

Operational Metering for Small ($<100\text{MW}$) BM Participants

15th May 2019

Contents

Contents.....	1
1. Introduction	2
2. System Overview	3
3. Future Protocols.....	4
4. LEEMPS Data Concentrator Migration.....	4
5. Operational Metering Data	4
6. Further Information.....	5
7. Definitions	6

1. Introduction

This document aims to set out the operational metering architecture National Grid ESO has in place to facilitate the connection of small BMU's ($\leq 99\text{MW}$) to the National Grid ESO balancing systems and participation in the GB balancing mechanism.

This solution is part of the deliverables for the Wider Access programme and will be expandable to encompass the forthcoming TERRE programme.

Currently National Grid ESO offers three ways of providing operational metering to the balancing systems.

- Connect the required metering signals to an existing GB Transmission Owner's Realtime Telemetry Unit (RTU).
- Install a new RTU and provide dedicated telecommunication signals to that location.
- Connect to a SCADA Data Concentrator.

National Grid ESO recognises the need for commensurate solutions dependent on the size of BM participant. The options above take a varying level of time and cost to deliver and are applied based on the size of the connecting BM participant.

National Grid ESO is implementing a replacement Data Concentrator, which will be hosted by a third party (or parties). The new environment will provide limitless capacity which is configurable and scalable, quicker to connect and reduce the end-consumer cost of making new connections. A range of protocols will also be offered to the BM Participant.

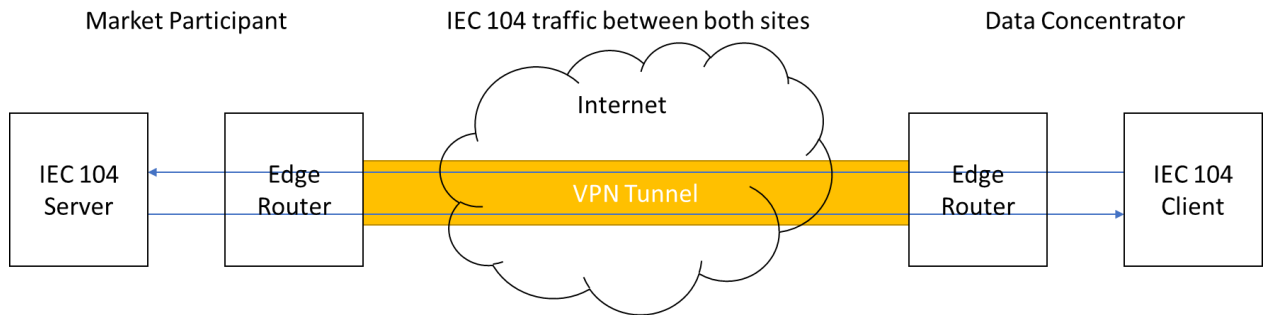
This document is intended for a wide audience to understand the generic requirements for small BM Participants. A more detailed specification will be provided as part of the existing processes for connecting to the data concentrator.

National Grid ESO is planning to commission this system by 31st July 2019 and all new Small BM Participants will be expected to connect to this new data concentrator.

Note: New Small BM Participants may connect to the data concentrator from early July 2019, but will not be able to participate in the Balancing Mechanism until such time the system is fully commissioned.

2. System Overview

The new operational metering system will use the IEC 60870-5 104 protocol over a VPN to connect to the National Grid ESO boundary.

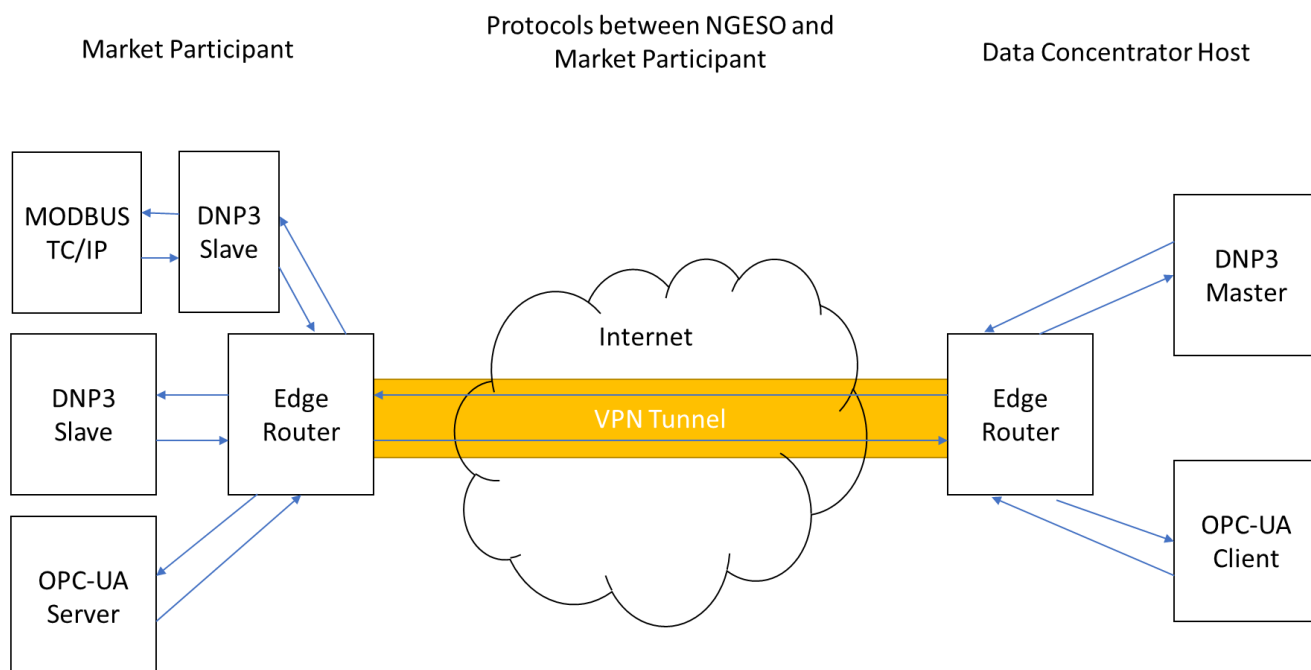


Once IEC 104 communication is established from National Grid's ESO IEC 104 client, the BM Participant will push the metering data to National Grid ESO.

Further technical information about the solution will be provided at a suitable time during the connection process. This is to ensure the security and integrity of the data concentrator.

3. Future Protocols

The new host platform will be capable of supporting additional protocols and will be considered by National Grid ESO on a case by case basis.



Note: Certain protocols may require additional protocol-conversion equipment to be installed by the Market Participant. Such equipment can be provided by National Grid ESO's third-party provider.

4. LEEMPS Data Concentrator Migration

National Grid ESO intend to decommission the existing LEEMPS Data Concentrator by December 2019 and migrate all current connections to the new data concentrator once it is operational. Current customers will be able to retain use of their existing local telecommunication equipment, but some minimal reconfiguration work may be required.

Further details will be communicated to all affected parties through usual communication channels in due course.

5. Operational Metering Data

National Grid ESO will require a range of operational metering signals, dependant on the size and type of the Market Participant. The precise requirements will be defined during the connection process, or transition to BM participation.

6. Further Information

Further information can be sought from National Grid ESO via your account manager or email commercial.operation@nationalgrideso.com

7. Definitions

Abbreviation	Meaning
BM	Balancing Mechanism
DNP3	Distributed Network Protocol
IEC	International Electrotechnical Commission
OPC-UA	OPC Unified Architecture
RTU	Realtime Telemetry Unit
SCADA	Supervisory Control and Data Acquisition
TERRE	Trans European Replacement Reserves Exchange

