

# EDT Message Interface Specification

Issue 5

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# 1

## EDT Message Specification

## 1. Introduction

### 1.1. Overview

EDT is how BM participants submit data to NGESO for use in the Balancing Mechanism or RR Markets. Any BM participant who wish to submit market data for any of their Balancing Mechanism Units (BMUs) to NGESO as required by the BSC must have an EDT link to NGESO. Furthermore any BM participant who wishes to submit bids and offers on any of their BMUs must have an EDL link to NGESO. An overview of the interfaces with NGESO under NETA was given in a DISG paper 19/01.

### 1.2. Purpose and Scope

The purpose of this document is to specify, in an unambiguous way, Electronic Data Transfer (EDT) communications between Trading Agents and NGESO.

This document is intended only to cover submissions made via EDT. Other transfer mechanisms such as EDL are described in document reference 4.

The scope of this issue is to provide documentation of the high level method by which submission files shall be communicated between NGESO and Trading Agents. To this end, the document contains a description of the file transfer method, directory structure, and details pertaining to electronic file header formats and the format of the data therein.

This document does not cover the validation rules, which shall be applied to data, or the default data rules applied in the case of the absence of data. These shall be covered in the document reference 2.

This document does not cover low level aspects of connecting to NGESO systems. An electronic link between the Trading Agent and National Grid Company computer systems is implied but not defined here. Security measures are mentioned although the document is not intended to be a comprehensive procedural guide to connecting Trading Agent and National Grid Company computer systems. These subjects will be further defined in the document reference 3.

Issue 5 of document defines the structure and content of EDT submission messages that are required to support the submission of Replacement Reserve (RR) Bids. **RR Bid data must be submitted in its own file and not mixed with BM data.**

Issue 5 supports the following changes:

1. Provide the ability for participants to submit RR Bids



### 1.3. Definitions

---

|                   |   |
|-------------------|---|
| AIM               | Aggregator Impact Matrix  |
| BMU               | Balancing Mechanism Unit  |
| BOD               | Bid / Offer pair data   |
| BSC               | Balancing and Settlement Code   |
| BSP               | Balancing Service Provider  |
| Client            | Trading Agent's computer system, which connects to the NGENSO Host.   |
| Client Connection | An electronic connection between Host and Client machines.  |
| Download          | The process of transfer of data from the Host to the Client.  |
| EDL               | Electronic Dispatch Logging. A mailbox transfer system between Host and Client. (Not further defined in this document).                                 |
| EDT               | Electronic Data Transfer. Flat file transfer of submissions, between Client and Host systems.   |
| FPN               | Final Physical Notification   |
| FTP               | File Transfer Protocol.   |
| Gate Closure Time | The last time for which PN and BOD data may be accepted for the next settlement period, as defined by the Host System Clock.                            |
| Host              | National Grid's File Server.  |
| IPN               | Initial Physical Notification   |
| NETA              | New Electricity Trading Arrangements  |
| NGESO             | National Grid Electricity System Operator   |
| Operational Day   | Defined as starting at 05:00 (local time) through until 05:00 the following day.  |
| PN                | Physical Notification   |
| RRB               | Replacement Reserve Bid   |
| SO                | System Operator   |
| Trading Agent     | The Balancing Mechanism Lead Party or their Agent, registered as submitting data to or receiving data from NGENSO, in respect of BMUs assigned to them. |
| Upload            | The process of transfer of data from the Client to the Host.  |

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Table 1 - Definitions

## 1.4. Related Documents

1. The New Electricity Trading Arrangements – A draft specification for the Balancing Mechanism and Imbalance Settlement version 1.2, The Office of Gas & Electricity Markets.
2. NETA Data Validation, Consistency and Defaulting Rules CT/24.12.0003.
3. NETA Interface Standards OF/CS.KBC.NETA.007.
4. NETA Project EDL Message Interface Specification CT/24.13.0013.
5. DISG 19 - 12 October 1999 - Information exchange with the system operator

## 2. Background to EDT

Details of which data items are transferred via EDT are given in later sections. EDT (Electronic Data Transfer) defines one of the methods by which information is transferred electronically between Trading Agent Client systems (hereafter referred to as the Client) to the NGESO Host server system (hereafter referred to as the Host).

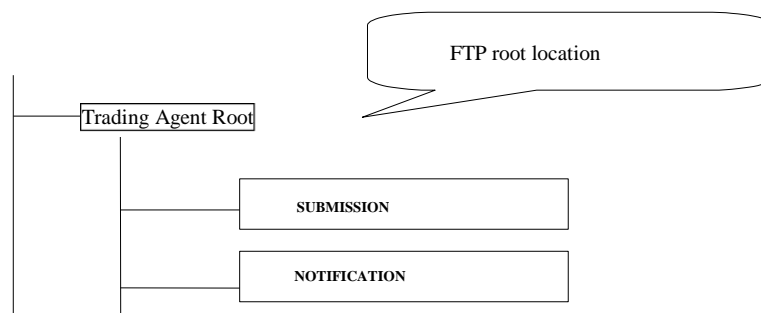
Data shall be held in electronic documents, the formats of which are defined in section 7. These files are then transferred to the NGESO host via FTP (File Transfer Protocol). The details of the file transfer protocol are further defined in the document reference 3.

*Note - The client push of submission data and pull of notification data is a marked change in the EDT process from the mechanism in place under the "Pool and Settling agreement", where the System Operator was pulling submission information from the Trading Agents machines, and pushing notification information.*

## 3. Transfer Mechanism

Each Trading Agent shall be issued with their own username and password (client connection) enabling them to make submissions and collect acknowledgements and failure messages via the FTP service. The sub-directory structure for each client connection shall only be visible to NGESO and the Trading Agent to which it was issued.

The directory structure visible to the client will be a submission and notification directory. Any submissions a Trading Agent wishes to make must be FTPed to the 'SUBMISSION' subdirectory. All notifications of receipt and of file errors will be posted to the 'NOTIFICATION' subdirectory.



*Figure 1 - Visual representation of the file structure seen by Trading Agents when logging into the NGESO Host File Server. Upon logging in, the user's root location is indicated by "Trading Agent Root" (this is not a visible directory as seen by a Trading Agent)*

File permissions on the Host's sub-directories will be in place. The 'SUBMISSION' directory will have write-only access permissions, as once a submission has been made, it can not be retracted or modified. The 'NOTIFICATION' directory will have read-only restrictions applied to it.

Usernames and Passwords will initially be issued by NGESO. It may however be necessary to modify these at a later time. It is intended that after initial implementation the system will be modified such that passwords will expire after a certain time, and users will be required to supply a new password.

NGESO is neither responsible for the connection between client and host systems, nor the transfer of data across it. As a consequence NGESO will only consider the validity of submissions once they have been successfully transferred to the NGESO Host system. An incomplete or incorrectly named submission shall be rejected in its entirety. This is discussed in section 6. Once passed this level of checking, data will be accepted or rejected at BMU level.

Security issues associated with login accounts are described in reference 3.

Once a file has arrived on the Host, it will be acknowledged, validated for file format and data integrity and loaded into the online system. The validation process will accept or reject data on a Balancing Mechanism Unit (BMU) basis. The details of validation rules applied are specified in reference 2.

Any data that fails the validation process will result in a failure notification being generated, informing the Trading Agent of the nature of the fault. This message will be placed in the 'NOTIFICATION' directory.

The 'SUBMISSION' sub-directory shall be emptied as submissions are read; material being archived and removed from the directory as the latest file is read. The files will remain in the 'NOTIFICATION' sub-directory for a minimum of 24 hours after their last-modified time (as indicated by the last-modified time stamp on the file) after which time they will be removed from this location. These files will also be archived by NGESO.

Submission file formats are discussed in section 7.

Notification file formats are discussed in section 8.

*Note - At go-live, the NGESO FTP server will reside on a VMS machine. The VMS operating system stores directory and files name in upper-case and hence all files down-loaded from NGESO's host by clients will have file names in upper-case, regardless of the case mix of the original submission file name.*

## 4. Notification Time

The System Time of the Host shall be in GMT and be kept referenced to a recognised global time base. It is this time, which shall determine gate closure for submissions.

Each file successfully transferred to the Host will be deemed to be a submission. The notification time of this file and hence all data contained within it shall be deemed to be the point in time that the file transfer from the Client to the Host (Upload) is completed. This is indicated by the last modified-time attribute of the file created by the operating system of the Host.

*Note - Specific concerns relating to connection procedures for individual FTP accounts may be issued from time-to-time by NGESO. Additional details are also to be found in reference 3.*

## 5. Expected Frequency of Files

All data will be submitted using the single file format specified below. All data types for Balancing Mechanism Units (BMUs) assigned to the Trading Agent may be included within the file.

Data within the file will be validated on a record by record basis; full details are available in reference 2.

*Note - Although hypothetically there is no upper limit to the frequency with which data may be submitted or to the size of data files, it is a concern of NGESO that an error on a Client system might jeopardise the stability of the entire EDT submission system. NGESO is concerned that a rogue Client system might resubmit very large files at frequent intervals which has the potential of critically slowing or halting the processing of other Trading Agent's files. For this reason NGESO proposes to implement a system whereby if the frequency of submissions exceeds a defined normal rate for a sustained period, then the concerned Trading Agent's account shall be locked until they contact NGESO to resume normal service. Details of the proposed limits are discussed in reference 3.*



## 6. Trading Agent Submission File Naming Convention

Each submission file will have a file name consisting of two parts and a file extension. The file extension will be '.SBM' to indicate that the file contains submission data defined to be as follows:

| Title  | Meaning            | Field Size | Field Format | Comments   |
|--------|--------------------|------------|--------------|--|
| TANAME | Trading Agent Name | 9          | XXXXXXXXXX   | name should be padded with '_' to the full field width |
| SEQNO  | Sequence number    | 4          | 9999         | the submission sequence number                         |

Table 2 - Trading Agent Submission File Naming Convention

Thus, the filename will be of the form:

**XXXXXXXXXX9999.SBM**

For example, for a Trading Agent the name 'TR\_AGT', for which the previously submitted file sequence number was 20, the file name would be:

**TR\_AGT\_\_0021.SBM**

The Trading Agent portion of the name must correspond with the agreed name of the submitting agent. All submission files must have a 'SBM' file type marker. If these conditions are not met, the submitted file will be rejected in its entirety.

The submission sequence number contained within the file name must be submitted successively. Each time a file is submitted the sequence number should be incremented by one. Should a file be submitted out of sequence it will be rejected in its entirety. All subsequent out of sequence files will be rejected. Each rejection will be identified by a 'V\_GEN\_5' message in the rejection file. The next valid submission number will be two greater than that indicated by the 'last was {sequence}' in the above message contained in the rejection file associated with the last submission sent. Please refer to section 9.3 and to reference 2 for further details on the error message formatting.

Example Error message:

```
<!>  
<V_GEN_5>,<File failed>  
File out of sequence: 2233. Last was 1236 <*>
```

In the above example the Trading Agent has submitted a file with the sequence number 2233. The 'last was' portion of the message indicates that the last valid sequence number submitted was 1236 so that the one expected this time is 1237. Although submission 2233 has been rejected it has caused the expected submission counter associated with this Trading Agent on the Host to be incremented by one, hence the next file sequence number that will be accepted by the Host is now 1238.

The first submission made via EDT to NGESO by a Trading Agent should have a submission sequence number of 0001. Leading zeroes should be included to the full field width. After submission 9999 the next submission number should roll over to 0001.

*Note - All nomenclature of Agents and their respective BMUs, including the 9-character field above, will be agreed between NGENSO and the relevant Agent or their representative as part of the Agent/BMU registration process.*

## 7. Submission File Format

Submissions for each Trading Agent will be made in Comma Separated Value (CSV) text formatted files. Each submission file will consist of one or more records, with each record being a single line of text. The end of the file will be indicated by the text string '<EOF>'.

Each record will consist of a number of fields, each separated by a comma. Each record will include a record header consisting of the same initial fields, as shown in section 7.1. The remainder of each record will contain data according to the data record type included in the record header, as defined in section 7.2.

Any records that start with an asterisk (\*) will be ignored, thereby allowing comments to be included in submission files.

All times must be a whole number of minutes.

Sample submission data files are shown in the appendices.

In the table definitions, the following field format conventions are used:

Time format: **[CCYY-MM-DD hh:mm]**

Where the following definitions apply:

**CCYY** year (numeric) **MM** month (numeric) **DD** day (numeric) **hh** hours **mm** minutes **a single space separator between date and time**

*Note - Whilst all data handling is automatic, NGENSO has aimed at a format which is as legible as possible.*

*Additional white space either side of fields is permitted. The only restriction on white space being on the internal space in the date/time field separating the date and time portions, where only a single space character must be present.*

*Blank lines present in the submission file prior to the '<EOF>' string will be treated as a formatting error, and the file will be rejected in its entirety.*

### 7.1. Submissions File Format – Record Header

| Field            | Acronym | Format       | Units | Comments   |
|------------------|---------|--------------|-------|--|
| Data Record Type | -       | Alphanumeric | -     | Up to 4 Characters<br>One of:<br>PN Physical Notification<br>QPN Quiescent Physical Notification<br>BOD Bid-Offer Data<br>MEL Maximum Export Limit<br>MIL Maximum Import Limit<br>RURE Run Up Rates Export |

RURI Run Up Rates Import  
RDRE Run Down Rates Export  
RDRI Run Down Rates Import  
NDZ Notice to Deviate from Zero  
NTO Notice to Deliver Offers

---



| Field              | Acronym | Format       | Units | Comments                    |
|--------------------|---------|--------------|-------|-----------------------------|
|                    |         |              |       | NTB Notice to Deliver Bids  |
|                    |         |              |       | MZT Minimum Zero Time       |
|                    |         |              |       | MNZT Minimum Non-Zero Time  |
|                    |         |              |       | SEL Stable Export Limit     |
|                    |         |              |       | SIL Stable Import Limit     |
|                    |         |              |       | MDV Maximum Delivery Volume |
|                    |         |              |       | MDP Maximum Delivery Period |
|                    |         |              |       | <b>RRB</b> <b>RR Bid</b>    |
| Trading Agent Name | -       | Alphanumeric | -     | Up to 9 Characters          |
| BM Unit Name       | -       | Alphanumeric | -     | Up to 9 Characters          |

Table 3 - Submissions File Format - Record Header

## 7.2. Submissions File Format – Record Data

| Data Record Type | Field                     | Format      | Units   | Comments |
|------------------|---------------------------|-------------|---------|----------|
| PN               | Time from                 | Time format | -       |          |
|                  | PN Level from             | Numeric     | MW      |          |
|                  | Time to                   | Time format | -       |          |
|                  | PN Level to               | Numeric     | MW      |          |
| QPN              | Time from                 | Time format | -       |          |
|                  | QPN Level from            | Numeric     | MW      |          |
|                  | Time to                   | Time format | -       |          |
|                  | QPN Level to              | Numeric     | MW      |          |
| BOD              | Time from                 | Time format | -       |          |
|                  | Time to                   | Time format | -       |          |
|                  | Bid-Offer Pair Number     | Numeric     |         |          |
|                  | Bid-Offer Level from      | Numeric     | MW      |          |
|                  | Bid-Offer Level to        | Numeric     | MW      |          |
|                  | Offer Price               | Numeric     | £ / MWh |          |
|                  | Bid Price                 | Numeric     | £ / MWh |          |
| MEL              | Time from                 | Time format | -       |          |
|                  | Maximum Export Level from | Numeric     | MW      |          |
|                  | Time to                   | Time format | -       |          |
|                  | Maximum Export Level to   | Numeric     | MW      |          |
| MIL              | Time from                 | Time format | -       |          |
|                  | Maximum Import Level from | Numeric     | MW      |          |
|                  | Time to                   | Time format | -       |          |
|                  | Maximum Import Level to   | Numeric     | MW      |          |
| RURE             | Effective time            | Time format | -       | *        |

| Data Record Type | Field             | Format      | Units       | Comments |
|------------------|-------------------|-------------|-------------|----------|
|                  | Run-Up Rate 1     | Numeric     | MW / minute |          |
|                  | Run-Up Elbow 2    | Numeric     | MW          |          |
|                  | Run-Up Rate 2     | Numeric     | MW / minute |          |
|                  | Run-Up Elbow 3    | Numeric     | MW          |          |
|                  | Run-Up Rate 3     | Numeric     | MW / minute |          |
| RURI             | Effective time    | Time format | -           | *        |
|                  | Run-Up Rate -1    | Numeric     | MW / minute |          |
|                  | Run-Up Elbow -2   | Numeric     | MW          |          |
|                  | Run-Up Rate -2    | Numeric     | MW / minute |          |
|                  | Run-Up Elbow -3   | Numeric     | MW          |          |
|                  | Run-Up Rate -3    | Numeric     | MW / minute |          |
| RDRE             | Effective time    | Time format | -           | *        |
|                  | Run-Down Rate 1   | Numeric     | MW / minute |          |
|                  | Run-Down Elbow 2  | Numeric     | MW          |          |
|                  | Run-Down Rate 2   | Numeric     | MW / minute |          |
|                  | Run-Down Elbow 3  | Numeric     | MW          |          |
|                  | Run-Down Rate 3   | Numeric     | MW / minute |          |
| RDRI             | Effective time    | Time format | -           | *        |
|                  | Run-Down Rate -1  | Numeric     | MW / minute |          |
|                  | Run-Down Elbow -2 | Numeric     | MW          |          |



|                         |                             |                               |              |   |
|-------------------------|-----------------------------|-------------------------------|--------------|---|
|                         | Run-Down Rate -2            | Numeric                       | MW / minute  |   |
|                         | Run-Down Elbow -3           | Numeric                       | MW           |   |
|                         | Run-Down Rate -3            | Numeric                       | MW / minute  |   |
| NDZ                     | Effective time              | Time format                   | -            | *   |
| <b>Data Record Type</b> | <b>Field</b>                | <b>Format</b>                 | <b>Units</b> | <b>Comments</b>                           |
|                         | Notice to Deviate from Zero | Numeric                       | minutes      |   |
| NTO                     | Effective time              | Time format                   | -            | *   |
|                         | Notice to Deliver Offers    | Numeric                       | minutes      |   |
| NTB                     | Effective time              | Time format                   | -            | *   |
|                         | Notice to Deliver Bids      | Numeric                       | minutes      |   |
| MZT                     | Effective time              | Time format                   | -            | *   |
|                         | Minimum Zero Time           | Numeric                       | minutes      |   |
| MNZT                    | Effective time              | Time format                   | -            | *   |
|                         | Minimum Non-Zero Time       | Numeric                       | minutes      |   |
| SEL                     | Effective time              | Time format                   | -            | *   |
|                         | Stable Export Limit         | Numeric                       | MW           |   |
| SIL                     | Effective time              | Time format                   | -            | *   |
|                         | Stable Import Limit         | Numeric                       | MW           |   |
| MDV                     | Effective time              | Time format                   | -            | *   |
|                         | Maximum Delivery Volume     | Numeric                       | MWh          |   |
| RRB                     | Record Type                 | Alphanumeric                  | -            | Identifies the row as a RR Bid {RRB}      |
|                         | Trading Agent Name          | Alphanumeric (9)              | -            |   |
|                         | BM Unit                     | Alphanumeric (9)              | -            |   |
|                         | Time from                   | Time format YYYY-MM-DDTHH:MMZ | -            | Covers a corresponding RR delivery period |

|                            |                           |         |   |
|----------------------------|---------------------------|---------|---|
| Direction                  | Alphanumeric<br>(Up to 4) | -       | UP; DOWN<br>Case agnostic   |
| Level (max)                | Numeric                   | MW      |   |
| <i>Min Level</i>           | Numeric                   | MW      | Optional field; if a minimum quantity is stated then the bid is deemed to be divisible, if no minimum quantity stated the bid is deemed non-divisible |
| Divisible                  | Alphanumeric              | -       | TRUE; FALSE   |
| Price                      | Numeric<br>(2 DP)         | £ / MWh |   |
| Bid Id                     | Alphanumeric<br>(9)       | -       | Used to link bids to define a price curve; or a constant bid for the duration of the auction period   |
| <i>Associated Bid Type</i> | Alphanumeric<br>(4)       | -       | LINK; MULT; EXCL<br>Optional field.<br>Case agnostic  |
| <i>Associated Bid Set</i>  | Alphanumeric<br>(9)       | -       | Used to group associated bids<br>Optional field.<br>Case agnostic   |

All other fields must be included, but Optional fields can be left empty (null). Total 12 number of attributes are allowed any extra field must be ignore/truncate.

Table 4 - Submissions File Format - Record Data

Fields in italics are optional

Note on comments: Date Time fields must be either blank or the commencement of an Operational Day.

## 8. Notification File Naming Conventions

Each notification file will have a file name consisting of two parts and a file extension. The file extension will be one of '.ACK', '.ACC' or '.REJ'. These extensions correspond to an acknowledgement of receipt of a Trading Agent's submission, notification of the acceptance of data from a Trading Agent and rejection of data from a Trading Agent's submission respectively.

The name will follow the same format as that of the submission file:

| Title  | Meaning            | Field Size | Field Format | Comments   |
|--------|--------------------|------------|--------------|--|
| TANAME | Trading Agent Name | 9          | XXXXXXXXXX   | name should be padded with '_' to the full field width |

|       |                 |   |      |  |
|-------|-----------------|---|------|--|
| SEQNO | Sequence number | 4 | 9999 | the acknowledgement sequence number (as per the submission sequence - section 7) |
|-------|-----------------|---|------|--|

Table 5 - Notification File Naming Conventions

Thus, the filename will be of the form

**XXXXXXXXXX9999.ACK**

For example, for a Trading Agent with the name 'TR\_AGT', for which the submitted file sequence number was 20, the acknowledgement file name would be:

**TR\_AGT\_\_0020.ACK**

*This is further outlined below.*

## 9. Acknowledgement / Acceptance / Rejection File Format

### 9.1. Acknowledgement File Format

The acknowledgement file will contain the notification time of the submission. The notification time will use the standard EDT date/time formats as defined in reference 2.

To facilitate the use of automated systems, NGESO will identify each message by the use of start and end tags. The string '<!>' will indicate the start of a message, whilst the string '<\*>' will indicate the end. The last line of a reject file will contain the string '<EOF>'.

The file will take the format:

```

<!>
<Message Type>
Message
<*>
<EOF> Example:
<!>
<Notification Time>
2002-04-12 12:13
<*>
<EOF>

```

### 9.2. Acceptance File Format

Acceptance files are produced once a submission file has been validated in its entirety. The acceptance .ACC file will contain a list of all BMUs for which all submitted data has passed formatting, consistency and validation tests.

The output will be in the form of a list, sorted alphanumerically by BMU name. The last line of the acceptance file will contain the string '<EOF>'.

Each record will take the form:

**BMU <name> OK**

An example entry for a BMU *BM\_UNIT\_1* would be:

**BMU BM\_UNIT\_1 OK**

In the case of a submission file containing just an '<EOF>' tag (no submitted data) a message 'Empty file' will be placed in the acceptance file.

### 9.3. Rejection File Format

Reject files are also produced once a submission file has been validated in its entirety. Each record contained within a file is checked for formatting, validity and consistency.



Should formatting prove incorrect the file will not proceed to validation and will be rejected at that stage. Thus a record that has invalid data and is also incorrectly formatted for the type of data will only have a message stating that it was rejected owing to a formatting error. The validity of the record will not be considered.

Once a record has completed and passed formatting checks, it will be checked against each applicable validation and consistency rule. Any and all of these failures will be reported individually for each submitted record. Hence a single row that does not comply with multiple validation or consistency rules, will give rise to multiple error messages within a reject file.

To facilitate the use of automated systems, NGESO will identify each message by the use of start and end tags. The string '<!>' will indicate the start of a message, whilst the string '<\*>' will indicate the end. The last line of a reject file will contain the string '<EOF>'.

A rejection in the reject .REJ file will be one of the following formats:

```
<!--
<Error Code>,<Expanded Error Message>
error record
-->
```

OR

```
<!--
<Error Code>,<Expanded Error Message> further
information
-->
```

Note: there may be more than one record before the string '<\*>'.

#### EDT Message Interface Specification

Example rejections:

```
<!--
<V_RURE_2>,<An invalid combination of NULL rates and breakpoints was encountered>
RURE, TR_AGT, BMUNIT01, 2001-11-03 05:00, , , 12, -->
```

OR

```
<!--
<V_GEN_5>,<File failed>
File out of sequence: 2233. Last was 1236
-->
```

For further information on error messages please refer to reference 2.

## 10. Example Submission Cycle

The section below exemplifies a particular submission cycle. Particular naming conventions are outlined in earlier sections of this document.

Consider an example file created by a Trading Agent e.g. *TR\_AGT\_\_0021.SBM*

The file will be FTPed to NGESO's Host and placed into the 'SUBMISSION' sub-directory. NGESO will then move the file from this directory to a processing area.

Looking in the 'NOTIFICATION' directory the Trading Agent will see a NGESO acknowledgement file *TR\_AGT\_\_0021.ACK* created. This file will have the same name as the submitted file, but its extension will now read .ACK. This informs the Trading Agent that their submission has been received by NGESO and is being processed. Inside the acknowledgement file, the Trading Agent will find the notification time of the file which has just been submitted (please refer to section 8).

After a short period of time, acceptance and/or rejection files will be created in the 'NOTIFICATION' directory. A file labelled *TR\_AGT\_\_0021.ACC* will be created if all the submitted file records for any BMU included in the submission file are accepted. A file named *TR\_AGT\_\_0021.REJ* will be created if any record present in the submission file is rejected. The Trading Agent may now download these files and review their contents.

## 11. Examples of Submission Records

These sample data records have been supplied for guidance on submission format and layout only. These records are not intended to be realistic or consistent.

\* Example data

|      |   |        |   |          |   |                  |   |                  |   |                  |   |      |   |      |   |      |   |    |
|------|---|--------|---|----------|---|------------------|---|------------------|---|------------------|---|------|---|------|---|------|---|----|
| PN   | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 06:30 | , | 77               | , | 2001-11-03 07:00 | , | 100  |   |      |   |      |   |    |
| *    |   |        |   |          |   |                  |   |                  |   |                  |   |      |   |      |   |      |   |    |
| MEL  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 210              | , | 2001-11-03 09:30 | , | 210  |   |      |   |      |   |    |
| MIL  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 0                | , | 2001-11-04 05:00 | , | 0    |   |      |   |      |   |    |
| *    |   |        |   |          |   |                  |   |                  |   |                  |   |      |   |      |   |      |   |    |
| NDZ  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 90               |   |                  |   |      |   |      |   |      |   |    |
| NTO  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 2                |   |                  |   |      |   |      |   |      |   |    |
| NTB  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 2                |   |                  |   |      |   |      |   |      |   |    |
| MZT  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 120              |   |                  |   |      |   |      |   |      |   |    |
| MNZT | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 120              |   |                  |   |      |   |      |   |      |   |    |
| SEL  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 120              |   |                  |   |      |   |      |   |      |   |    |
| SIL  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 0                |   |                  |   |      |   |      |   |      |   |    |
| MDV  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 2380             |   |                  |   |      |   |      |   |      |   |    |
| MDP  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 269              |   | 100              |   |      |   |      |   |      |   |    |
| *    |   |        |   |          |   |                  |   |                  |   | 250              |   |      |   |      |   |      |   |    |
| RURE | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 8.2              | , | -170             | , | 13.6 | , | 150  | , | 12.8 |   |    |
| RDRE | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 13.4             | , | -140             | , | 14.7 | , | 200  | , | 9.9  |   |    |
| RURI | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 8.2              |   |                  | , | 13.6 | , | -120 | , | 12.8 |   |    |
| RDRI | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 05:00 | , | 13.4             |   |                  | , | 14.7 | , | -177 | , | 9.9  |   |    |
| *    |   |        |   |          |   |                  |   |                  |   |                  |   |      |   |      |   |      |   |    |
| BOD  | , | TR_AGT | , | BMUNIT01 | , | 2001-11-03 12:00 | , | 2001-11-03 12:30 | , | 1                | , | 50   | , | 50   | , | 30   | , | 25 |

<EOF>

Example format for RR Bid :

| #1   | #2     | #3       | #4               | #5   | #6  | #7 | #8    | #9 | #10  | #11  | #12       |  |  |  |  |
|--|--------|----------|------------------|------|-----|----|-------|----|------|------|-----------|--|--|--|--|
| Single Upward divisible bid; applicable for the full auction period. The bid is divisible.   |        |          |                  |      |     |    |       |    |      |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT01 | 2018-08-01 15:00 | UP   | 40  |    | TRUE  | 12 | 1234 |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT01 | 2018-08-01 15:15 | UP   | 40  |    | TRUE  | 12 | 1234 |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT01 | 2018-08-01 15:30 | UP   | 40  |    | TRUE  | 12 | 1234 |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT01 | 2018-08-01 15:45 | UP   | 40  |    | TRUE  | 12 | 1234 |      |           |  |  |  |  |
| Two downward bids, one covering the first hhr, the second the last hhr of the delivery period, with a minimum level. Again the bid is implied as divisible                     |        |          |                  |      |     |    |       |    |      |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT02 | 2018-08-01 15:00 | Down | 50  | 10 | TRUE  | 56 | A345 |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT02 | 2018-08-01 15:15 | Down | 50  | 10 | TRUE  | 56 | A345 |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT02 | 2018-08-01 15:30 | Down | 60  | 10 | TRUE  | 67 | A345 |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT02 | 2018-08-01 15:45 | Down | 60  | 10 | TRUE  | 67 | A345 |      |           |  |  |  |  |
| Two explicitly linked upward bids covering the first and second QHR delivery periods; participants don't need to submit for the full auction period. The bids are indivisible. |        |          |                  |      |     |    |       |    |      |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT03 | 2018-08-01 15:00 | UP   | 40  | 40 | FALSE | 88 | B567 | LINK | ABCDEFGHI |  |  |  |  |
| RRB  | TR_AGT | BMUNIT03 | 2018-08-01 15:15 | Up   | 50  | 50 | FALSE | 89 | C789 | LINK | ABCDEFGHI |  |  |  |  |
| Three multipart bids for the first delivery period   |        |          |                  |      |     |    |       |    |      |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT04 | 2018-08-01 15:00 | UP   | 70  | 60 | TRUE  | 99 | ABC1 | MULT | CDEFGHIJK |  |  |  |  |
| RRB  | TR_AGT | BMUNIT04 | 2018-08-01 15:00 | Up   | 60  | 50 | TRUE  | 98 | ABC2 | MULT | CDEFGHIJK |  |  |  |  |
| RRB  | TR_AGT | BMUNIT04 | 2018-08-01 15:00 | Up   | 50  | 0  | TRUE  | 78 | ABC3 | MULT | CDEFGHIJK |  |  |  |  |
| Three exclusive bids for the first delivery period of the auction period   |        |          |                  |      |     |    |       |    |      |      |           |  |  |  |  |
| RRB  | TR_AGT | BMUNIT05 | 2018-08-01 15:00 | Down | 50  |    | TRUE  | 9  | XYZ1 | EXCL | EFGHIJKLM |  |  |  |  |
| RRB  | TR_AGT | BMUNIT05 | 2018-08-01 15:00 | Down | 100 | 20 | TRUE  | 8  | XYZ2 | EXCL | EFGHIJKLM |  |  |  |  |
| RRB  | TR_AGT | BMUNIT05 | 2018-08-01 15:00 | Down | 40  |    | FALSE | 10 | XYZ3 | EXCL | EFGHIJKLM |  |  |  |  |

## 12. DOCUMENT STATUS

### AMENDMENT RECORD

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| Issue | Draft | Date       | Author   | Description of changes  |
|-------|-------|------------|----------|---|
| 5     |       | 26/05/2020 | Chaitali | Revised with comments from internal review  |
| 5     | 3     | 07/05/2020 | Chaitali | Updated to include RRB separate file  |
| 5     | 2     | 14/1/2019  | RDG      | Updated to include mandatory Bid Id for RR Bids; renamed Associated Bid Id to Associated Bid Set (to avoid confusion with Bid Id); Added mandatory Divisible flag |
| 5     | 1     | 4/10/2018  | RDG      | Updated to include the submission of RR Bids  |
| 4     |       | 18/12/2000 | DJB      | Revised with comments from internal review.   |
| 4     | 1     | 06/12/2000 | DJB      | Include revisions owing to change requests and clarifications.<br>Includes NGENSO Events 2743, 2601, 2583 and NETA Change Request 251.                            |
| 3     |       | 24/05/2000 | DJB      | Revised with comments from internal review.   |
| 2     |       | 19/01/2000 | DJB      | Second Formal Issue, revised with comments from external parties.   |
| 1     |       | 23/12/1999 | DJB      | First Formal Issue.   |

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### **13. CHANGE FORECAST**

Once issued this document is not expected to change, however if it does it will be re-issued whole

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