Public

BMRS User Group

Meeting 2

20 May 2014

BMRS Project Team

ELEXON

Health & Safety

In case of an emergency

An alarm will sound to alert you. The alarm is tested for fifteen seconds every Wednesday at 9.20am

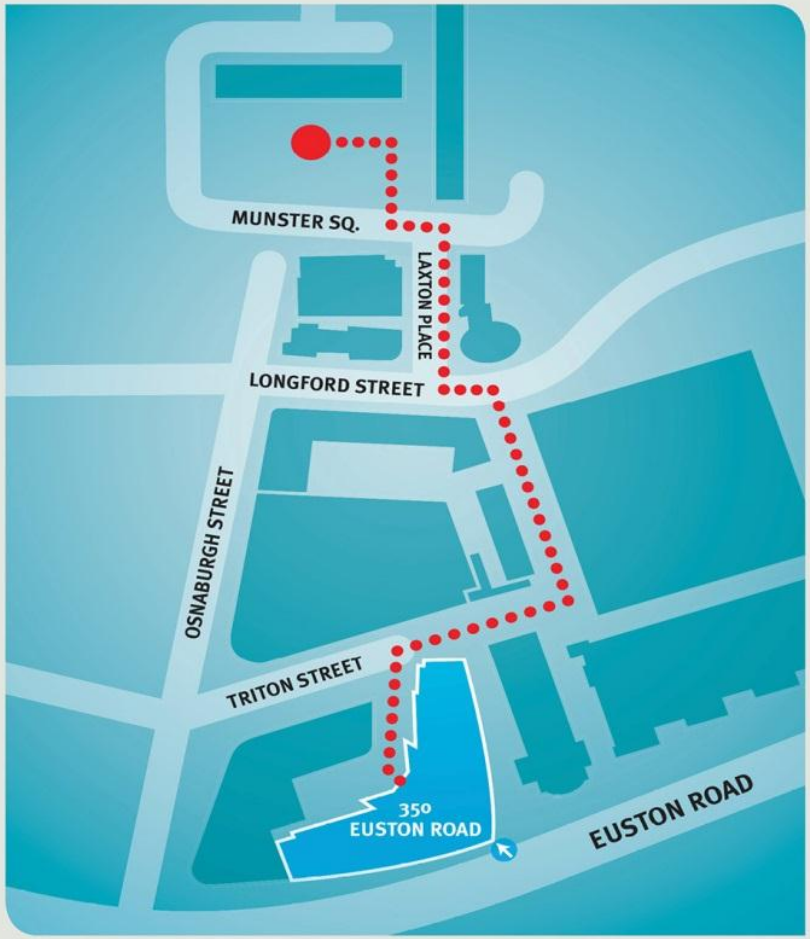
Evacuating 350 Euston Road

- If you discover a fire, operate one of the fire alarms next to the four emergency exits.
- Please do not tackle a fire yourself.
- If you hear the alarm, please leave the building immediately.
- Evacuate by the nearest signposted fire exit and walk to the assembly point.
- Please remain with a member of ELEXON staff and await further instructions from a Fire Warden.
- For visitors unable to use stairs, a Fire Warden will guide you to a refuge point and let the fire brigade know where you are.

When evacuating please remember

- Do not use the lifts.
- Do not re-enter the building until the all clear has been given by the Fire Warden or ground floor security.

Our team on reception is here to help you, if you have any questions, please do ask them.



Content

- Introductions – 10:30
- REMIT Discussions (Portal process & XSD) – 10:35
- Break - 11:20
- Transparency Data & Web UI – 11:30
- Lunch – 12:15
- API Update and Usage Policy – 12:45
- Next Steps – 13:45

Recap

Outline Phases in the proposed delivery model

Phase 1 - Establish the new platform and deliver Modifications P291 and P295. The functionality for P291 and P295 will include:

- New front end web server and user interface
- Data downloadable through new API (Application Programming Interface)
- TIBCO interface for existing TIBCO users

Phase 2 – Provide API for all Raw Data:

- Migrate the data loading components.
- Make all raw data being available via the API Interface
- Note derived data, e.g. imbalance prices will not be migrated until Phase 3

Phase 3 - Full functionality for all BMRS data and deliver Modification P297[1]

- Migrate the BMRS calculations (such as imbalance price calculation)
- New front end web server and user interface for all BMRS published data
- P297 data available through all channels (including TIBCO)

REMIT Discussion

P291 – Submission Structure

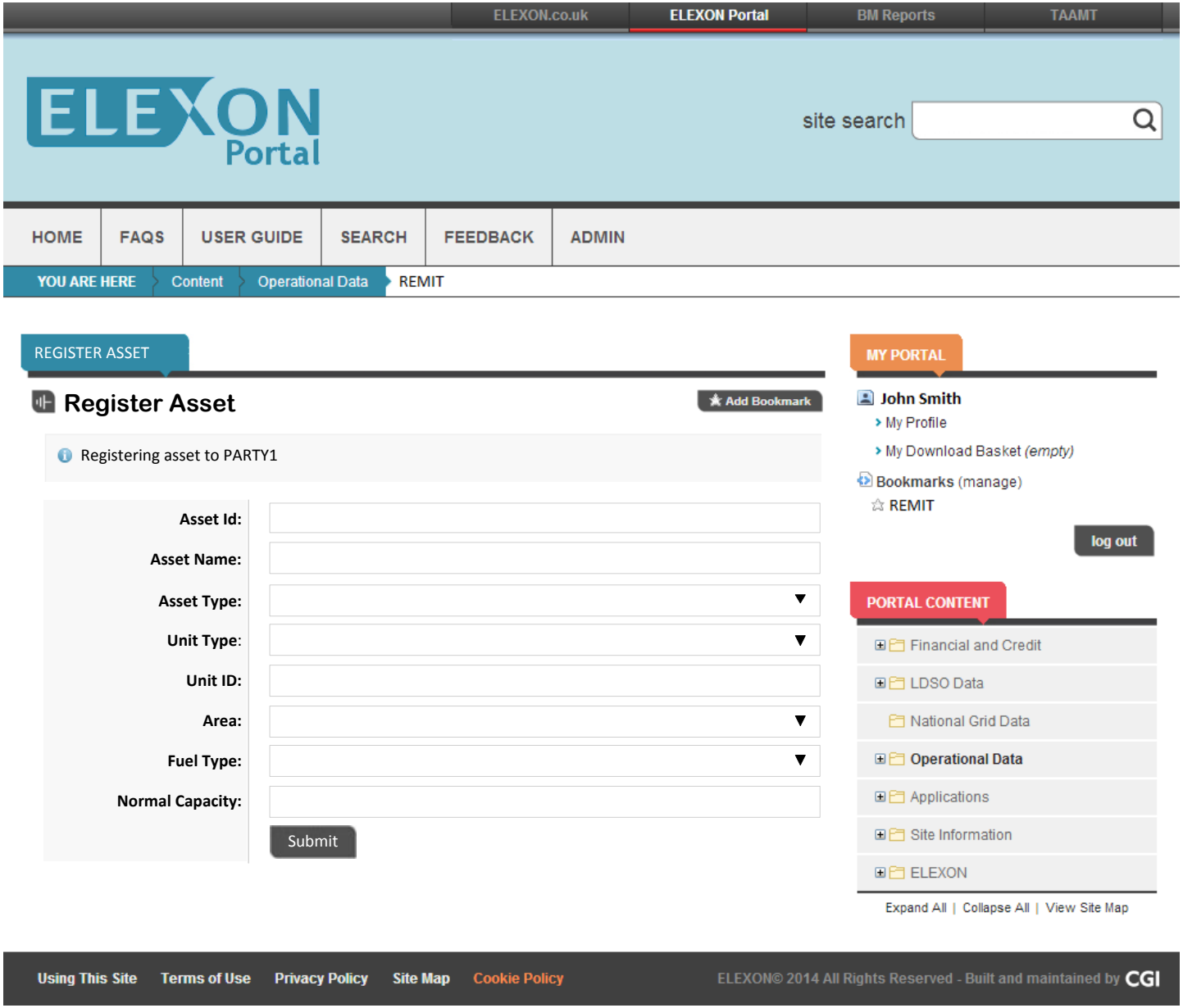
- P291 data can reach the BMRS in several ways
  - Via a new page on the ELEXON Portal
  - Via submission using a new webservice on the ELEXON Portal
  - Via submission through the Grid Code

- P291 data is sent as XML documents to the BMRS
  - The same XSD is used whichever data entry route is chosen
  - Data entered using the ELEXON Portal GUI will create an XML document behind the scenes and forward it to the BMRS
  - A webservice submission must include an XML payload conforming to the XSD and the ELEXON Portal will forward that to the BMRS
  - A submission via the Grid Code must be an XML document conforming to the XSD

P291 – Data Registration

- Non-BSC data handling by the ELEXON Portal
  - The ELEXON Portal will be enhanced to allow non-BSC Organisations to register themselves for REMIT publication
  - Once registered, authorised users of these non-BSC Organisations will be able to use further new facilities on the ELEXON Portal to register Assets that they will then be able to report REMIT messages about.
  - The ELEXON Portal will be used to master the register of non-BSC Assets. They will not be propagated to the BMRS or to National Grid.
  - Non-BSC Organisations will have the equivalent of Category A Signatory users who will be able to delegate and authorise REMIT publishing rights to other Portal users also registered against that non-BSC Organisation.

P291 – Asset Registration



- Asset Registration page
- Only non-BSC Assets can be registered
- Users may choose their own Asset ID
- Unit ID could be used to group Assets together
- Area could be a BMRS Zone

P291 – REMIT Submission via the ELEXON Portal (1 of 2)

- Data submitted via the ELEXON Portal will be confirmed as accepted and validated by the ELEXON Portal only
  - The ELEXON Portal will perform XSD Validation to ensure the submitted XML data complies with the required definition and structure
  - Since data publication is performed by the BMRS we cannot tie the ELEXON Portal submission mechanism to an external application – BMRS processing is independent and asynchronous
  - There is no intention to acknowledge a REMIT submission via the ELEXON Portal beyond simple acceptance by the ELEXON Portal - The only possible route back to users that the ELEXON Portal currently has is email and that is not a good choice
    - For interactive UI submissions the feedback of acceptance by the ELEXON Portal will be displayed on the screen immediately following submission
    - For webservice submissions an acceptance will be returned with standard HTTP response codes indicating success or otherwise
  - It will be up to users to perform any further checks they feel are necessary

P291 – REMIT Submission via the ELEXON Portal (2 of 2)

- The ELEXON Portal will validate as much information as it can for submissions made via its webservice
  - Asset IDs must be known to the ELEXON Portal
  - Assets must be reported on by authorised users, either
    - using an interactive ELEXON Portal account that has the REMIT publishing permission for that Asset, or
    - using the ELEXON Portal webservice with the scripting key of an ELEXON Portal account that has the REMIT publishing permission for that Asset
- To ensure consistency with the data held in the ELEXON Portal's asset register, any asset attributes supplied in the XML will be replaced by those held against that asset in the Portal's asset register
  - The attribute fields in the XML will be optional, but whatever is supplied will be replaced by the details held in the Asset register before being sent to the BMRS

P291 – REMIT Message Identification

- The XSD for REMIT XML messages borrows many features from the XSDs created for P295 by ENTSO-E including document identification elements
  - However, validation rules are different than those for ENTSO-E
- A REMIT message includes a 35 char mRID element used as the Message ID
- Message IDs are considered unique within the domain of Participant ID.
- The structure of the mRID is entirely up to users and the mRID should provide users with ample opportunity to identify their REMIT messages as they wish
- The only validation performed is XSD validation to ensure only allowable characters are used; no further validation of structure or content will be performed
- A suggested form for mRID could be

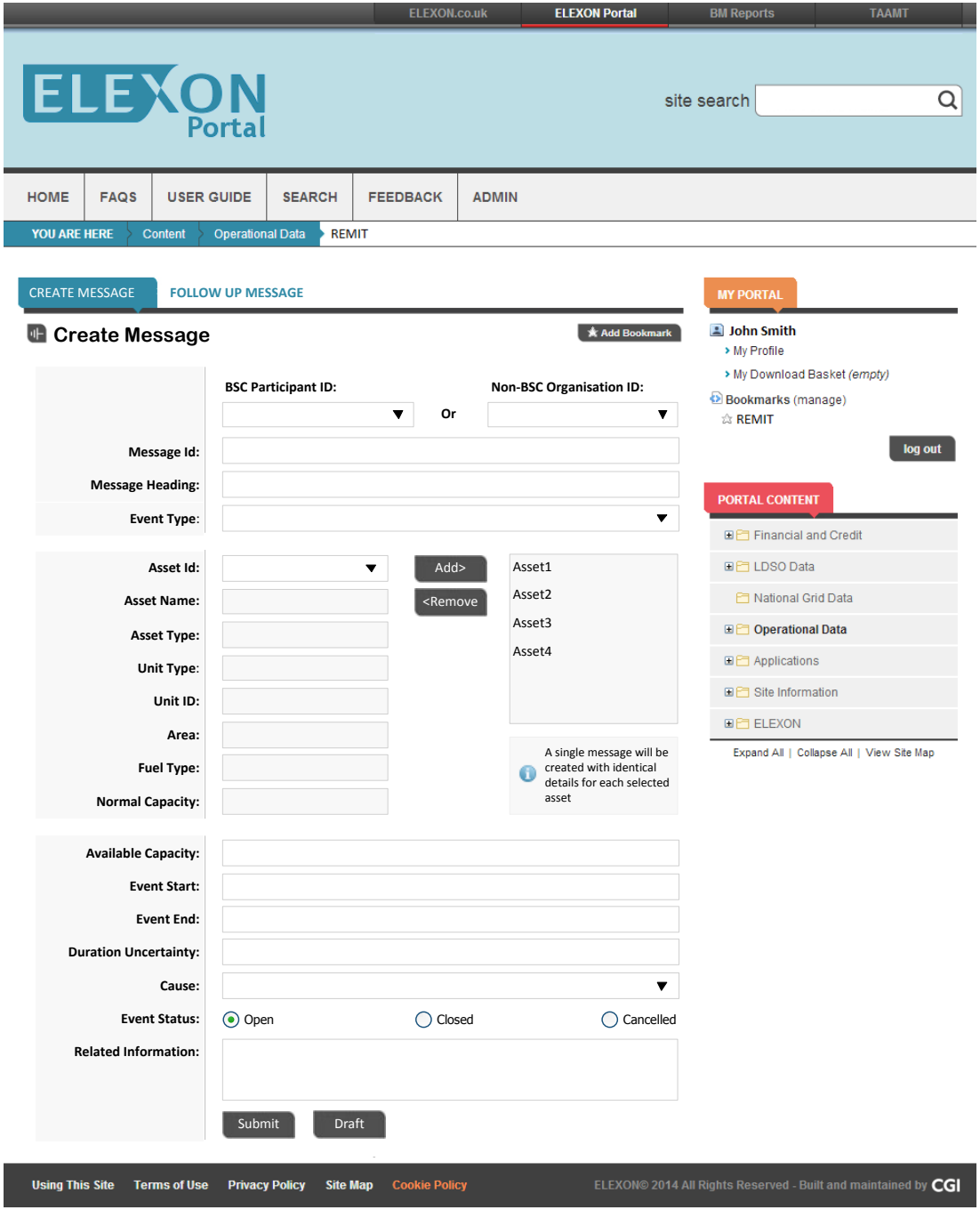
  <MP EIC Code>-NGET-RMT-<Sequence number>

  Where <Sequence number> is an 8-digit, zero-padded integer

P291 – REMIT Message Follow-Up

- Users can follow-up on a REMIT message using a revisionNumber field if they wish
- Current thinking is that BMRS will not take any notice of the revisionNumber field. The mRID and revisionNumber fields are there to provide Participants with flexibility to manage their REMIT submissions.
- Any submission received by the BMRS with an mRID already known to it (for the Participant) is treated as a follow-up message. The value of revisionNumber is irrelevant to the BMRS.
- Messages are processed by BMRS in the order of receipt. The most recently received submission for any mRID is the "latest" version of a message and messages will be displayed on the BMRS in the order of receipt. This is to avoid possible after-event manipulation of REMIT data.
- Documents with mRID and revisionNumber values received already will NOT be rejected – these will be treated as follow-ups and displayed as such.

P291 – REMIT Message creation using ELEXON Portal UI



- Messages can be saved as Draft for completion and submission to the BMRS at a later time

P291 – REMIT Message example

```
<?xml version="1.0" encoding="utf-8"?>
<Message xmlns="http://bmreports.com/XSD/remit.xsd">
  <mRID>11XEDFTRADING--G-NGET-RMT-000000001</mRID>
  <revisionNumber>1</revisionNumber>
  <DocumentType>REMIT_document</DocumentType>
  <Sender_MarketParticipantID>11XEDFTRADING--G</Sender_MarketParticipantID>
  <Sender_MarketParticipantRole>A06</Sender_MarketParticipantRole>
  <Receiver_MarketParticipantID>10X1001A1001A515</Receiver_MarketParticipantID>
  <Receiver_MarketParticipantRole>A01</Receiver_MarketParticipantRole>
  <CreatedDateTime>2014-05-19T10:15:22Z</CreatedDateTime>
  <InsideInformation>
    <MessageHeading>Wind turbine blade repair planned</MessageHeading>
    <EventType>PLANNEDOUTAGE</EventType>
    <Participant_MarketParticipantID>EDFT</Participant_MarketParticipantID>
    <AssetId>E_BABAW-1</AssetId>
    <AssetType>Production</AssetType>
    <AffectedUnit>EDFWINDT1</AffectedUnit>
    <AffectedArea>Greenhithe</AffectedArea>
    <FuelType>WIND</FuelType>
    <NormalCapacity>5493454</NormalCapacity>
    <AvailableCapacity>0</AvailableCapacity>
    <EventStatus>OPEN</EventStatus>
    <EventStart>2014-06-01T08:30:00Z</EventStart>
    <DurationUncertainty>Unsure at this stage</DurationUncertainty>
    <Cause>Broken blade requiring replacement causing inefficiency</Cause>
    <RelatedInformation>No further information available at this time</RelatedInformation>
  </InsideInformation>
</Message>
```

P291 – REMIT Follow-Up Message example

```
<?xml version="1.0" encoding="utf-8"?>
<Message xmlns="http://bmreports.com/XSD/remit.xsd">
  <mRID>11XEDFTRADING--G-NGET-RMT-000000001</mRID>
  <revisionNumber>2</revisionNumber>
  <DocumentType>REMIT_document</DocumentType>
  <Sender_MarketParticipantID>11XEDFTRADING--G</Sender_MarketParticipantID>
  <Sender_MarketParticipantRole>A06</Sender_MarketParticipantRole>
  <Receiver_MarketParticipantID>10X1001A1001A515</Receiver_MarketParticipantID>
  <Receiver_MarketParticipantRole>A01</Receiver_MarketParticipantRole>
  <CreatedDateTime>2014-05-19T10:17:35Z</CreatedDateTime>
  <InsideInformation>
    <MessageHeading>Wind turbine blade repair planned</MessageHeading>
    <EventType>PLANNEDOUTAGE</EventType>
    <Participant_MarketParticipantID>EDFT</Participant_MarketParticipantID>
    <AssetId>E_BABAW-1</AssetId>
    <AssetType>Production</AssetType>
    <AffectedUnit>EDFWINDT1</AffectedUnit>
    <AffectedArea>Greenhithe</AffectedArea>
    <FuelType>WIND</FuelType>
    <NormalCapacity>5493454</NormalCapacity>
    <AvailableCapacity>0</AvailableCapacity>
    <EventStatus>OPEN</EventStatus>
    <EventStart>2014-06-01T08:30:00Z</EventStart>
    <EventEnd>2014-06-02T06:00:00Z</EventEnd>
    <DurationUncertainty>All working day of the 1st June 2014</DurationUncertainty>
    <Cause>Broken blade requiring replacement causing inefficiency</Cause>
    <RelatedInformation>No further information available at this time</RelatedInformation>
  </InsideInformation>
</Message>
```

P291 – REMIT 2nd Follow-Up Message example

```
<?xml version="1.0" encoding="utf-8"?>
<Message xmlns="http://bmreports.com/XSD/remit.xsd">
  <mRID>11XEDFTRADING--G-NGET-RMT-000000001</mRID>
  <revisionNumber>3</revisionNumber>
  <DocumentType>REMIT_document</DocumentType>
  <Sender_MarketParticipantID>11XEDFTRADING--G</Sender_MarketParticipantID>
  <Sender_MarketParticipantRole>A06</Sender_MarketParticipantRole>
  <Receiver_MarketParticipantID>10X1001A1001A515</Receiver_MarketParticipantID>
  <Receiver_MarketParticipantRole>A01</Receiver_MarketParticipantRole>
  <CreatedDateTime>2014-05-19T10:23:19Z</CreatedDateTime>
  <InsideInformation>
    <MessageHeading>Wind turbine blade repair planned</MessageHeading>
    <EventType>PLANNEDOUTAGE</EventType>
    <Participant_MarketParticipantID>EDFT</Participant_MarketParticipantID>
    <AssetId>E_BABAW-1</AssetId>
    <EventStatus>CANCELLED</EventStatus>
  </InsideInformation>
</Message>
```

P291 – REMIT BMRS Overview 1

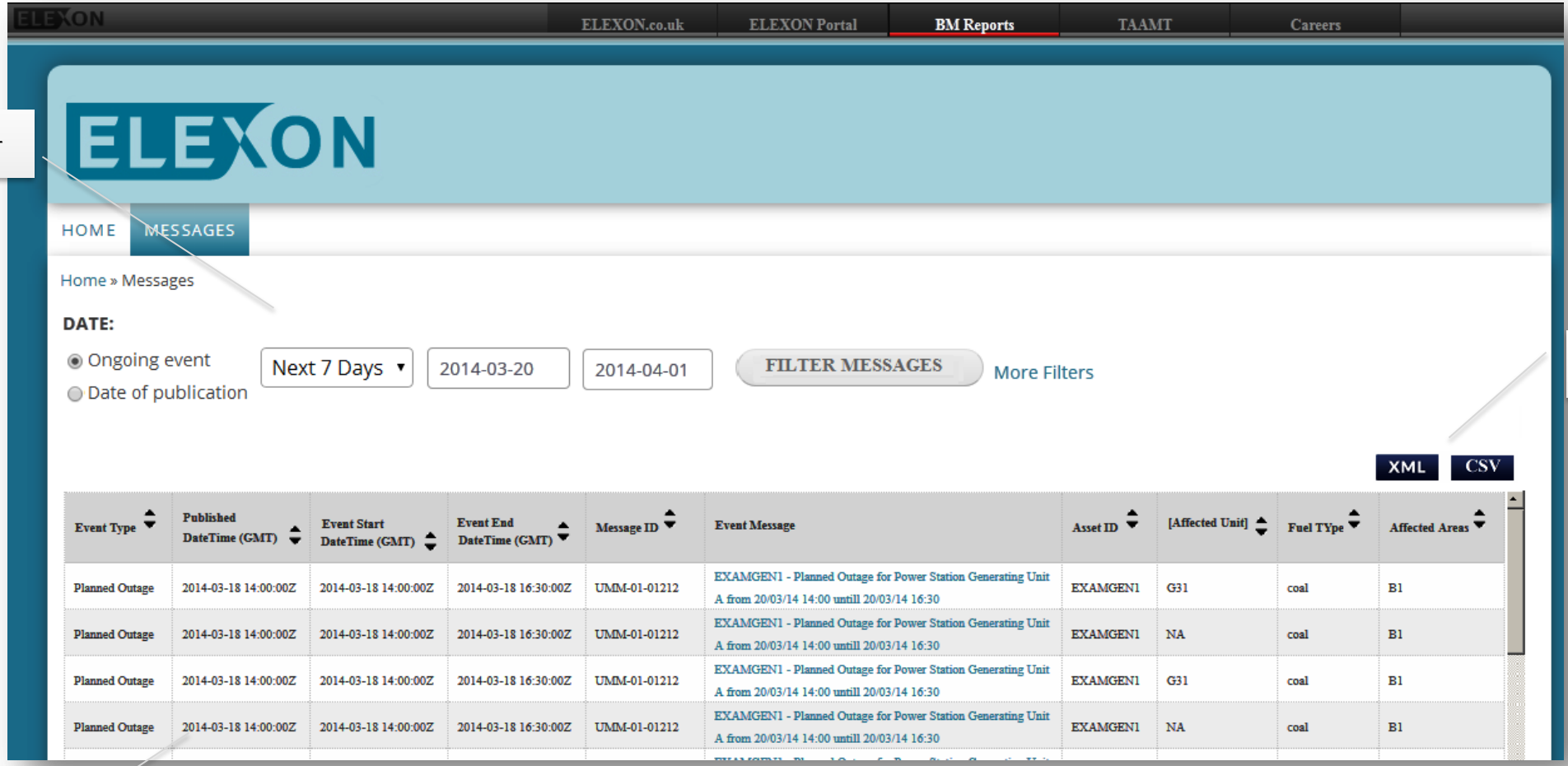
- **Data Loading**
  - Data conforming to the P291 REMIT XSD can be submitted to BMRS via FTP.
  - Data will be sourced from both
    - National Grid
    - ELEXON Portal
  - Follow up messages will be consistent with the ELEXON Portal Approach, ie messages with the same mRid will be treated as follow up messages and displayed in order of datetime of receipt.
  - Once data is successfully loaded it will be:
    - Displayed on the BMRS UI.
    - Published to TIBCO rendezvous with a new XML payload.

P291 – REMIT BMRS Overview 2

- **Validation**
  - P291 data submitted to the BMRS will be validated against the P291 XSD.

- **Acknowledgments**
  - If data fails XSD validation an acknowledgement will be sent back to National Grid.
  - When data has successfully passed validation and successfully loaded, an acknowledgment is sent back to National grid
  - P291 acknowledgment messages will conform to ENTSOE published acknowledgement.xsd (current thinking).

P291 BMRS UI – Message Summary 1

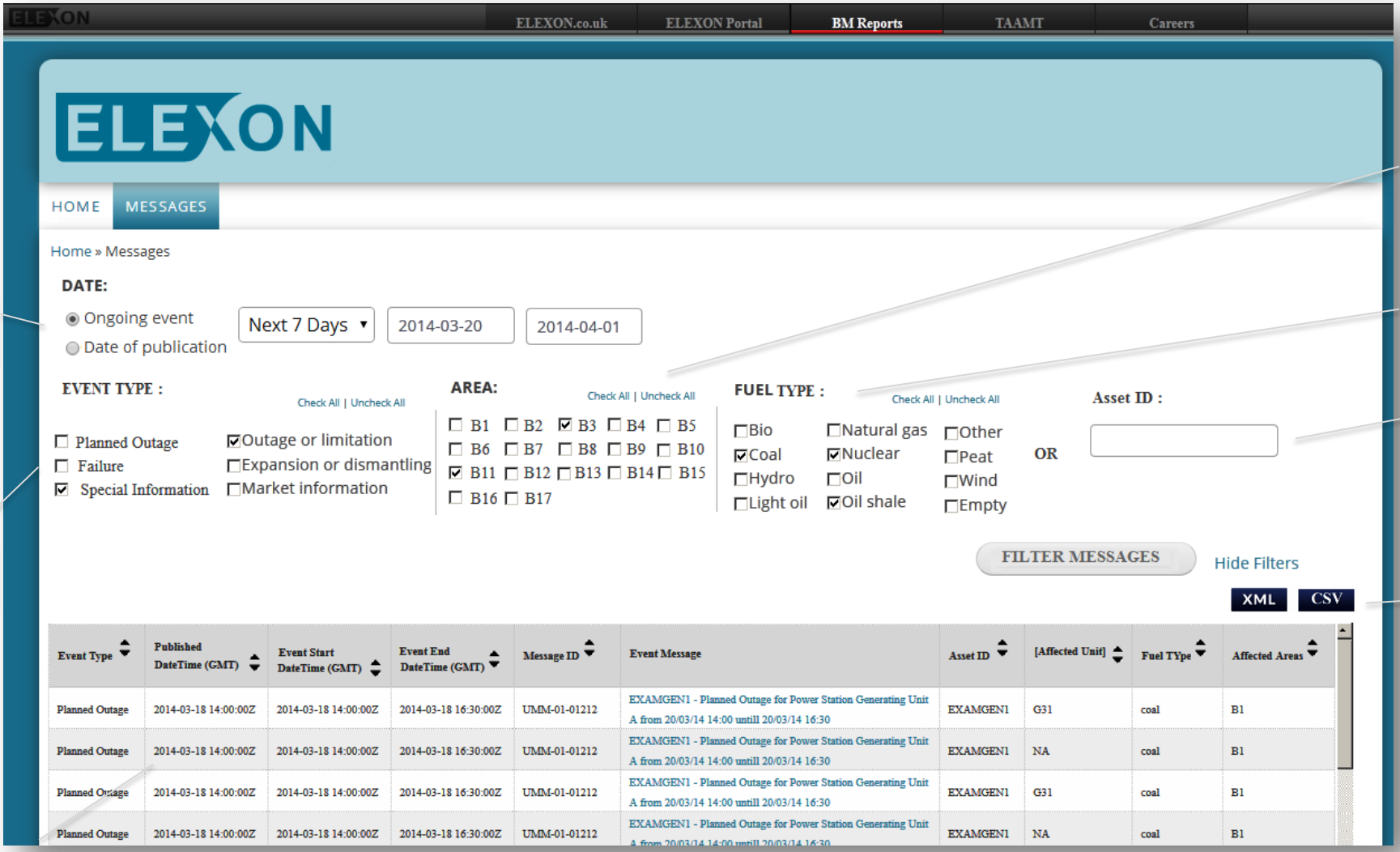


Basic Filter

Download Options

Message Summary

P291 BMRS UI – Message Summary 2



Basic Filters

Event Type

Message Summary

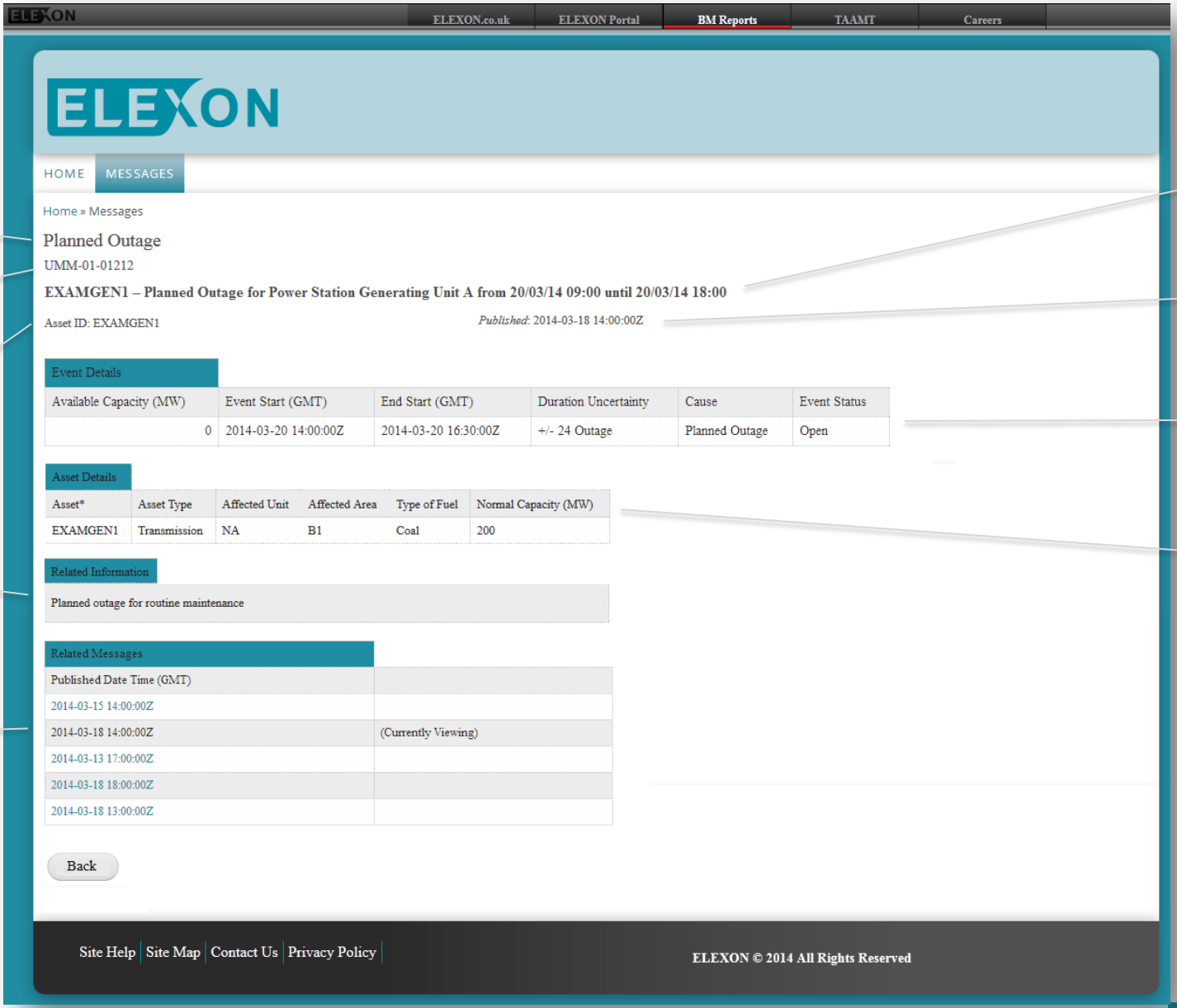
BMRS Zones

Fuel Type

Asset ID

Download Options

P291 BMRS UI – Message Detail



REMIT Event Type

Message ID

Asset ID

Related Information

Follow Up Messages

Message Heading

Publication Date

Event Detail

Asset Detail

P295 BMRS Transparency UI

P295 – BMRS Transparency Overview 1

- **Data Loading**
  - Data conforming to specific ENTSOE Transparency XSDs can be submitted to BMRS via FTP.
  - Data will be received from National Grid
  - Once data is successfully loaded it will be:
    - Displayed on the BMRS UI.
    - Published to TIBCO Rendezvous with a new XML payload.
    - Published to EMFIP Transparency Platform via the Unicorn ECP Platform.

- **Validation**
  - P295 data submitted to the BMRS will be validated against
    - The appropriate ENTSOE XSD eg generationload.xsd, outage.xsd
    - Standard ENTSOE document version rules eg mRID, revisionNumber duplication

P295 – BMRS Transparency Overview 2

- **Acknowledgments**
  - **Failure**
  - If there is a failure in the data loading process including
    - XSD validation
    - Submission to EMFIP

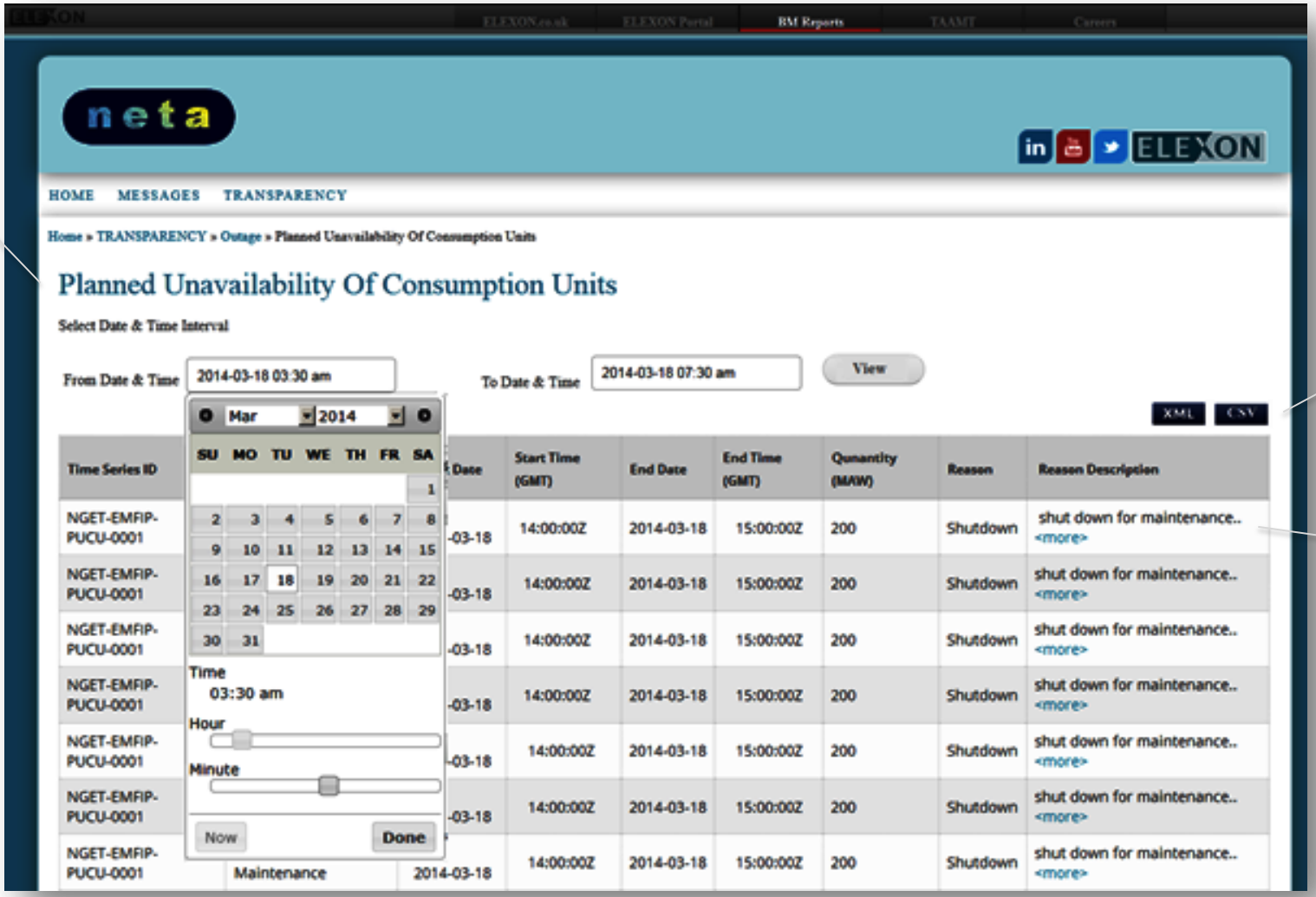
    A negative acknowledgement will be sent back to National Grid source application either generated from BMRS or the EMFIP platform.

  - **Success**
  - When data has successfully passed validation and in turn successfully submitted to the EMFIP platform, the positive acknowledgment from EMFIP is conditionally forwarded to National Grid.

  - **Data**
  - P295 acknowledgment messages will conform to ENTSOE published acknowledgement.xsd

P295 – BMRS UI 1

Message Type

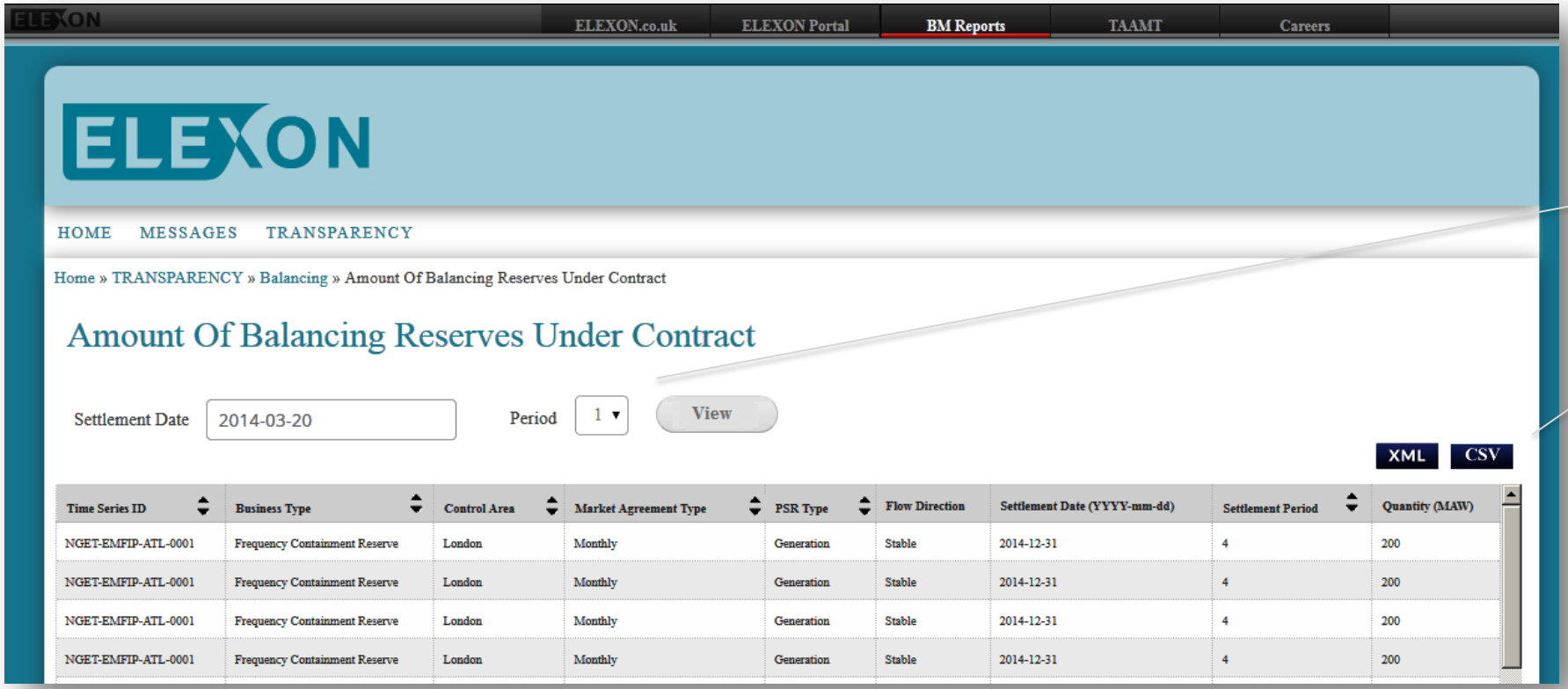


Download Options

Reason Description

B0710 Planned Unavailability Of Consumption Units A7.1a

P295 – BMRS UI 2



B1720 Amount Of Balancing Reserves Under Contract A17.1b

API Update & Policy

API Requirements

- Aims
  - Secure and performant industry facing webservices platform.
  - Initially P291 and P295 data will be provisioned as part of phase 1.
- Principles
  - Expose a set of RESTful webservices
  - Provides the P295 BMRA ETR and P291 REMIT data as a service
  - Requests for the data can be made based on a set of parameters
  - Authentication will be provided by an API Key
  - Transport will be over HTTPs
  - Services will be versioned
  - Response formats XML CSV will be included as a parameter.
  - Standard HTTP response codes will be used.

API Example 1

Article Name:

B0710 Planned Unavailability Of Consumption Units A7.1a

URL Format:

http://<host>:<port>/bmrs/B0710/<versionNo>?apikey=<apikey>&startDateTime=<startDateAndTime>&endDateTime=<endDateAndTime>&serviceType=<xml/csv>

URL Request example:

http://207.2.36.9:7006/bmrs/B0710/1?apikey=AP8DA23&startDateTime=2014-03-18 14:00:00Z &endDateTime=2014-03-18 14:30:00Z &serviceType=xml

API Example 2

Article Name:

B1720 Amount Of Balancing Reserves Under Contract A17.1b

URL Format:

http://<host>:<port>/bmrs/B1720/<versionNo>?apikey=<apikey>&settlementDate=<settlementDate>&period=<period>&serviceType=<xml/csv>

URL Request example:

http://207.2.36.9:7025/bmrs/B1720/1?apikey=SDF234S&settlementDate=2014-03-18&period=12&serviceType=xml

API Usage Policy

- Principles
  - Ensure fair usage
  - Maintain performance of API and Interactive website
  - Protecting the Service

- Registration for users
- Data Capping/request will be part of API Design (and can be adapted)
- Assigning Key & Revoking keys
- Restrictions
- Support Levels

Next Steps

- Issue Headline report
- Issue API usage policy for review (End of June)
- Next Meeting towards end June (After NG ETR meeting)