

Stage 03: Transmission Company Analysis – Second Request

P243: Generator Forward Availability by Fuel type

What stage is this document in the process?

01 Initial Written Assessment

02 Definition Procedure

03 Assessment Procedure

04 Report Phase



Response Form

The P243 Modification Group requests your impact assessment of P243. In particular, we ask for your responses to the following questions and your reasons for those responses.

Transmission Questions

Your response

We invite you to respond to the questions in this form.



How to return your response

Please send responses, entitled P243 Transmission Company Analysis to modifications@elexon.co.uk by **5:00pm** 20 October 2009

Question 1:

Please detail the impact of the Proposed Modification on the computer systems and processes of the Transmission Company. Please include details of:

- When development work on the Proposed Modification will begin (for implementation in either November 2010 or February 2011);
- Any handovers to ELEXON or Logica during the implementation of P243; and
- Any changes needed as a result of implementing the Proposed Modification.

Please give your response:

National Grid has already started considering how P243 and P244, which from a IS systems modification perspective are related for us as part of this BSC modification process. This has enabled us to impact assess the change and identify the potential way forward for any subsequent implementation.

Making changes such as those for P243 and P244, based on our recent experience of implementing P219 and P220 is a relatively complex undertaking due to the critical nature of our systems that will be modified and also the need to integrate our delivery into a wider programme involving BSCCO led changes with their service provider for BM Reports. Our successful work on P219/P220 has given us a template to develop these changes we expect equally effectively and we have discussed this approach with Elexon. To enable us to meet the timescales for P243 and potentially P244 if implemented in parallel, we would start work on the detailed design and agree this with Elexon's service provider(s) from the point an Ofgem decision to implement is received. A key milestone is to agree interface details with Elexon's service provider within short period from the Ofgem decision to enable both National Grid and the BMRA to develop their elements of the solution. We envisage increasingly close working with Elexon's service provider for the final month(s), particularly from mid September for integration testing. A similar approach for the alternative time line proposed for the group would be taken.

P243
Transmission Analysis
Form

12 October 2009

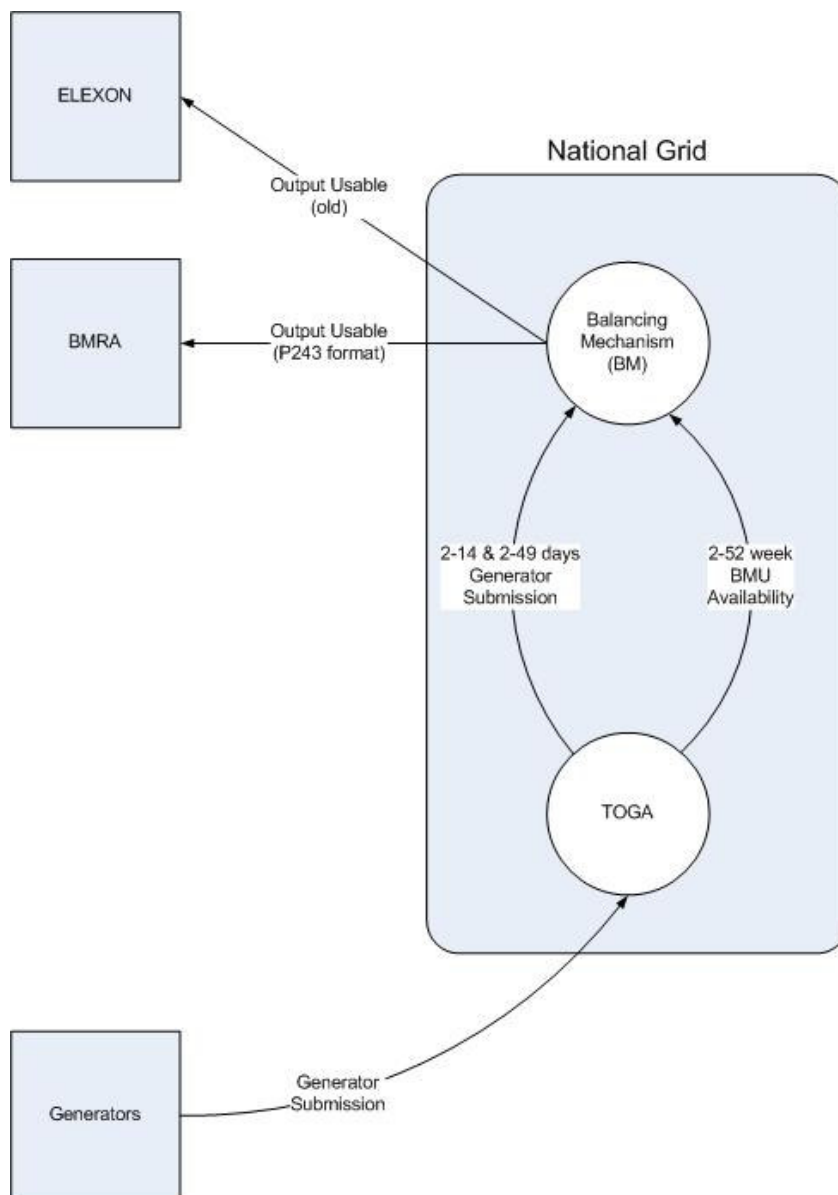
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Question 1:

- P243 looks to publish both 2-14 day ahead and 2-52 week ahead plant/generator availability figures (known as "Output Usable" data) to the BMRA. National Grid already receives this data from generators and publishes it at both zonal and national levels to Elexon. P243 seeks, as a minimum, for 2-14 day ahead and 2-52 week ahead Output Usable data to be published to the BMRA at a national level. This information must be grouped by fuel type.
-
- P243 affects National Grid's Balancing Mechanism (BM) and TOGA systems.
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- BM requires Output Usable information from the Generators. This data is already available in TOGA and partly visible to BM. BM makes no use of this data but merely forwards it to Elexon:
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-
- The following modifications will be required to the TOGA system:
- New/Revised process to query each BMU's fuel type from the Registration system.
- New database views to present the Output Usable data at the BMU-level along with the associated fuel type.
-
- The following modifications will be required to the BM system:

Question 1:

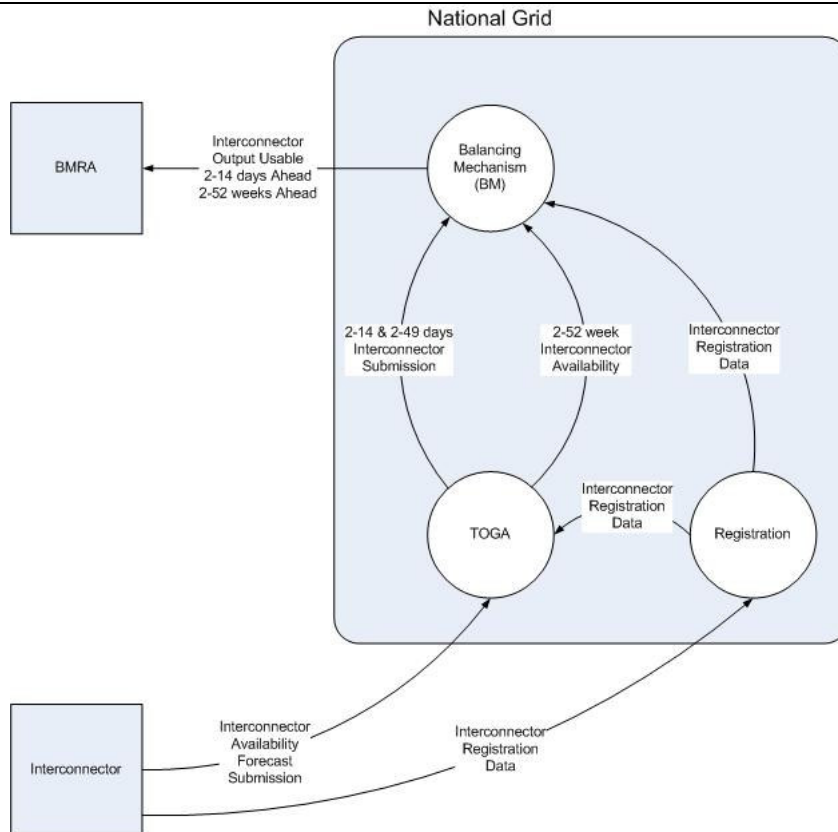
- New process(s) that queries each BMU's Output Usable data, determines its Fuel Type and maintains aggregated national values for each fuel type.
- New database table(s) to store these aggregates for audit purposes.
- Revised process to create 2-14 day ahead and 2-52 week ahead files on request.
- Revision of current FTP transmission process to forward these files to the BMRA whilst continuing to forward the previous Output Usable files to Elexon.
- Modifications to BM housekeeping processes to archive and clear down historic Output Usable data.
-
- In addition the following tasks are required:
 - Modifications to TOGA test and deployment scripts.
 - Modifications to BM test and deployment scripts.
 - Unit/System/UAT testing of TOGA.
 - Unit/System/UAT testing of BM.
 - Modifications to the TOGA-BM Interface Specification document.
 - Modifications to the Interface Specification document between National Grid and the BMRA/SAA.
-
- Note:
 - National Grid's proposal is for the majority of the P243 modifications to be performed on the BM system to produce national aggregates of Output Usable. This design is based on the limited OC2 processing already done within BM in preparing this data for Elexon. However the BM system has no use for this data and, were the P243 requirement to expand (e.g. as per Requirement 7), National Grid would advocate an alternative design in which TOGA performs the OC2 processing whilst BM simply forwards the output file to the BMRA.
 - Forward availability data is not available for Interconnectors. National Grid's response assumes that no data will be provided for the Interconnector fuel types.

Previously "requirements 5 and 6" referred to in our previous impact assessment response were seen as standalone items within the proposed P243 change. The modification group has now agreed these requirements should be brought into the proposed change. The impact on our system and process is still as previously stated, but repeated here for completeness. For what was requirement 5, the group has agreed that the obligation for National Grid to provide forward availability for interconnectors should only become active once a Grid Code change to OC2 has been made to facilitate our collection and management of this information in an appropriate way.

P243 Requirement 5 requires a change of business process to allow National Grid to receive forecasts of Interconnector availability under the OC2 process. Currently the Interconnectors are under no Grid Code agreement to provide this data and National Grid.

Assuming the relevant data can be reliably provided as facilitated by a Grid Code Change, National Grid would receive this through its TOGA system. TOGA currently provides a web-based interface for Generators to enter outage data and this would be extended to the Interconnector operators. Modifications to TOGA would be limited in scope. National Grid's Registration system would also require configuration changes to accommodate Interconnectors:

Question 1:



P243 Requirement 5 requires configuration changes to the BM system to add additional fuel types (i.e. one for each Interconnector) to its standing data. All other changes would be covered by the existing P243 proposals.

The following modifications will be required to the TOGA system:

- Screen changes are required in TOGA for adding export and import capacity of interconnectors.
- Revised database tables to store the import and export capacity.

In addition the following tasks are required:

- Modifications to TOGA test and deployment scripts.
- Unit/System/UAT testing of TOGA
- System/UAT testing of BM.
- Modifications to the Interface Specification document between National Grid and the BMRA/SAA.
- Modifications to the TOGA-BM Interface Specification document.
- Modifications to the Interface Specification document between National Grid and the BMRA/SAA.

P243 Requirement 6 requires minor changes within National Grid's BM system to forward files currently sent to the BSC to the BMRA. This affects the following files:

- OCNMFD2
- OCNMFW2
- ZOU2T14D
- ZOU2T49D
- ZOU2T52W
- ZOYU1
- ZOYU2
- ZOYU3

Question 1:

- ZOUY4
- ZOUY5
- NOU2T14D
- NOU2T49D
- NOU2T52W
- NOUY1
- NOUY2
- NOUY3
- NOUY4
- NOUY5

The P243 Requirement 6 proposal would only require minor configuration changes to the BM system, there would be no changes to the application code.

The proposal would also require the following tasks to be performed:

- System/UAT testing of BM.
 - Modifications to the Interface Specification document between National Grid and the BMRA/SAA.
 - Modifications to the Interface Specification document between National Grid and Elexon.
-

Question 2:

Please provide an estimate of development, capital and operating costs in appropriate detail which you as a Transmission Company anticipate that you would incur in implementing the Proposed Modification as a **Standalone Modification**

Please give your response:

Our cost assessment remains at **£170k** for implementing P243 forward generation by fuel type, including changing where we send existing data to the Elexon website to send this to the BMRA and to make modifications to our systems to enable us to process and provide forward availability for interconnectors.

Question 3:

Please provide an estimate of development, capital and operating costs in appropriate detail which you as a Transmission Company anticipate that you would incur in implementing the Proposed Modification **in parallel with P244 'Provision of BritNed flow data to the BMRS'**

Please give your response:

Our cost assessment is consistent with our previous estimate at **£200k** for implementing P243 forward generation by fuel type, including changing where we send existing data to the Elexon website to send this to the BMRA and to make modifications to our systems to enable us to process and provide forward availability for interconnectors in parallel with P244 as proposed.

Question 4:

Please detail the impact of the potential Alternative Modification **as detailed in the P243 Requirements Specification** on the computer systems and processes of the Transmission Company. Please include details of:

Question 4:

- When development work on the Proposed Modification will begin (for implementation in either November 2010 or February 2011);
- Any handovers to ELEXON or Logica during the implementation of P243; and
- Any changes needed as a result of implementing the potential Alternative Modification.

Please give your response:

The timescales, broad approach and handover points are similar for both the P243 alternative and the proposed P243 modification (see our response to question 1).

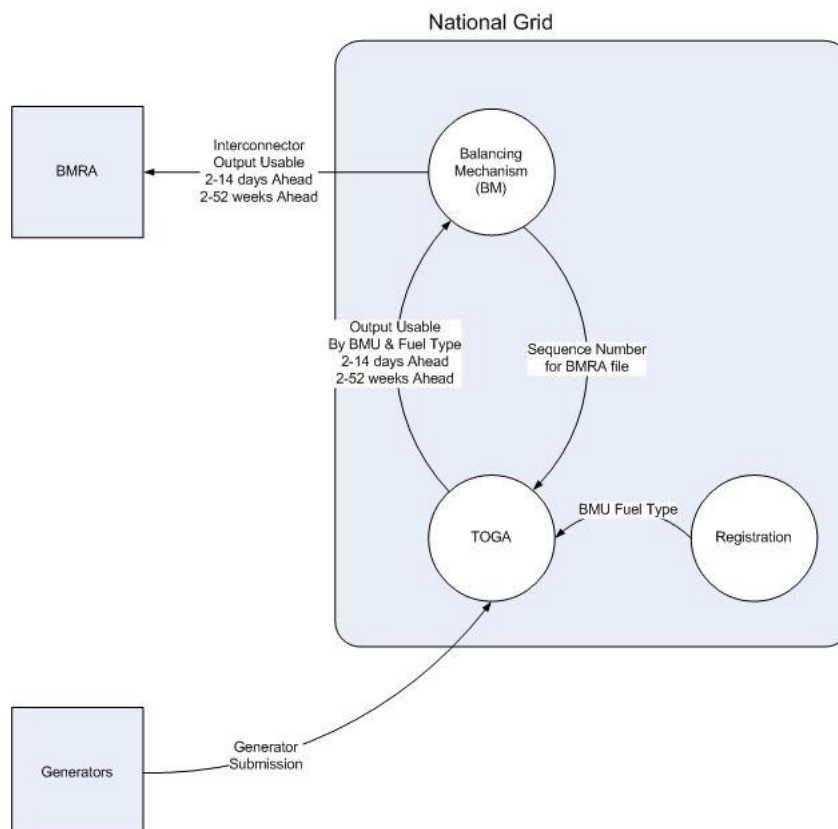
The alternative per BMU breakdown of forward availability (in addition to a fuel type breakdown as per requirement 1, including the change to redirect files from the Elexon website to the BMRA for some existing flows including interconnector forward availability) remains as we indicated in our initial transmission company impact assessment, means we would take a different implementation approach in terms of how our systems are modified to meet it.

Our previous response in terms of approach still is relevant and is repeated here: -

The P243 Requirement 7 proposal advocates delivering the Output Usable data and its fuel type on a BMU-basis. As noted in our response to Question 2 this would be handled by a redesign in National Grid's processing of the data.

Historically the BM system has processed Output Usable, based on its lead role in providing other data to the BMRA. However BM is National Grid's real-time market management system whose primary role should not be diminished by the processing of data for which it has no use. In order to disaggregate Output Usage by BMU National Grid would move processing of the OC2 data to our source of this data - TOGA.

The TOGA system would build the Output Usable outputs for the BMRA, whilst BM would restrict its involvement to just forwarding these to the BMRA:



The following modifications will be required to the TOGA system:

Question 4:

- New/Revised process to query each BMU's fuel type from the Registration system.
- New process to create 2-14 day ahead and 2-52 week ahead files at specific intervals. This process would:
 - Query each BMU's Output Usable data.
 - Determine each BMU's Fuel Type
 - Query the BM system for the next sequence number to be used in the BMRA file.
 - Write/concatenate the Output Usable record(s) for each BMU, together with its fuel type, into output file(s) for the BMRA.
 - Close this Output Usable file and forward it to the BM system for onward transmission to the BMRA.

The following modifications will be required to the BM system:

- Removal of existing Output Usable functionality from the code base.
- Revision of current FTP transmission process to forward Output Usable files received from TOGA onto the BMRA.
- Removal of Output Usable transmission to Elexon.
- New process to provide the next BMRA sequence number.
- New process to forward acknowledgements and acceptance/rejection of Output Usable submissions to TOGA.

In addition the following tasks are required:

- Modifications to TOGA design documentation.
- Modifications to the TOGA test and deployment scripts.
- Modifications to BM design documentation.
- Modifications to BM test and deployment scripts.
- Unit/System/UAT testing of TOGA.
- Unit/System/UAT testing of BM.
- Modifications to the TOGA-BM Interface Specification document.
- Modifications to the Interface Specification document between National Grid and the BMRA/SAA.

Question 5:

Please provide an estimate of development, capital and operating costs in appropriate detail which you as a Transmission Company anticipate that you would incur in implementing the Alternative Modification **as detailed in the P243 Requirements Specification** as a **Standalone Modification**

Please give your response:

Our cost assessment is consistent with our previous estimate at **£230k** for implementing P243 forward generation by fuel type, including changing where we send existing data to the Elexon website to send this to the BMRA and to make modifications to our systems to enable us to process and provide forward availability for interconnectors. Under the alternative we will send both forward generation by fuel type data to the BMRA as well as by BMU level data.

Question 6:

Please provide an estimate of development, capital and operating costs in appropriate detail which you as a Transmission Company anticipate that you would incur in implementing the Alternative Modification **as detailed in the P243 Requirements Specification** as a **in parallel with P244 'Provision of BritNed flow data to the**



Any questions?

If you have any queries on about the consultation form, please contact Sherwin Cotta on **020 7380 4361** or **sherwin.cotta@elexon.co.uk**.



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Please give your response:

Our cost assessment is consistent with our previous estimate at **£260k** for implementing P243 forward generation by fuel type, including changing where we send existing data to the Elexon website to send this to the BMRA and to make modifications to our systems to enable us to process and provide forward availability for interconnectors. Under the alternative we will send both forward generation by fuel type data to the BMRA as well as by BMU level data.

Question 13:

Would you like to make any other comments on P244?

No.

Further Information

To help us process your response, please:

- Email your completed response form to **modifications@elexon.co.uk**
- Use the following text in the subject line of your email: "P243 Transmission Company Analysis"
- Include a phone number in your covering email, so that we can contact you if we have any questions
- Respond by 5pm on 20 October 2009 (the Modification Group may not be able to consider late responses)

The Modification Group will consider your response at its next meeting. Once the Group has completed its assessment of P243, it will draft the Assessment Report, and present it to the November 2009 Panel meeting.