

Operational Guidance Note

Tap Change Instruction by National Grid ENCC via Fax

Issued: [dd/mm/yyyy]

Background

Simultaneous tap changing is a technique used to manage system voltage.

Under certain system conditions it can be far more effective than changing taps at each power station separately.

Simultaneous tap changing is a normal (although infrequently used) control action. Its use is described in Grid Code BC2.A.2.6.

Whilst other reactive instructions are normally sent via the automatic logging device (EDL), the nature of simultaneous tap changes does not readily lend itself to this form of instruction.

Historically, simultaneous tap instructions were issued via the Operational Broadcast System (OBS).

The OBS has been decommissioned. A replacement system is anticipated to be sanctioned in the near future.

In the interim, it is proposed that a Fax notification process will be used to deliver simultaneous tap instructions.

The purpose of this document is to summarise the fax process and advise how simultaneous tap instructions will be sent.

How Will Simultaneous Tap Instructions be sent?

Advanced notification of simultaneous tap change will be sent via fax from National Grid ENCC to selected power station control points.

The fax will be sent well in advance and in all cases at least 30 minutes prior to the designated time of the tap(s) and should be acknowledged by fax return to National Grid ENCC by the power station control points.

This acknowledgement indicates that control points have received the instruction and intend to comply with its contents at the designated time.

Where a fax has been sent but no acknowledgement received by National Grid, a telephone call will be made to the control point requesting an acknowledgement, or confirmation of reasons why instruction will not be met.

There will be no further communications following acknowledgement of the instruction and power stations should tap all instructed generating units at the designated time.

To what is the instruction applicable?

The advanced notification fax will detail applicable power stations.

Instructions are applicable to all synchronised **Gensets** with MVA reserves at the applicable power station(s).

BC 2.A.2.6 specifies that simultaneous tap instructions can be made in relation to all **Gensets**.

A **Genset** is defined in the Grid Code as:

A **Generating Unit, Power Park Module or CCGT Module** at a **Large Power Station** or any **Generating Unit, Power Park Module or CCGT Module** which is directly connected to the **National Electricity Transmission System**.

In practice, instructions will be used to manage the voltage on the National Electricity Transmission System.

As a result, it is not anticipated that instructions will be made to embedded power stations. Instructions to **Power Stations** connected to Offshore Transmission Networks may be included where National Grid identifies a potential benefit in doing so.

National Grid may not necessarily send an instruction to all **Power Station** control points where specific stations are not being targeted.

What will the advanced notification fax contain?

The advanced notification fax will include the following information. A sample fax is included in Annexe 1 of this paper:

- **Message**
*the type of message, i.e. **Simultaneous Tap Change Instruction***
- **Incident Number**
XXXX where XXXX will be a unique number
- **Included Powerstations**
*A description of the **power stations** at which the simultaneous tap instruction is to apply. This could be a list of **power stations**, or a geographic area eg “all powerstations in Scotland directly connected to the Onshore Transmission System”*

All generator step up transformers at each power station included in the description must be tapped.
- **Voltage Change**
*this is provided to ensure each power station taps in the appropriate direction and gives the intended change in **System** voltage on the transmission system, therefore:*
Raise’ means tap to increase **System** volts
Lower’ means tap to decrease **System** volts

- **No. of taps Requested**

*this will a positive number, either **1** or **2**, representing the number taps to be executed on each **genset** at each applicable powerstation in accordance with BC2.A.2.6.*

- **Time and Date Requested**

This is the time and date at which the simultaneous tap instruction shall be executed.

*The time will be in the format **HH:MM** where **HH** is the hours in 24 hour clock convention and **MM** the minutes.*

Simultaneous tap changes are to be executed commencing at the start of the notified minute.

*The date will be in the format **dayname dd/mm/yyyy**
(eg Monday 01/11/2011)*

How will the Simultaneous Tap be delivered?

No further communications following acknowledgement of advanced notification will be made.

The step up transformers of all **Gensets** at applicable **power stations** should be tapped in line with the instruction at the designated time.

The time will be in the format **HH:MM** where HH is the hours in 24 hour clock convention and MM the minutes.

Simultaneous tap changes will be commenced at the start of the notified minute.

Once the instruction has been fulfilled (i.e. requested taps completed), no further tap changes will be made until receipt of further reactive power instructions from National Grid in accordance with BC2.A.2.6

Stephen Curtis
National Grid Network Operations
31 January 2011



Fax Message

The National Grid
Company plc

St Catherine's Lodge
Bearwood Road
Sindlesham,
Nr Wokingham
Berkshire,
RG41 5BN

Control Room

CTN: 790 2385
Tel: 0844 892 0385
Fax: 0844 892 0355

Date: Monday 1st November 2011

To: Kingsnorth Power Station

Company: RWE Innogy

From: National Grid ENCC

Pages (inclusive): 1

Message: Simultaneous Tap Change Instruction

Incident no: 0001

Included Powerstations: Kingsnorth, Coryton, Grain, Medway, Damhead Creek,
Tilbury

Voltage change: RAISE

No. of taps requested: 1

Time and date required: 17:30 hrs Monday 01/11/2011

Please acknowledge intention to follow this instruction by return to the fax number indicated above.

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Confidentiality Notice

This fax and the information it contains may be confidential and is intended solely for the use of the named addressee. If you received this fax in error, please contact us immediately by telephone or fax at the above numbers. The contents of this fax should not be disclosed or copied.

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