detective controls that are run periodically to ensure that the data quality meets the required standard, this includes the following:

- Comprehensive cross-referencing against other Openreach Customer Inventory systems
- Random sampling of data and manual verification
- Statistical analysis against previous reports
- Cross references carried out against Distributor power connection reports
- Cross references carried out against Suppliers power connection reports
- Internal and External audit as agreed.

This set of controls provides confidence that the data provided is accurate, complete and based on assumptions that continue to be valid and justified.



Q9: How does the Sept 2014 application differ from 2013 application?

A9 Openreach took the outcome from SVG in the 2013 and revised the approach in consultation with a number of Distributors. The 2014 application has a greater number of charge codes per cabinet to provide a more granular code without such a high consumption variation. The charge code bands are derived from the ports (customer connections) actually in use. As the number of active customers varies over time, the inventory submission each month updates the charge code band based on the current usage.

This approach has been in use for nearly a year and has been accepted by many Distributors. Although the banding has been common across all the areas, the circuit watts have differed to reflect the average in that Distributors areas. The national application will use the same bands and provide a national average circuit watts derived from some 40,000 metered cabinets.

Q10: How will the Distributor's Service Level Agreement for restoration of supplies to UMS cabinets impact Openreach?

A10: This issue has no impact upon the granting (or not) of a Charge Code, but has been debated with Distributors in the context of the differences between a metered and an unmetered supply.

The current Ofgem statutory Guaranteed Standards do not specifically refer to telecom broadband cabinets. Openreach has been working in conjunction with the Distributors who have requested to Ofgem that telecom cabinets is now included under a timescales agreeable to all.

In addition to this, Openreach has agreed with each individual Distributor (who have agreed to a bi-lateral agreement) that repair timescales that are currently in place for metered cabinets, will remain for UMS cabinets. Each Distributor has stated that it recognises that broadband cabinets are now becoming a priority to their mutual customers.