

## **DRAFT OPERATING CODE 1 LEGAL TEXT**

### Key

- 1) Blue Text – From Grid Code
- 2) Black Text – Changes / Additional words
- 3) Orange/ Brown text – From RfG
- 4) Purple – From HVDC Code
- 5) Green – From DCC (not used in this document)
- 5) Highlighted Green text – Questions for Stakeholders / Consultation
- 6) Highlighted yellow text – Nomenclature / Table / Figure numbers – to be finalised when more detail has been added
- 7) **NOTE:-** This drafting does not include any updates for the DCC. These changes will be implemented through GC0104.
- 8) The Baseline version is that issued with the mapping table on 9 November 2017. All updates from this version, including the comments received as part of the Workgroup Consultation, results of the legal drafting session held on 16<sup>th</sup>/17<sup>th</sup> November and the mapping session held on 20 November are in track change marked format.

**OPERATING CODE NO. 1  
(OC1)**

**DEMAND FORECASTS**

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- OC1.1 INTRODUCTION
- OC1.1.1 **Operating Code No.1 ("OC1")** is concerned with **Demand** forecasting for operational purposes. In order to match generation output with **Demand** for electricity it is necessary to undertake **Demand** forecasting. It is also necessary to undertake **Demand** forecasting of **Reactive Power**.
- OC1.1.2 In the **Operational Planning Phase**, **Demand** forecasting shall be conducted by **NGET** taking account of **Demand** forecasts furnished by **Network Operators**, who shall provide **NGET** with information in the form set out in this **OC1**. The data supplied under the **PC** is also taken into account.
- OC1.1.3 In the **Programming Phase** and **Control Phase**, **NGET** will conduct its own **Demand** forecasting taking into account information to be furnished by **Suppliers** and **Network Operators** and the other factors referred to in OC1.6.1.
- OC1.1.4 In this **OC1**, the point of connection of the **External Interconnection** to the **National Electricity Transmission System** shall be considered as a **Grid Supply Point**. **Reactive Power Demand** includes the series **Reactive** losses of the **User's System** but excludes any network susceptance and any **Reactive** compensation on the **User's System**. **NGET** will obtain the lumped network susceptance and details of **Reactive** compensation from the requirements to submit data under the **PC**.
- OC1.1.5 Data relating to **Demand Control** should include details relating to MW.
- OC1.1.6 **OC1** deals with the provision of data on **Demand Control** in the **Operational Planning Phase**, the **Programming Phase** and the **Post-Control Phase**, whereas **OC6** (amongst other things) deals with the provision of data on **Demand Control** following the **Programming Phase** and in the **Control Phase**.
- OC1.1.7 In this **OC1**, Year 0 means the current **Financial Year** at any time, Year 1 means the next **Financial Year** at any time, Year 2 means the **Financial Year** after Year 1, etc.
- OC1.1.8 References in **OC1** to data being supplied on a half hourly basis refer to it being supplied for each period of 30 minutes ending on the hour and half-hour in each hour.
- OC1.2 OBJECTIVE
- The objectives of **OC1** are to:
- OC1.2.1 enable the provision of data to **NGET** by **Users** in the **Programming Phase**, **Control Phase** and **Post-Control Phase**; and
- OC1.2.2 provide for the factors to be taken into account by **NGET** when **Demand** forecasting in the **Programming Phase** and **Control Phase**.
- OC1.3 SCOPE
- OC1** applies to **NGET** and to **Users** which in this **OC1** means:
- (a) **Network Operators**, and
- (b) **Suppliers**.
- OC1.4 DATA REQUIRED BY NGET IN THE OPERATIONAL PLANNING PHASE
- OC1.4.1 (a) Each **User**, as specified in (b) below, shall provide **NGET** with the data requested in OC1.4.2 below.
- (b) The data will need to be supplied by each **Network Operator** directly connected to the **National Electricity Transmission System** in relation to **Demand Control** and in relation each **Generator** with respect to the output of **Embedded Medium Power Stations** within its **System**.
- OC1.4.2 (a) Data

By calendar week 28 each year each **Network Operator** will provide to **NGET** in writing the forecast information listed in (c) below for the current **Financial Year** and each of the succeeding five **Financial Years**.

(b) Data Providers

In circumstances when the busbar arrangement at a **Grid Supply Point** is expected to be operated in separate sections, separate sets of forecast information for each section will be provided to **NGET**.

(c) Embedded Medium Power Station Output and Demand Control

For the specified time of the annual peak half hour **National Electricity Transmission System Demand**, as specified by **NGET** under PC.A.5.2.2, the output of **Embedded Medium Power Stations** and forecasts of **Demand** to be relieved by **Demand Control** on a **Grid Supply Point** basis giving details of the amount and duration of the **Demand Control**.

OC1.5 DATA REQUIRED BY NGET IN THE PROGRAMMING PHASE, CONTROL PHASE AND POST-CONTROL PHASE

OC1.5.1 Programming Phase

For the period of 2 to 8 weeks ahead the following will be supplied to **NGET** in writing by 1000 hours each Monday:

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(a) Demand Control

Each **Network Operator** will supply MW profiles of the amount and duration of their proposed use of **Demand Control** which may result in a **Demand** change equal to or greater than the **Demand Control Notification Level** (averaged over any half hour on any **Grid Supply Point**) on a half hourly and **Grid Supply Point** basis;

(b) Medium Power Station Operation

Each **Network Operator** will, if reasonably required by **NGET**, supply MW schedules for the operation of **Embedded Medium Power Stations** within its **System** on a half hourly and **Grid Supply Point** basis.

OC1.5.2 For the period 2 to 12 days ahead the following will be supplied to **NGET** in writing by 1200 hours each Wednesday:

(a) Demand Control

Each **Network Operator** will supply MW profiles of the amount and duration of their proposed use of **Demand Control** which may result in a **Demand** change equal to or greater than the **Demand Control Notification Level** (averaged over any half hour on any **Grid Supply Point**) on a half hourly and **Grid Supply Point** basis;

(b) Medium Power Station Operation

Each **Network Operator** will, if reasonably required by **NGET**, supply MW schedules for the operation of **Embedded Medium Power Stations** within its **System** on a half hourly and **Grid Supply Point** basis.

OC1.5.3 Medium Power Station Output

Each **Network Operator** will, if reasonably required by **NGET**, supply **NGET** with MW schedules for the operation of **Embedded Medium Power Stations** within its **System** on a half hourly and **Grid Supply Point** basis in writing by 1000 hours each day (or such other time specified by **NGET** from time to time) for the next day (except that it will be for the next 3 days on Fridays and 2 days on Saturdays and may be longer (as specified by **NGET** at least one week in advance) to cover holiday periods);

OC1.5.4 Other Codes

Under **OC6** each **Network Operator** will notify **NGET** of their proposed use of **Demand Control** (which may result in a **Demand** change equal to or greater than the **Demand Control Notification Level**), and under **BC1**, each **Supplier** will notify **NGET** of their proposed use of **Customer Demand Management** (which may result in a **Demand** change equal to or greater than the **Customer Demand Management Notification Level**) in this timescale.

OC1.5.5 Control Phase

OC1.5.5.1 Demand Control

Under **OC6**, each **Network Operator** will notify **NGET** of any **Demand Control** proposed by itself which may result in a **Demand** change equal to or greater than the **Demand Control Notification Level** averaged over any half hour on any **Grid Supply Point** which is planned after 1000 hours, and of any changes to the planned **Demand Control** notified to **NGET** prior to 1000 hours as soon as possible after the formulation of the new plans;

OC1.5.5.2 Customer Demand Management

- (a) Each **Supplier** will notify **NGET** of any **Customer Demand Management** proposed by itself which may result in a **Demand** change equal to or greater than the **Customer Demand Management Notification Level** averaged over any half hour on any **Grid Supply Point** which is planned to occur at any time in the **Control Phase** and of any changes to the planned **Customer Demand Management** already notified to **NGET** as soon as possible after the formulation of the new plans.
- (b) The following information is required on a **Grid Supply Point** and half-hourly basis:
- (i) the proposed date, time and duration of implementation of **Customer Demand Management**; and
  - (ii) the proposed reduction in **Demand** by use of **Customer Demand Management**.

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OC1.5.5.3 Load Management Blocks

In Scotland, by 11:00 each day, each **Supplier** who controls a **Load Management Block of Demand** with a capacity of 5MW or more shall submit to **NGET** a schedule of its proposed switching times and profiles in respect of each block for the next day.

OC1.5.6 Post-Control Phase

The following will be supplied to **NGET** in writing by 0600 hours each day in respect of **Active Power** data and by 1000 hours each day in respect of **Reactive Power** data:

(a) Demand Control

Each **Network Operator** will supply MW profiles for the previous calendar day of the amount and duration of **Demand** reduction achieved by itself from the use of **Demand Control** equal to or greater than the **Demand Control Notification Level** (averaged over any half hour on any **Grid Supply Point**), on a half hourly and **Grid Supply Point** basis.

(b) Customer Demand Management

Each **Supplier** will supply MW profiles of the amount and duration of **Demand** reduction achieved by itself from the use of **Customer Demand Management** equal to or greater than the **Customer Demand Management Notification Level** (averaged over any half hour on any **Grid Supply Point**) on a half hourly and **Grid Supply Point** basis during the previous calendar day.

OC1.6 NGET FORECASTS

OC1.6.1 The following factors will be taken into account by **NGET** when conducting **National Electricity Transmission System Demand** forecasting in the **Programming Phase** and **Control Phase**:

- (a) Historic **Demand** data (this includes **National Electricity Transmission System Losses**).
- (b) Weather forecasts and the current and historic weather conditions.
- (c) The incidence of major events or activities which are known to **NGET** in advance.
- (d) Anticipated interconnection flows across **External Interconnections**.
- (e) **Demand Control** equal to or greater than the **Demand Control Notification Level** (averaged over any half hour at any **Grid Supply Point**) proposed to be exercised by **Network Operators** and of which **NGET** has been informed.
- (f) **Customer Demand Management** equal to or greater than the **Customer Demand Management Notification Level** (averaged over any half hour at any **Grid Supply point**) proposed to be exercised by **Suppliers** and of which **NGET** has been informed.
- (g) Other information supplied by **Users**.
- (h) Anticipated **Pumped Storage Unit** demand.
- (i) the sensitivity of **Demand** to anticipated market prices for electricity.
- (j) **BM Unit Data** submitted by **BM Participants** to **NGET** in accordance with the provisions of **BC1** and **BC2**.
- (k) **Demand** taken by **Station Transformers**

OC1.6.2 Taking into account the factors specified in OC1.6.1 **NGET** uses **Demand** forecast methodology to produce forecasts of **National Electricity Transmission System Demand**. A written record of the use of the methodology must be kept by **NGET** for a period of at least 12 months.

OC1.6.3 The methodology will be based upon factors (a), (b) and (c) above to produce, by statistical means, unbiased forecasts of **National Demand**. **National Electricity Transmission System Demand** will be calculated from these forecasts but will also take into account factors (d), (e), (f), (g), (h), (i) and (j) above. No other factors are taken into account by **NGET**, and it will base its **National Electricity Transmission System Demand** forecasts on those factors only.

< END OF OPERATING CODE NO. 1 >

