

REMIT XML IMPLEMENTATION GUIDE

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1. Introduction

1.1 Purpose and Scope

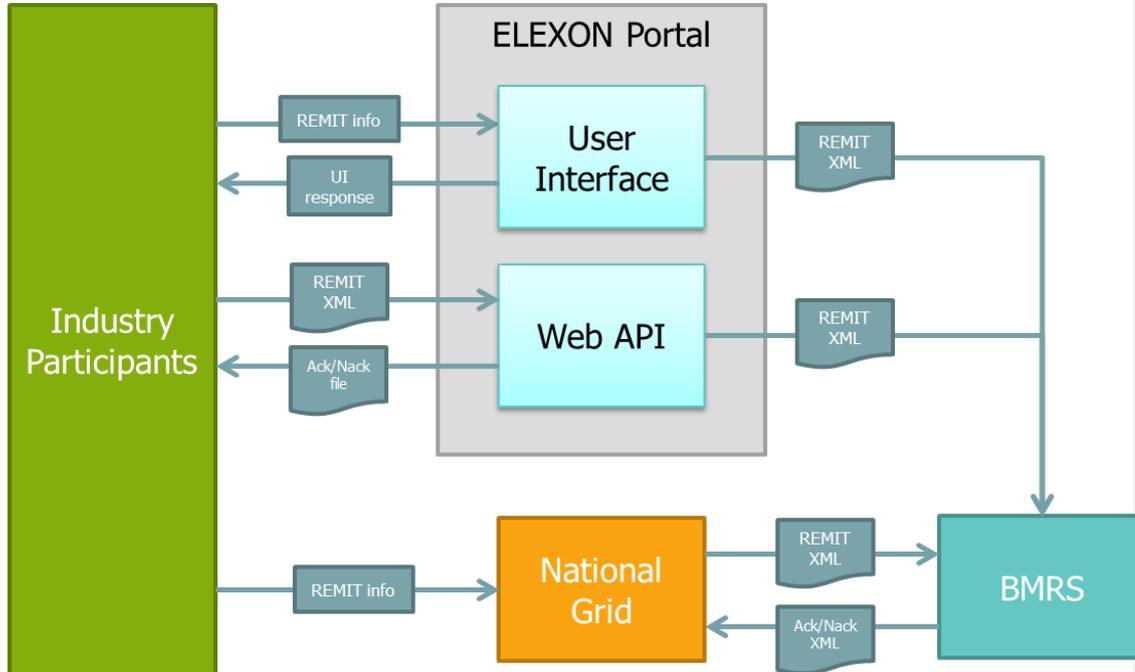
This document is intended to clarify the function, structure and usage of the XML message interface used to submit information relating to the Regulation for Energy Markets Integrity and Transparency (REMIT) to the GB reporting platform. The document serves as an implementation guide to those who need to implement the message interface, and to explain the ways in which the interface should be used.

1.2 Context

The Balancing Mechanism Reporting System (BMRS) acts as the GB reporting platform for REMIT, receiving messages from industry participants relating to incidents such as planned or unplanned outages which may have an effect on energy prices. BMRS processes and publishes this data, ensuring all participants have equitable access to the information submitted under the REMIT regulations.

There are three methods by which REMIT data may be submitted to the BMRS:

1. Participants can submit REMIT information to National Grid, which in turn forwards messages to the BMRS for publication.
2. Participants can use a self-service on-line facility on the ELEXON Portal to construct (via the web UI) and submit REMIT messages to the BMRS, as well as maintain standing data relating to assets being reported upon.
3. Participants can submit REMIT messages direct to the ELEXON Portal via a web service API, which receives and validates messages and forwards them to the BMRS.



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Participants should only use one of these methods at a time in order to avoid duplication of messages; however they are free to use all three methods for different messages as appropriate.

In all cases, the transfer of REMIT messages to the BMRS uses a standard XML file format defined by an XML Schema Document (XSD).

2. Interfaces

2.1 REMIT data submitted by National Grid (Method 1)

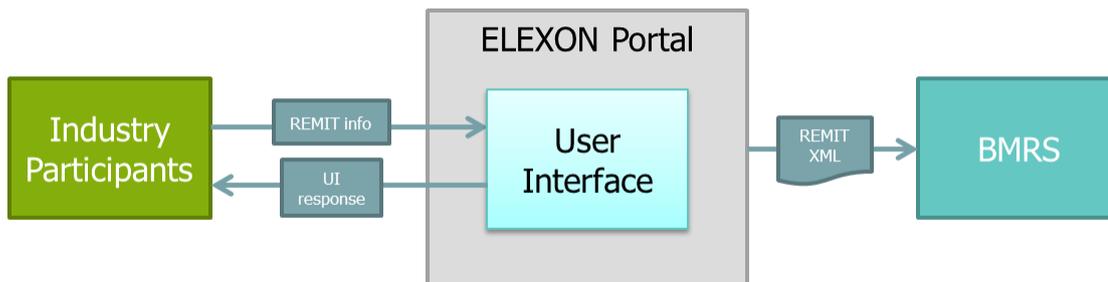
XML files created by National Grid are sent to BMRS using FTP. National Grid is therefore provided with access to an inbound folder on a BMRS FTP server such that XML files can be uploaded.



Acknowledgements (both positive and negative) are created by BMRS in the form of a standard XML document, and sent to National Grid using FTP. National Grid provides BMRS with access to an inbound folder on its FTP Server, allowing BMRS to return acknowledgements successfully.

2.2 REMIT data submitted by Market Participants using on-line Portal (Method 2)

XML files created using the on-line facility on the ELEXON Portal are sent to BMRS using FTP, with the Portal having access to an inbound folder on the BMRS FTP server.

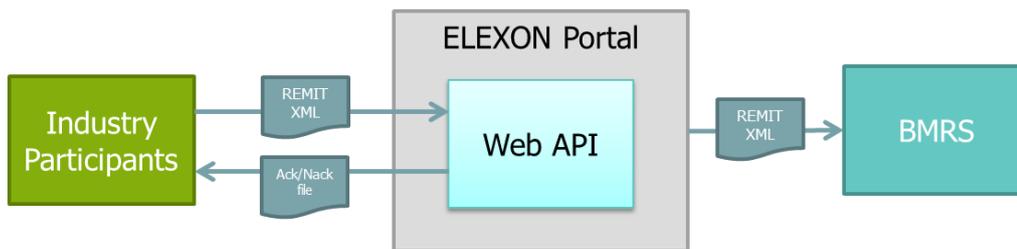


The Portal acknowledges successful transmission of the XML file to the user directly through the online interface; no separate acknowledgement is returned.

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2.3 REMIT data submitted by Market Participants using web service (Method 3)

XML files submitted over the web service API use the POST method over HTTPS, with the REMIT XML included in the POST body. The submission must include a valid API key managed through the ELEXON Portal user services, and as an option can specify a response format of XML, CSV, JSON or JSONP.



Acknowledgments are created by the ELEXON Portal and returned to the user through HTTPS using standard HTTP response codes. Where appropriate, error type and description fields are provided in the response body.

XML files that have successfully passed validation by the ELEXON Portal are sent to the BMRS using FTP, with the Portal having access to an inbound folder on the BMRS FTP server. The XML will be validated by the BMRS against the XSD. Note that no separate acknowledgement of the XML file is returned to the user; the acknowledgement created by the Portal only provides confirmation that the XML has been sent to BMRS.

3. Filename Conventions

3.1 Convention for files submitted by National Grid (Method 1)

To ensure files are handled and acknowledged appropriately by BMRS, XML files submitted by National Grid must use the following filename convention:

```
<MP EIC Code>-NGET-RMT-<Sequence number>-<Revision number>.xml
```

Where:

<MP EIC Code> is the ENTSO-E Energy Identification Code for the market participant that originally submitted the REMIT information to National Grid;

<Sequence number> is a positive padded integer 8 digits long unique within National Grid; and

<Revision number> is a positive integer up to 3 digits long and used to denote a revision to an existing XML file that has already been submitted.

e.g. 22XEDF-----Q-NGET-RMT-00000001-1.xml

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3.2 Convention for files submitted by Market Participants (Methods 2 & 3)

XML files submitted by Market Participants via the ELEXON Portal may use any filename however the following form is recommended:

`<MP EIC Code>-RMT-<Sequence number>-<Revision number>.xml`

This enables BMRS to determine that the files have been received via the ELEXON Portal and therefore do not require acknowledgement to National Grid.

e.g. 22XEDF-----Q-RMT-00000001-1.xml

3.3 Convention for acknowledgements

The filename convention for acknowledgement XML files (as described in Section 4.2) will be as follows:

`<INCOMING_FILE_NAME>_ACK.xml`

As per 3.1 and 3.2 above, the incoming file name will identify the string of originating EIC codes, sequence numbers and revision numbers.

e.g. 22XEDF-----Q-RMT-00000001-1_ACK.xml

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4. Message Structures

4.1 REMIT XML document

The REMIT XML document comprises two groups, a Message group and an Inside Information group.

4.1.1 Message Group

The items in the Message group identify the XML file as being a REMIT message and establish the unique identifier for that particular message.

| Title | Definition | Format | Mandatory | Value | Comments |
|----------------------------|--|----------------------------------|-----------|--|---|
| Version | Version of the XSD | As per valid values | Yes | 1.0 | |
| mRID | Unique identification of the message | Up to 35 alphanumeric characters | Yes | <mRID> | This identifier should be unique within a given Sender MarketParticipantID. For messages submitted by National Grid, format of <MP EIC Code>-NGET-RMT-<Sequence number> is required |
| revisionNumber | Unique identification of the message revision | Positive integer up to 3 digits | Yes | | Can be used in order to follow up on previous message with the same mRID |
| DocumentType | Unique identification of the document being exchanged within a business process flow | As per valid values | Yes | REMIT_document | |
| Sender_MarketParticipantID | Unique identifier for the Market Participant sending the document, in EIC form | 16 alphanumeric characters | Yes | <Sender Market Participant Identifier> | This will use the EIC form of participant ID |

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|-------------------------------|---|------------------------------|-----|------------|--|
| Sender_MarketParticipant_Role | Code identifying the role of the sender of the document | 3 Alphanumeric characters | Yes | A01 to A39 | A01=Trade responsible party A02=Consumption responsible Party A03=Combined power exchange A04=System operator A05=Imbalance settlement responsible A06=Production responsible party A07=Transmission capacity allocator A08=Balance responsible party A09=Metered data aggregator A10=Billing agent A11=Market operator A12=Balance supplier A13=Consumer A14=Control area operator A15=Control block operator A16=Coordination centre operator A17=Grid access provider A18=Grid operator A19=Meter administrator |
|-------------------------------|---|------------------------------|-----|------------|--|

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| | | | | | |
|--|--|--|--|--|---|
| | | | | | <p>A20=Party connected to grid</p> <p>A21=Producer</p> <p>A22=Profile maintenance party</p> <p>A23=Meter operator</p> <p>A24=Metered data collector</p> <p>A25=Metered data responsible</p> <p>A26=Metering point administrator</p> <p>A27=Resource provider</p> <p>A28=Scheduling coordinator</p> <p>A29=Capacity Trader</p> <p>A30=Interconnection Trade Responsible</p> <p>A31=Nomination validator</p> <p>A32=Market information aggregator</p> <p>A33=Information receiver</p> <p>A34 =Reserve Allocator</p> <p>A35=MOL Responsible</p> <p>A36=Capacity Coordinator</p> <p>A37=Reconciliation Accountable</p> <p>A38=Reconciliation Responsible</p> <p>A39=Data provider</p> |
|--|--|--|--|--|---|

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|--------------------------------|--|----------------------------|-----|---|---|
| Receiver_MarketParticipantID | Unique identifier for the Market Participant receiving the document, in EIC form | 16 alphanumeric characters | Yes | <Receiver Market Participant Identifier> | This will be the ELEXON EIC Code, '10X1001A1001A59Q' |
| Receiver_MarketParticipantRole | Code identifying the role of the receiver of the document. | 3 Alphanumeric characters | Yes | A01 to A39 | This will be the ELEXON EIC role code = A32 Market information aggregator |
| CreatedDateTime | Date and time of the creation of the document | YYYY-MM-DDTHH:MM:SSZ | Yes | YYYY-MM-DDTHH:MM:SSZ e.g. 2014-03-16T14:32:45Z | Current Date and Time Stamp in Zulu format |

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4.1.2 Inside Information Group

The Inside Information group contains all the business information required for REMIT.

| Title | Definition | Format | Mandatory | Value | Comments |
|---------------------------------|---|----------------------------------|-----------|---|---|
| MessageHeading | Description of message. | Up to150 alphanumeric characters | Yes | <Message Heading> | Free text with high level description of message |
| EventType | Categorization of the events. | As per valid values | Yes | FAILURE PLANNEDOUTAGE SPECIALINFORMATION | |
| Participant_MarketParticipantID | Unique identification of the Market Participant associated with the event being reported upon | Up to 8 Alphanumeric characters | Yes | <Market Participant Identifier> | Either a registered BSC participant ID or a non-BSC participant ID registered with ELEXON |
| AssetID | Unique identification of an asset | Up to 18 Alphanumeric characters | Yes | <Asset Identifier> | Can have value "NO_ASSET" where message does not relate to any particular asset. |
| AssetType | Type of asset being reported upon | As per valid values | No | Production Consumption Transmission Distribution | |

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|-----------------|--|----------------------------------|----|---|--|
| AffectedUnit | Unit affected by the event | Up to 18 Alphanumeric characters | No | <Affected Unit> | Free text identification of the unit affected |
| AffectedUnitEIC | Energy Identification Code of the unit affected by the event | Up to 18 Alphanumeric characters | No | <Affected Unit EIC> | EIC code of the unit affected |
| AffectedArea | BMRS Zone affected by the event | 3 Alphanumeric characters | No | N, B1, B2, B3, B4, B5, B6, B7, B8, B9, B10, B11, B12, B13, B14, B15, B16, B17 | N denotes National; other identifiers represent the individual BMRS Zones. |
| FuelType | BMRS Fuel Type of the asset affected by the event | n/a | No | COAL CCGT NUCLEAR INTFR OIL WIND PS NPSHYD INTIRL OCGT OTHER INTNED INTEW | |

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|---------------------|--------------------------------|----------------------------------|-----|---|--|
| NormalCapacity | Normal capacity information | Decimal(13,3) | No | <Normal Capacity> | |
| AvailableCapacity | Available capacity information | Decimal(13,3) | No | <Available Capacity> | |
| EventStatus | Status of the event | As per valid values | Yes | OPEN CLOSED FUTURE SUPERSEDED CANCELLED | |
| EventStart | Event Start Date and Time | YYYY-MM-DDTHH:MM:SSZ | No | YYYY-MM-DDTHH:MM:SSZ e.g. 2014-03-16T14:32:45Z | Current Date and Time Stamp in Zulu format |
| EventEnd | Event End Date and Time | YYYY-MM-DDTHH:MM:SSZ | No | YYYY-MM-DDTHH:MM:SSZ e.g. 2014-03-16T14:32:45Z | Current Date and Time Stamp in Zulu format |
| DurationUncertainty | Duration uncertainty | Up to 50 Alphanumeric characters | No | <Duration uncertainty> | Description of estimated uncertainty of event duration, e.g. ± 1 day |
| Cause | Event cause | Up to 50 Alphanumeric characters | No | <Cause> | |

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|--------------------|---------------------------|-----------------------------------|----|-----------------------|--|
| RelatedInformation | Other related information | Up to 400 Alphanumeric characters | No | <Related Information> | |
|--------------------|---------------------------|-----------------------------------|----|-----------------------|--|

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4.2 Acknowledgement XML

The acknowledgement XML file returned to National Grid by BMRS for REMIT is based on the EIC standard 62325-451-1. It allows for both positive and negative acknowledgment, with reason codes and text as outlined below.

| Title | Comments |
|--|---|
| mRID | ELX-NGC-ACK-<Sequence number> |
| revNum | 1 |
| createdDateTime | <System Current Time> |
| sender_MarketParticipant.mRID | <ELEXON EIC Code> |
| sender_MarketParticipant.marketRole.type | <ELEXON Role Type> |
| receiver_MarketParticipant.mRID | <NGC EIC Code> |
| receiver_MarketParticipant.marketRole.type | <NGC Role Type> |
| received_MarketDocument.mRID | <To be populated from source file> |
| received_MarketDocument.revisionNumber | <To be populated from source file> |
| received_MarketDocument.type | <To be populated from source file> |
| received_MarketDocument.title | <Source File Name> |
| received_MarketDocument.createdDateTime | <To be populated from source file> |
| Reason Code | <Reason code as per below list> |
| Reason Text | <Reason title/definition as per below list> |

| | Code | Title | Comments |
|--------------------------|------|------------------------|--|
| Positive Acknowledgement | A01 | Message fully accepted | The message has been fully accepted for application processing |
| Negative Acknowledgement | A02 | Message fully rejected | No part of the message has been accepted for application processing. |

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5. Message Usage

5.1 XML Schema

The definitive structure of the REMIT XML message is defined by the schema document "remit.xsd" is established and maintained by ELEXON. Each REMIT message must state the version of the XSD to which it conforms, using the 'Version' field in the 'Message' group.

Deleted: at <http://www.bmreports.com/XSD/remit.xsd>

5.2 Unique message identifier

The mRID acts as the unique identifier for an XML document which in this case comprises a REMIT message. The mRID remains the same while the Revision Number increases to reflect changes made to the original document, e.g. in order to support follow-ups. [mRID must be unique for a given sender Market Participant ID; this is achieved by using a combination of the Sender MarketParticipantID code and a sequence number.](#)

5.3 Mandatory items

The XML schema is designed for maximum flexibility and avoids imposing detailed restrictions or conditions through its structure. While some event types may require the use of particular data items (e.g. Available Capacity, Duration Uncertainty) in order to report an incident properly (and therefore fulfil the sender's REMIT obligations), this level of business logic is not validated by schema. The only items mandated as part of the inside Information group are:

- Message Heading
- Event Type
- Market Participant ID
- Asset ID
- Event Status

with all other items in the group being optional.

5.4 Follow-up messages

The REMIT arrangements allow for the concept of follow-up messages, in which previously-submitted messages can be followed up with new information on the status of an event. This may include details such as updated capacity information, a revised event end date, or more information on the cause of a problem.

Follow-up messages are created by using the same mRID of the original message, and making use of the Revision Number to denote a change to the previous information. This combination ensures that the follow-up is properly recognised as such by BMRS and not rejected as an apparent duplicate.

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6. Amendment History

| Version | Date | Author | Reason |
|---------------------|----------------------------|---------------------------|---|
| 0.1 | 16/06/2014 | S Francis | Initial draft for peer review |
| 1.0 | 16/06/2014 | S Francis | Update following review |
| 1.1 | 04/07/2014 | S Francis | Update following NGC review |
| 1.2 | 06/08/2014 | S Francis | Modified for CR333 (additional Event Status) and further clarifications |