

P344 'Project TERRE implementation into GB market arrangements'

This Modification seeks to align the Balancing and Settlement Code (BSC) with the European Balancing Project TERRE (Trans European Replacement Reserves Exchange) requirements. This is in order to allow the implementation of the project at national level and be compliant with the first tranche of obligations in the European Network Codes (ENCs).



ELEXON recommends P344 is progressed to the Assessment Procedure for an assessment by a Workgroup

This Modification is expected to impact:

- BSC Parties
- Transmission Company
- Balancing Mechanism Reporting Agent (BMRA)
- The Funds Administration Agent (FAA)
- Settlement Administration Agent (SAA)
- ELEXON

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About This Document

This document is an Initial Written Assessment (IWA), which ELEXON will present to the Panel on 9 June 2016. The Panel will consider the recommendations and agree how to progress P344.

There are four parts to this document:

- This is the main document. It provides details of the Modification Proposal, an assessment of the potential impacts and a recommendation of how the Modification should progress, including the Workgroup's proposed membership and Terms of Reference.
- Attachment A contains the P344 Proposal Form.
- Attachment B contains the Proposer's strawman.
- Attachment C contains the High level TERRE Process.



Contact

Simon Fox-Mella

020 7380 4299

simon.fox-mella@elexon.co.uk



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1 Why Change?

What is Project TERRE?

Project TERRE (Trans-European Replacement Reserves Exchange) is an advance implementation project that forms part of the implementation of the European Electricity Balancing Guideline (EB GL). Project TERRE aims to harmonise the Transmission System Operator (TSO) dispatch of Replacement Reserve (RR) across several TSO areas (Great Britain (GB), France, Switzerland, Spain, Portugal and Italy - Ireland and Greece are currently observers). It will do this by introducing common TERRE Products, which would be akin to products such as Balancing and Settlement Code (BSC) Bid-Offers or Short Term Operating Reserve (STOR) submissions.

National Grid is expected to utilise TERRE Products for energy balancing in GB from TERRE go-live, which is currently scheduled for summer 2018. As all current GB balancing products feed into the BSC calculations of imbalance prices and volumes, the Proposer considers that the relevant TERRE Products should do so too, as soon as they start to be used as part of GB balancing. This will require changes to the GB market arrangements (BSC and/or balancing services arrangements).

What are TERRE Products?

TERRE products must be compliant with TSOs requirements and meet the 12 criterion, which are set out below:

1. Preparation period from 0 to 30 minutes.
2. Ramping period from 0 to 30 minutes.
3. Full activation time (FAT) of 30 minutes.
4. Minimum quantity of 1 MW.
5. Minimum delivery period of 15 minutes or multiples of 15 minutes.
6. Maximum delivery period of 60 minutes.
7. Location in a bidding zone.
8. The validity period as defined by Balancing Service Provider (BSP) but equal or less than 60 minutes.
9. The recovery period as defined by BSP.
10. The maximum bid size will be:
 - in case of divisible offer, no maximum is requested.
 - in case of indivisible offer, the local rules will be implemented.
11. Bid divisibility will be under the responsibility of BSP. The bid volume:
 - Min volume (resolution): 1MW.
 - Resolution after common merit order (CMO): 0.1MW¹.

¹ Having a resolution of 0.1MW means that in case an offer is partially accepted (e.g. pro rata), the value will be rounded at the value with one decimal number.



What is the European Network Code on Electricity Balancing

The Network Code on Electricity Balancing (NC EB) will provide a framework to enable cross border balancing markets. This will facilitate the sharing of balancing resources between TSOs to boost security of supply and reduce cost. It includes provisions for: procurement of balancing services, cross-zonal capacity for balancing services and cross border (XB) settlement.



What are balancing services?

Balancing services are used by the Transmission Company in its role as System Operator (SO) to balance supply and demand in real time. These are also used in the calculation of imbalance prices (also known as cash-out prices).

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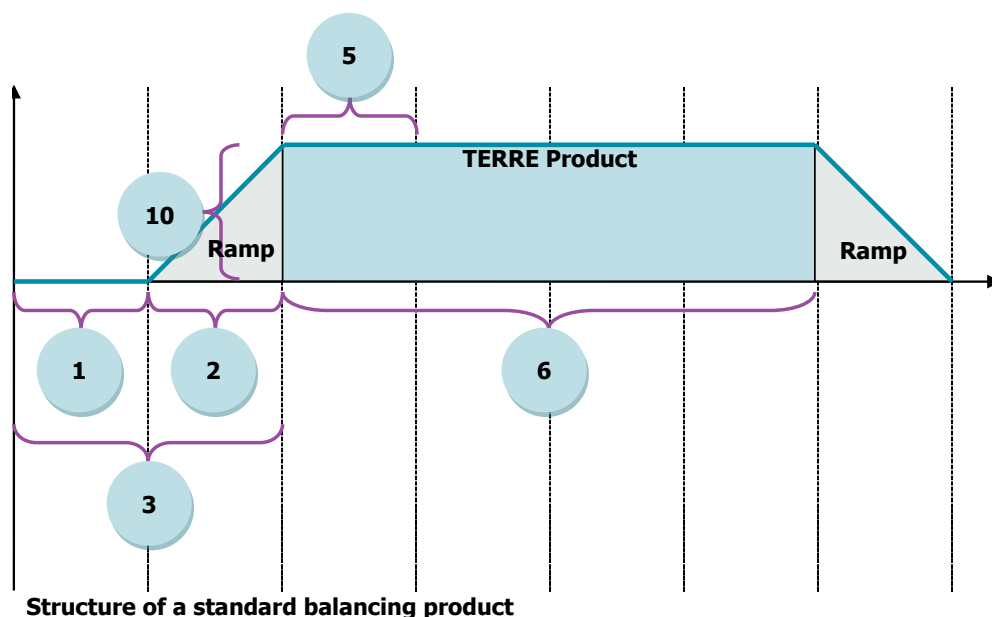
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- For indivisible bids (not applicable for divisible bids).

12. Price of submitted bids/offers: the cap and floor prices will be compliant with the local market rules².



The expectation is that the structure of a standard TERRE balancing product will look like the example in the above picture. The numbers correspond to the relevant TERRE Product criteria.

TERRE Settlement

TERRE will settle with a clearing price rather than pay as bid.

Overall GB implementation approach

National Grid has been working in collaboration with the Department for Energy and Climate Change (DECC), Ofgem and ELEXON on determining the GB implementation approach to the EB GL. This group has defined implementation options and developed assessment criteria. The GB implementation approach seeks to maximise the exchange of cross border (XB) products in a manner that is proportionate and recognises the specific needs of the GB balancing regime. These were then discussed with stakeholders at an industry workshop in January 2015.

The four different implementation options considered were:

1. Common Standard Market Model

All current GB balancing products are replaced with approved European, e.g. TERRE, standard products. This would involve the replacement of the balancing aspects under the GB Balancing Mechanism. This would mean that all products would be shared and activated through European coordinated balancing areas (CoBAs) using common merit order lists (CMOLs).

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² TSOs are seeking harmonisation of caps and floors.

2. Common Market and GB Specific Products

European standard products are introduced into the GB market, which replace some current GB products where possible. This would mean that the number of GB specific products would be reduced. However, some GB balancing products will be retained in order to meet balancing requirements not met by standard products, e.g. Bid-Offer Acceptances (BOAs) in the GB Balancing Mechanism

3. GB Specific Market and Standard Products

European standard products are introduced into the GB market in addition to GB's current balancing products. The number of GB specific products would remain the same as GB would retain all of its current balancing products but would be required to justify their use over standard products as part of the NC EB reporting.

4. GB Specific Market and Border Conversion.

GB Balancing Mechanism retains all of its current balancing market arrangements and continues to use GB specific products. These products can be packaged up by the TSO into standard products for sharing externally and the TSO has access to standard products being offered by other TSOs.

BSC arrangements

The implementation of Project TERRE is expected to, or could, impact a number of BSC areas including (but not limited to):

- The calculation of imbalance process
- The calculation of Trading Parties' Imbalance Volumes
- The calculation of Trading Parties' Information Imbalance Volumes
- The rules regarding Interconnectors under the BSC
- The timing of Balancing Mechanism Reporting Service (BMRS) data publication and/or BSC Settlement Runs
- Default rules for missing or late TERRE data
- The publication of information on the BMRS relating to Imbalance Price calculations and GB-related TERRE Product Acceptances and
- Non-delivery charges
- Credit calculations.

Issue 60

[Issue 60 'Interfaces between the European Balancing Project TERRE and the current GB market arrangements'](#) was raised by National Grid on 8 June 2015. This was done so that an Issue Group could consider each of the areas above. It also aimed to determine how

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these may impact the current BSC arrangements and what solution(s) could be progressed to implement any necessary changes.

The Issue Group met six times between July 2015 and March 2016. At times the Group split up into smaller groups which ran in parallel.

The considerations of the Group focused on two broad areas in relation to the interactions with the TERRE platform:

- the settlement of TERRE product acceptances
- the effect on Imbalance Prices.

Conclusions

Issue 60 was closed because no firm conclusions could be reached. The expectation was that the Modification process will provide the structure for a Workgroup to complete the work.

National Grid was of the view that the Modification needed to be raised promptly to ensure that BSC Systems would be ready for end to end testing in the autumn of 2017. National Grid therefore raised [P344 Project TERRE implementation into GB market arrangements](#) on 1 June 2016.

What is the issue?

National Grid is expected to utilise TERRE Products for energy balancing in GB from TERRE go-live. This is currently scheduled for summer 2018. As all current GB balancing products feed into the BSC calculations of imbalance prices and volumes, so should relevant TERRE Products too, as soon as they start to be used as part of GB balancing. This will require changes to the GB market arrangements (the BSC, the Balancing Services arrangements or both).

Proposed solution

This Modification proposes to align the BSC with the European Balancing Project TERRE (Trans European Reserves Exchange) requirements. This is in order to allow the implementation of the project at national level and be compliant with the first tranche of obligations in the European Network Codes (ENCs).

As an outcome of the Issue Group a straw-man has been developed, which describes the high level business process within GB. As the straw-man highlights key areas of current processes which will need to change, it forms the basis for this Modification Proposal.

Detailed requirements

Detailed requirements can be found in Attachment B, which provides a “strawman” for how the requirements will work.

Applicable BSC Objectives

The Proposer believes that P344 better facilitates the **Applicable BSC Objectives (b), (c) and (e)**.

Proposers views against Objective (b)

The Proposer believes that there are likely to be both GB and EU benefits as a result of implementing Project TERRE. Indicative benefits are analysed in the [Project TERRE’s Public consultation for the design of the TERRE \(Trans European Replacement Reserves Exchange\) document](#). This analysis, using historical data, indicates annual system balancing cost reductions for the TERRE region of ~€150m, with GB seeing ~€12-13m of these benefits, due to increased competition, greater liquidity, and netting of TSO imbalance needs.

Also, Project TERRE is the replacement for System Operator (SO)-SO trades which are unlikely to be available as a balancing option once the EB GL is in force.

Proposers views against Objective (c)

The Proposer contends that broadening the provision of balancing services from a national level to more of a pan-EU level is likely to promote increased competition between service providers from different countries. The cross border sharing of reserve capacity would increase our access to reserves along with access to cheaper energy on the continent.

Proposers views against Objective (e)

The ENCs are set to become European Regulations, meaning that they will hold the force of European Law. Therefore, these will take precedence over any existing GB law or arrangements. Consequently, GB will need to ensure compliance with the requirements of the ENCs. Failure to do so would mean GB risking infraction proceedings and the potential for fines to be levied against market parties. In the broadest sense, compliance with the



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What are the Applicable BSC Objectives?

(a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence

(b) The efficient, economic and co-ordinated operation of the National Electricity Transmission System

(c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity

(d) Promoting efficiency in the implementation of the balancing and settlement arrangements

(e) Compliance with the Electricity Regulation and any relevant legally binding decision of the European Commission and/or the Agency [for the Co-operation of Energy Regulators]

(f) Implementing and administering the arrangements for the operation of contracts for difference and arrangements that facilitate the operation of a capacity market pursuant to EMR legislation

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ENCs means making changes to the GB regulatory framework to ensure it is consistent with the requirements of the ENCs.

The Proposer therefore believes that P344 is required to deliver compliance with the RR aspects of the EB GL. In addition, they contend that the platform developed by this project will form the basis for subsequent phases to meet other legal obligations for different balancing processes closer to real time stretching out until 2023.

Implementation approach

National Grid is expected to utilise TERRE Products for energy balancing in GB from TERRE go-live, which is currently scheduled for summer 2018. While P344 should therefore seek to align with this date, it should be noted that BSC Systems will need to be ready for end to end testing in the autumn of 2017.

3 Areas to Consider

In this section we highlight areas which we believe the Panel should consider when making its decision on how to progress this Modification Proposal, and which a Workgroup should consider as part of its assessment of P344. We recommend that the areas below form the basis of a Workgroup's Terms of Reference, supplemented with any further areas specified by the Panel.

Areas to consider

We propose that these are considered under a "Stage 1" of an Assessment Procedure with a "Stage 2" to follow to develop the solution based on further areas for consideration. The table below summarises the areas we believe a Modification Workgroup should consider as part of its "Stage 1" assessment of P344:

- **Better define the scope of P344.**

This will identify what is definitely in and importantly what is definitely not in the scope of the BSC. Our expectation is that anything outside the scope of the BSC will be picked up by others. This may be by National Grid, the DECC or Ofgem.

- **Identify the external dependencies of P344.**

There are decisions to be made both by National Grid and by the central TERRE project that will impact on the solution for P344. Without knowing what these are, when these will be clearly defined, how these will interact with the BSC arrangements and who will be responsible, there is a risk that the Workgroup cannot define its requirements.

Therefore, we propose a Workgroup identify details on these external dependencies. Where the Workgroup has not been able to get certainty, then it will be asked to identify assumptions.

- **Identify any external resource and expertise needed by the Workgroup.**

We believe that there may be aspects of Project TERRE that, if they sit within the scope of P344, will require relevant expertise or advice. It may be that individual Workgroup members can provide this. However, this may not necessarily be the case. As such it may be necessary to procure the expertise. An example of an area for consideration that may benefit from external expertise is in regard to the treatment of currency conversion and who holds the associated risk.

- **Plan the second stage of the Assessment Procedure**

Without knowing the details of the scope and dependencies for P344, it is difficult to know what the areas for consideration of a Workgroup should be to develop the solution. It also makes it difficult to know how long will be required to explore all of the areas for consideration and to develop the solution. Therefore, we propose that the Workgroup under stage 1 of the Assessment Procedure propose the further areas for consideration and a progression timetable.

Areas to Consider

What is within the scope of the BSC changes and what is definitely not within scope?

What are the external dependencies under the BSC that need to be established before a solution can be developed?

What external resources and expertise are needed by the Workgroup?

What is the further progression timetable needed by a Workgroup?

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4 Proposed Progression

Next steps

We recommend that P344 is progressed to the Assessment Procedure for initially three months assessment by a Workgroup. We propose that these three months forms “Stage 1” of the Assessment Procedure to look at the initial areas for consideration and better inform “Stage 2”, which would follow the usual Assessment Procedure processes and areas for consideration.

Workgroup membership

We recommend that the Workgroup membership be formed of experts on balancing services, including BSC calculations of imbalance prices and volumes; credit cover; and European regulation. In particular, we believe that members of the Issue 60 Group should be invited. The Workgroup should also be open to any other relevant experts and interested parties.

Timetable

We recommend that P344 undergoes a three month Assessment Procedure, with an interim Assessment Report being presented to the Panel at its meeting on 8 September 2016. Our expectation is that the interim Assessment Report will ask for an extension of at least three months.

We believe that the Workgroup will need to undertake the activities shown in the table below, which includes a 10 WD Assessment Procedure consultation.

Proposed Progression Timetable for P344	
Event	Date
Present Initial Written Assessment to Panel	9 Jun 16
Workgroup Meeting	5 or 6 Jul 16
Workgroup Meeting	W/B 11 Jul 16
Assessment Procedure Consultation	26 Jul – 9 Aug 16
Workgroup Meeting	W/B 15 Aug 16
Present Interim Assessment Report to Panel	8 Sep 16

5 Likely Impacts

Impact on BSC Parties and Party Agents

Party/Party Agent	Potential Impact
BSC Parties	BSC Parties will be required to make the corresponding adjustments to their systems and process.

Impact on Transmission Company

The Transmission Company will be required to make the corresponding adjustments to their systems and process.

Impact on BSCCo

ELEXON will be required to implement this Modification.

Impact on BSC Systems and processes

BSC System/Process	Potential Impact
BMRS	Changes will be required to implement this Modification.
FAA	
SAA	

Impact on BSC Agent/service provider contractual arrangements

BSC Agent/service provider contract	Potential Impact
BMRA	BSC Agents will be required to implement this Modification.
FAA	
SAA	

Impact on Code

Code Section	Potential Impact
Section Q	Changes would be required to implement this Modification.
Section T	
Section V	
Section X Annex X-1	
Section X Annex X-2	
Section A	Changes may be required to implement this Modification.
Section D	

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Impact on Code	
Code Section	Potential Impact
Section G	
Section H	
Section K	
Section M	
Section N	
Section U	

Impact on Code Subsidiary Documents	
CSD	Potential Impact
BMRS Service Description (SD)	Changes would be required to implement this Modification.
BMRS User Requirements Specification (URS)	
FAA SD	
FAA URS	
SAA SD	
SAA URS	
BSCP15	Changes may be required to implement this Modification.
BSCP18	
BSCP201	
BSCP301	

Impact on Core Industry Documents and other documents	
Document	Potential Impact
Grid Code	Some high-level changes to the current GB arrangements under the Grid Code have been identified as an outcome of the Issue 60 Group straw-man and will be explored further, either as a joint Workgroup or separately in parallel, depending upon any interdependencies and efficiencies.
Transmission Licence	Changes to the C16 statements will be required as a result of Project TERRE. There may be specific impacts as a result of this Modification.

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6 Recommendations

We invite the Panel to:

- **AGREE** that P344 progresses to the Assessment Procedure;
- **AGREE** the proposed Assessment Procedure timetable;
- **AGREE** the proposed membership for the P344 Workgroup; and
- **AGREE** the Workgroup's Terms of Reference.

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Appendix 1: Glossary & References

Acronyms

Acronyms used in this document are listed in the table below.

Acronyms	
Acronym	Definition
ACER	Agency for the Cooperation of Energy Regulators
BM	Balancing Mechanism
BMRS	Balancing Mechanism Reporting Service (<i>BSC System</i>)
BOA	Bid-Offer Acceptance
BSAD	Balancing Services Adjustment Data
BSC	Balancing and Settlement Code (<i>Industry Code</i>)
BSCCo	The Balancing and Settlement Code Company (<i>Code Administrator</i>)
BSP	Balancing Service Provider
BSUoS	Balancing Services Use of System
CADL	Continuous Acceptance Duration Limit
CAP	Credit Assessment Price
CMO	Common merit order
CMOL	Common merit order lists
CoBA	Coordinated balancing areas
CUSC	Connection and Use of System Code (<i>Industry Code</i>)
CVA	Central Volume Allocation
DECC	the Department for Energy and Climate Change
EB GL	European Electricity Balancing Guideline
EBS	Electricity Balancing System
EC	The European Commission
ECVN	Energy Contract Volume Notification
EMFIP	Electricity Market Fundamental Information Platform
ENTSO-E	European Network of Transmission System Operators for Electricity
FAT	Full activation time
FPN	Final Physical Notifications
GB	Great Britain
HH	Half Hour
IFA	Interconnexion France-Angleterre (<i>the GB-France interconnector</i>)
MEL	Maximum Export Limit
mFRR	Manual Frequency Restoration Reserve
MNZT	Minimum Non-Zero Time

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Acronyms	
Acronym	Definition
NC EB	European Network Code on Electricity Balancing (<i>Industry Code</i>)
NIV	Net Imbalance Volume
NWE	North-Western European Price Coupling
PN	Physical Notification
QH	Quarter Hour
RCRC	Residual Cash flow Reallocation Cash flow
RPAR	Replacement Price Average Reference
RR	Replacement Reserve
SEL	Stable Export Limit
SEMO	Single Electricity Market Operator
STOR	Short Term Operating Reserve
TERRE	Trans-European Replacement Reserves Exchange
TNUoS	Transmission Network Use of System
TSO	Transmission System Operator
VoLL	Value of Lost Load
XB	Cross-Border

External links

A summary of all hyperlinks used in this document are listed in the table below.

All external documents and URL links listed are correct as of the date of this document.

External Links		
Page(s)	Description	URL
5	Issue 60 page on the ELEXON website	https://www.elexon.co.uk/smg-issue/issue-60/
6	P344 page on the ELEXON website	https://www.elexon.co.uk/mod-proposal/p344
7	Public consultation for the design of the TERRE on the ENTSO-E website	https://consultations.entsoe.eu/markets/terre