

# ELEXON'S RESPONSE TO THE TERRE TSO CONSULTATION ON THE DESIGN OF TERRE

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## 1. Introduction

Project TERRE (Trans European Replacement Reserves Exchange) is an advance implementation project that forms part of the implementation of the European Network Code on Electricity Balancing, now being renamed the Guideline on Electricity Balancing (GL EB). The [BSC Issue 60](#) Group was set up to look at how the BSC electricity market arrangements should interface with TERRE.

On 7 March 2016, the eight Transmission System Operators (TSOs) who form Project TERRE, including National Grid Electricity Transmission for Great Britain, issued a [public consultation](#) on the high-level design of TERRE. This document sets out ELEXON's response to that consultation.

### Format of this document

The TERRE TSOs required consultation responses to be in a set format loaded into a web interface on the European Network of Transmission System Operators for Electricity (ENTSO-E) website.

This document was used to develop the ELEXON response in the format required and represents the submission made. We did not answer all the consultation questions. Only the questions to which ELEXON made a response are listed below.

Steve Wilkin, 1 April 2016

## 2. Consultation Questions to which ELEXON responded and the ELEXON Response

### Q 0: Please give us your general views on the TERRE project, and on this consultation document.

ELEXON Response:

ELEXON Limited delivers the electricity balancing settlement and imbalance settlement services that are critical to the successful operation of Britain's (GB's) current electricity trading arrangements under the national GB Balancing and Settlement Code. We are not a TSO, but we undertake operations that in some other Member States are undertaken by TSOs.

The views expressed in this consultation response are those of ELEXON Limited alone, and do not seek to represent those of the Parties to the British Balancing and Settlement Code which we administer.

The TERRE project will have significant and wide-ranging impacts on balancing settlement and imbalance settlement arrangements in GB as well as, we expect, similar arrangements in the other TERRE Member States. So we have a keen interest in the detailed design and implementation of TERRE to understand how this will impact our systems and processes.

If TERRE is to be implemented successfully and on time in GB, ELEXON and the GB Balancing Service Providers (BSPs) and Balance Responsible Parties (BRPs) need to be fully involved at the earliest opportunity in understanding and developing the interfaces that will be required between our local (GB) arrangements and TERRE; the timing of information provision to and from TERRE; and the monetary settlements to be made with TERRE. We give more detail of our requirements in the rest of this consultation response.

At the current time the TERRE design is insufficiently detailed for us to begin our own systems design, which also requires prior GB National Regulatory Authority (NRA) approval. Our design and NRA approval process can take more than six months to complete before we are permitted to start the systems build, testing and implementation.

For NRA approval in GB, we need to be able to draft the detailed business rules to set out what will be done, and by which GB parties, and at what time they will do this.

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For the NRA approval of our interfaces with TERRE specifically, we need to know what data we, and other GB parties, will exchange with TERRE; what will be published by whom and by when; the detail of the calculations we and other GB parties will undertake using TERRE data, e.g. how the GB imbalance volume and price calculations will be impacted (though we know that GB TERRE Product acceptance data will be required); and what payments we will make with GB participants and with TERRE. We therefore need the TERRE business model to be completed, confirmed (approved) and made available to us as soon as possible.

In order to ensure that TERRE is successful it is important that TERRE involves the local implementation projects (such as ours in GB) in its end to end testing, otherwise there is a risk that the central TERRE systems will be ready in time but without the local arrangements being in place or being able to interface successfully with TERRE.

Continuing engagement with local, non-TSO, stakeholders, such as ELEXON, as TERRE develops will be key to the successful implementation of TERRE for all of us.

## **Q 1.1: Do you have specific comments regarding Chapter 1 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response: We set out some high-level requirements for a successful TERRE implementation in our answer to Question 0 and also below.

- (1) We need continuing engagement by the TERRE Project with the local, non-TSO, stakeholders.
- (2) Because the local arrangements (such as ELEXON's operation of GB imbalance settlement) that will interface with TERRE need to be designed and perhaps, as in GB, have local NRA approval, we need the confirmed TERRE business model of what will be done by the central TERRE arrangements, and by when. And in particular how TERRE expects to interface with these local arrangements.
- (3) We need the TERRE business model, once confirmed, to be subject to a strict change control process, including consultation with those responsible for the local arrangements where they would be impacted. (Those responsible for the local arrangements would also have the best idea of how they would be impacted so all changes should be at least notified to them.)
- (4) We need a testing plan that includes and encompasses the needs of those responsible for the local arrangements that will interface with TERRE, for example for GB, TERRE's end to end testing should involve GB's balancing settlement and imbalance settlement systems and GB BSPs and BRPs who wish to participate.

We also note that section 1.3 states that the 'governance issues have been dealt with'. However, we have some questions on this.

- How can issues that arise within local arrangements, but reveal wider issues that can only be resolved by the central TERRE arrangements, be raised with TERRE and decided upon efficiently and rapidly, so that necessary changes to the local arrangements are not delayed?
- In particular, how can a party which is not a TERRE TSO (but is essential to TERRE's successful implementation in one of the TERRE Member States, such as ELEXON in GB) obtain a resolution of design decisions?

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## **Q 2.1: Do you have specific comments regarding Chapter 2 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

We do not understand the sentence on page 14 that 'harmonisation of local settlement rules will be tackled under the framework of the RR CoBA implementation'. We expect that TERRE will form the RR CoBA<sup>1</sup>, so how do the TERRE TSOs see this harmonisation being achieved?

ELEXON, not the GB TSO, is responsible for administering the rules and operation of balancing settlement in GB so we would expect to be involved in the discussions on harmonisation whenever these occur. Failure to involve us at the earliest opportunity could mean delays in implementing harmonisation later, which could cause problems for the TERRE project as a whole.

## **Q 3.3: What are your views on BRP-TSO & BSP-TSO rules & requirements?**

ELEXON Response:

Section 3.1.2 of the consultation document states that a number of elements will be defined at a later stage of the project including, but not limited to:

- Calculation of imbalance and imbalance price
- Settlement
- Non-compliance
- Settlement or not of ramping

Firstly, we do not understand how the calculation of imbalance and imbalance price for BRPs will be undertaken under the TERRE Project governance. The overall formulation for imbalance and imbalance price is set out under the Guideline on Electricity Balancing (GL EB) and we believe that the local arrangements, e.g. under the local GB arrangements, would adjust imbalance calculations and prices as needed to conform to the eventual GL EB requirements. So we see no need for TERRE involvement in setting imbalances and imbalance prices for BRPs.

In fact, we argue strongly against having any TERRE involvement in setting imbalances and imbalance prices for BRPs given that it could cause multiple successive system changes in our local arrangements (to conform with TERRE and then, later, to conform with GL EB, if different).

It is also noted that a harmonisation of imbalances and imbalance prices is required by Article 24 of the draft GL EB (July 2015 version) across all TSOs, so this is geographically wider than the TERRE CoBA and will require engagement with non-TERRE TSOs. Also Article 64 of the GL EB requires that imbalance price calculations consider Frequency Restoration Reserve (FRR) as well as RR costs. So for the first reason a TERRE RR CoBA setting of imbalance would not be appropriate; and for both these reasons a TERRE RR CoBA setting of imbalance price would not be appropriate.

There is one exception to this, in that we believe that TERRE should specify whether the ramps associated with TERRE Products should be considered as imbalance or not. See also our answer to consultation Question 3.5.

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<sup>1</sup> A Replacement Reserve (RR) Coordinated Balancing Area (CoBA) is a geographical region, such as the TERRE region, where the TSOs in that region use a common merit order of balancing products, such as RR, from across that region in order to assist with balancing generation and demand on their systems.

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Secondly, whatever items are within the scope of TERRE, we do not agree that the significant details of settlement, non-compliance and ramps can be defined later in the project, given that we also need to build systems to interface with TERRE either directly or via our TSO, National Grid. These details are needed as soon as possible, given the challenging deadline (including, for us, our local NRA's approval of changes to our systems and processes to interface with TERRE).

If later changes are made during the implementation of TERRE to any aspect, this could also cause us substantial timing issues with both the need to adjust a live systems build and the need to seek additional local NRA approval before we can amend the arrangements again.

## **Q 3.5: What are your views on the application of the local features of the TERRE cross border product (e.g. Harmonization of price cap and floors or Maximum Bid Sizes for Indivisible Offers)?**

ELEXON Response:

In our roles as operator and administrator of GB balancing settlement and imbalance settlement, we need to know for certain which aspects of TERRE will be harmonised, and how they are to be harmonised, as soon as possible. This is in order to evaluate which aspects will require us to amend our systems and local rules in compliance with the TERRE requirements and to implement those changes in good time. It will not work for us if these are decided too near in time to the entry into force of TERRE, as we won't have sufficient time left to change our systems or obtain local NRA approval to do so.

In this respect the treatment of ramps should be clarified as soon as possible.

The imbalance arrangements in European Member States are not yet harmonised and it will take time to implement harmonisation after the requirements are known and have been approved by the NRAs. Because of this, we suggest that consideration is given to treating ramps as zero-priced contracts and not treated as imbalances by the TERRE Member States. Treating ramps as imbalances will cause BSPs to include their local imbalance costs in their TERRE Bid Prices. Because currently the imbalance prices are based on different formulations in different TERRE Member States, this will pollute the Common Merit Order. Treating ramps as zero-priced contracts means that TERRE TSOs still only pay for the TERRE Products and not the ramps and also avoids polluting the Common Merit Order List, while also ensuring that local BRPs are not disadvantaged in local imbalance arrangements for ramping actions essential for the delivery of the accepted TERRE product.

## **Q 3.9: Do you have specific comments regarding chapter 3 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

A number of key decisions (the settlement arrangements for accepted TERRE products including the timing of billing and payments; the treatment of ramps; Gate Closure time; and non-compliance arrangements<sup>2</sup>) are being left until later in the project. If these decisions are left too much longer, it raises an increasing risk that we will not have sufficient time to change our balancing and imbalance settlement systems to be ready in time for TERRE implementation.

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<sup>2</sup> Note that we do not agree that TERRE should specify a treatment for imbalances and imbalance prices as this is a much wider issue than the RR CoBA and, if harmonised, should be harmonised once only for all CoBAs under the GL EB.

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We also have two questions in relation to this.

- What is the plan for making decisions on these aspects, i.e. when will we know what these decisions are? There should be a TERRE plan for coming to these decisions and consulting with and notifying the local stakeholders, who are also building systems to make TERRE a success.
- How will TERRE notify ELEXON and other stakeholders of the decisions that are to be made in a 'later' stage of the project?

## **Q 4.3: Do you agree with the proposed treatment of HVDC losses?**

ELEXON Response:

We need more detail on how the Day-Ahead Market Coupling treats HVDC losses if this is the proposed treatment in TERRE before we can assess the proposal for its impact on our systems and processes and give you a considered response. There was no detail in the TERRE consultation document on this point.

## **Q 4.4: Do you have specific comments regarding chapter 4 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

Section 4.2.4 notes that 'it will be important to shorten the scheduling step in future'. We note that this must not be used as an argument to prejudge the Imbalance Settlement Period (ISP) duration as well. There is no compelling need to make Imbalance Settlement Period (ISP) duration and scheduling step equal. For example, GB currently operates with minute by minute balancing products and a 30 minute ISP. This will also be important to note if other CoBAs for different Standard Products, such as mFRR, have, or have a desire to have, different scheduling steps from TERRE.

Section 4.2.8 notes that if the TERRE clearing process fails, then national processes will apply. It is very important for balancing and imbalance processes that each party affected, including ELEXON as the balancing settlement and imbalance settlement administrator for GB, knows exactly when the central TERRE process has failed, and also when it can assume that the process has failed, even if it is only slow or late.

We will need pre-defined fall-back rules in our local arrangements that come into action when there is no or missing information from the central TERRE systems. This should be agreed by the TERRE project across all the TERRE TSOs and communicated to us as soon as possible so that we can design our local systems to interface with TERRE. See also our answer to consultation Question 7.4.

## **Q 5.1: Do you agree that the proposed settlement design is in line with the principles of the EB GL and the integration of balancing markets?**

ELEXON Response:

There is a statement in section 5.4 that the Imbalance Price can be calculated as the weighted average costs of the entire hour. We assume that this is a typographical error and that it should have stated the Marginal Price. If, however, it really did mean Imbalance Price then this is not in line with the GL EB, and we would further question why TERRE is concerned with calculating an imbalance price, as this should be left to the local arrangements, which will also harmonise as required by the GL EB.

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Other than on the above point, we agree that the proposed design for a marginal price is in line with the latest public draft GL EB (July 2015), but note that the GL EB is not yet in its final agreed form and we have had no sight of more recent developments in the text.

## **Q 5.3: What is your perspective regarding the alignment of the TSO-TSO settlement procedure and the BSP-TSO settlement procedure?**

ELEXON Response:

It is important that settlement procedures are aligned between TERRE and local arrangements; or at least that the local arrangements are designed in the knowledge of the precise TERRE proposals for settlement (both the timing of billing and money transfers).

This is because we invoice BSPs and BRPs at set times using the information we have to hand according to set rules and the payment due dates are also specified in those invoices. If we have local payment arrangements that do not match the TERRE payment arrangements, we will have the situation where local BSPs are expecting to be paid but we have received no money from central TERRE arrangements to pay them; and where TERRE TSOs are expecting to be paid but we have received no money from the local BSPs to pay the TERRE TSOs. Therefore we must align our arrangements and TERRE together and they must remain aligned on an ongoing basis.

So we need to know the TERRE proposals for the timing of billing and payments as soon as possible; and we will need sufficient and long notice of any future change to these proposals so that we can amend our own systems in line with TERRE each time that TERRE changes in future.

We also need to know how frequently and for what period TERRE plans to bill and settle payments, e.g. GB currently operates with daily billing with payment approximately 28 days following the day in question. And we need to know whether TERRE will do re-calculations/reconciliations for a given billing period if errors are found in the initial TERRE calculations or input data for example; and when it will do them if it does; and whether it will apply interest?

In response to Question 3.5, we also made an observation on the settlement treatment of ramps as follows.

The imbalance arrangements in European Member States are not yet harmonised and it will take time to implement harmonisation after the requirements are known and have been approved by the NRAs. Because of this, we suggest that consideration is given to treating ramps as zero-priced contracts and not treated as imbalances by the TERRE Member States. Treating ramps as imbalances will cause BSPs to include their local imbalance costs in their TERRE Bid Prices. Because currently the imbalance prices are based on different formulations in different TERRE Member States, this will pollute the Common Merit Order. Treating ramps as zero-priced contracts means that TERRE TSOs still only pay for the TERRE Products and not the ramps and also avoids polluting the Common Merit Order List, while also ensuring that local BRPs are not disadvantaged in local imbalance arrangements for ramping actions essential for the delivery of the accepted TERRE product.

## **Q 5.4: Do you have specific comments regarding chapter 5 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response: See our answers to Questions 5.1 and 5.3.

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## **Q 6.4: Do you have specific comments regarding chapter 6 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response: As some TSOs will have balancing settlement and imbalance settlement systems and arrangements 'in house', presumably those costs will have been included in the local IT costs quoted for TERRE in section 6.2. However, in GB, ELEXON, which is not a TSO, takes responsibility for those aspects and we imagine that our costs arising from TERRE have not been included in the Cost Benefit Analysis. However, we also imagine it is unlikely that our costs would change the end conclusion.

## **Q 7.4: Do you have specific comments regarding chapter 7 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

Section 7.2.4 notes that TERRE Results will be communicated between H-35 and H-30 minutes. Does this mean that local fall-back arrangements can be activated if TERRE Results are not received by H-30 minutes?

It is important to have across TERRE agreement as to when 'late' TERRE results can be ignored by all the local arrangements and this needs to be harmonised to ensure that the money flows work correctly. For example, it will not work if one TSO is expecting to be paid by TERRE and another TSO has ignored the TERRE results because they arrived 'too late'. See also our answer to Question 4.4.

## **Q 8.1: Do you have specific comments regarding chapter 8 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

We note from Figure 8-1 that the TERRE Settlement Module has no outputs and the TERRE Platform High Level Functional Architecture therefore covers only the system operation aspects of TERRE.

All the post-event settlement aspects (billing and money flows and their timing) will need to be defined as part of the TERRE project and communicated to us so that we can fulfil our remit to operate the balancing and imbalance settlement arrangements in GB, including invoicing BSPs for moneys owed to TERRE TSOs.

The most important questions from our GB balancing and imbalance settlement perspective for TERRE to answer are:

- What is the Gate Closure Time for BSPs to submit TERRE Product Bids to local TSOs?
- What is the agreed TERRE treatment of ramps?
- When are the TERRE Product acceptances, including volumes and clearing prices, made known to us so that we can calculate the GB imbalance price?
- When are TERRE results deemed to be 'late' or 'missing', so that later data from TERRE for that particular 15 minute period can be ignored by the TERRE TSOs (and no dispatch will be required and no payments are required to be made to or from TERRE in respect of that 15 minute period)?
- Are the TERRE Product submissions made available for publication on local information platforms, such as the one we administer and, if so, when?

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- Are the GB TERRE Product acceptances made available for publication on local information platforms such as the one we administer and, if so, when? (See also our thoughts in answer to consultation Question 11.1.)
- When are the payment details for TERRE Product acceptances issued (it is possible that we may be tasked with making settlement to the GB BSPs)?
- When are the TERRE Product acceptances settled, i.e. how many days after acceptance are payments due in respect of those acceptances?
- What happens if a party (TERRE TSO or a TERRE BSP for example) defaults on its TERRE payment obligations? How is settlement then managed? I.e. what are the TERRE default and credit arrangements?
- Will TERRE do any recalculations of payments, clearing prices, etc. and, if so, under what circumstances? Will there be planned reconciliations (recalculation and payments for the same billing period later) and if so, on what timetable and will interest be applied to payments that are due and have been recalculated?

## **Q 9.2: Do you have specific comments regarding chapter 9 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

Section 9.2 introduces the concept of 'Physical Feasibility' in relation to DC interconnectors. As we are tasked with calculating imbalance volumes for the GB market, we need to understand in more detail how 'Physical Feasibility' will be applied in practice. For example, will it be treated as a constraint that the activating TSO must follow and so the dispatch instruction will follow that constraint, or is it something more complex that we need to consider in our imbalance volume calculations, such as a limit on the imbalance volume that we calculate?

## **Q 10.1: Do you have specific comments regarding chapter 10 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

As we have set out in our answers to the other questions in this consultation, it is vital to the overall success of TERRE that non-TSO central service providers (such as ELEXON – we are responsible for balancing and imbalance settlement in GB) are included in the detailed design of TERRE, and any subsequent changes, so that our local systems are ready in time to interface with TERRE from Day 1 and are able to continue to align with TERRE thereafter.

We very much welcome the public meetings that have been held by TERRE TSOs to date, but we think that this will not be sufficient going forwards as we will need detailed information on interfaces with TERRE, and to be notified of any changes of design as soon as they are proposed and then agreed, so that we can notify our TSO (National Grid) of the impacts and timing implications. Without this in-depth involvement in the ongoing development of TERRE, the risk increases of not delivering the local arrangements for which we are responsible to time. This in turn increased the risk of a delay to TERRE as a whole. Under the current GB arrangements, while the GB TSO (National Grid) can propose changes to balancing settlement and imbalance settlement, it is not responsible for making those changes that are approved by our NRA or for operating the settlement arrangements in GB. That responsibility falls to us (ELEXON Limited).

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We also have some questions on the ongoing change process and its governance as follows.

In addition to the governance of the initial TERRE design and its implementation, what are the governance arrangements for the enduring operation and change management of TERRE?

Will defining this be part of Project TERRE now?

As actual operational experience of TERRE is built up, issues to be resolved, and improvements that can be made, will be identified. How will such issues and changes be progressed, including coordination of change with the live local arrangements?

## **Q 11.1: Do you have specific comments regarding chapter 11 content?**

ELEXON Response:

The TERRE platform must also provide data sufficient for the settlement of imbalances at local level to the local market operators, such as ELEXON. Such TERRE data would include clearing price(s) for the GB Bidding Area and GB TERRE acceptance volumes. We would also publish this data to the extent required by our local, NRA-approved, rules.

Article 4(5) of the quoted Regulation on Transparency (543/2013) also allows that: 'without prejudice to the obligations of the TSOs and of the ENTSO for Electricity laid down in paragraph 1 and Article 3, data can also be published on TSOs' or other parties' websites.'

As we also operate the GB transparency platform where all Specific Product acceptances are already published, for a full picture we would expect to receive and propose to publish TERRE Product acceptances taken from GB-based BSPs too, if this approach was approved by our NRA.

## **Q 12.1: Which features (if any) of local balancing market design needs to be harmonized for an efficient functioning of the TERRE project? If several, please rank the first three you consider the most important to harmonize.**

ELEXON Response:

The most important harmonisation decisions to make from ELEXON's perspective as the GB balancing and imbalance settlement administrator are (and we apologise that there are more than three):

- A decision across TERRE on when TERRE acceptances can be ignored because they have arrived 'too late'. It is important for payment and imbalance settlement purposes that all TERRE TSOs harmonise on this point otherwise some TERRE TSOs will be expecting payments which other TERRE TSOs are not expecting to make or vice versa.
- A decision on the settlement treatment of ramps, whether this is to be harmonised at all and, if so, how; or whether it is to be left to local arrangements to decide. As noted in our answer to Question 3.5 and for the reasons given in that answer, we suggest that consideration is given to treated ramps as zero-priced contracts and not as imbalances by TERRE Member States.
- Decisions on what happens in the event of a default or late payment on a TERRE payment obligation, e.g. by a TERRE TSO or a TERRE BSP.

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- A decision on the Gate Closure time for BSPs to submit TERRE Product Bids to their local TSO – it seems possible that TERRE BSPs may wish to harmonise on this and, if harmonisation is agreed, we need to know what that Gate Closure time will be.

Beyond this, all aspects of the design of TERRE, including the decisions on harmonisation, need to be decided as soon as possible and communicated to stakeholders so that we can design and implement the local arrangements on time.

## **Q 13.1: Do you have specific comments regarding chapter 13 content? (Please indicate sub-chapter reference when possible)**

ELEXON Response:

We believe that the 'System Architecture and Interfaces Specification'; the Functional Specification and any other documents that will impact how we might design our local arrangements should be released to us as soon as possible.

We also are seeking information on the parallel run, end to end testing and to what extent we can be involved in this.

In more detail, we have the following questions:

- Who is producing the 'System Architecture and Interfaces Specification and how will this be reviewed with stakeholders?
  - We also note that the Specification needs to be maintained in parallel with the Functional Specification, i.e. it will need to evolve and be shared with affected stakeholders whose systems are impacted (including those of ELEXON as the GB balancing and settlement administrator).
- How and by whom is the business model design documented? In particular who will document assumptions about what happens in the local arrangements and how that interacts with the TERRE processing and how will this be shared with the local arrangements?
  - We are making assumptions locally about what central TERRE is doing and what we are doing. But we need to make sure that they align with the central TERRE assumptions and may need to discuss them with you if they do not.
  - The RFP and functional design will focus on what the new TERRE platform needs to deliver, but there is also a need to document the overall market impact.
  - In particular we will need to define the content and meaning of various data feeds to and from the central TERRE arrangements, and key processes that happen locally (e.g. currency conversion). We need to define what we expect to receive from TERRE and what TERRE expects from us.
- There is no information about what is intended for the parallel run. Parallel run normally means run new solution alongside old solution and see if comes up with the same answers. What is the old solution in this case? Is this really end to end testing? Or if not, end to end testing is also required.
- End to end testing should involve the local arrangements that interface with TERRE as well as the TERRE central systems and not all of these are operated by the TERRE TSOs. How will we validate whether the TERRE system is doing what we expect?
- If the design continues to develop beyond this first NRA approval, what will drive the phases of iteration? Will the appointed service provider drive this? How will the local stakeholders/arrangements be included to ensure that we are ready for the final approved design too?

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- How will the acceptance criteria and test scenarios be set for the whole TERRE solution (including the local arrangements and non IT business processes, not just the TERRE platform)?

## Q 14.1: Do you have specific comments regarding chapter 14 content?

ELEXON Response:

We note that it is possible that the scope of TERRE will expand in future to additional processes. This implies that the initial design of TERRE, including the local arrangements that interface with it should be built with future flexibility in mind.

- How is the TERRE Project going to design in the flexibility for different processes and products? RFP respondents need some idea of the type of flexibility needed. E.g. are the timings the same or different? How similar is the data content? Which processes will be common and which are product-specific?
- How will local arrangements be involved in these decisions so that they are equally flexible to future change? There is a danger that if such decisions are not shared and consulted upon, the central TERRE systems will be able to flex, but the local arrangements that are essential for a successful TERRE operation into the future will not be.
- This is another example of the importance of ensuring that those who are not TSOs but who design, build and operate the local systems that interface with TERRE are fully included in the design of TERRE throughout the initial TERRE Project and as it continues to evolve on an ongoing basis.

**END**