Advisory

Integrated technical review: FRCR 2025 (Phase 1)

Author: NESO Engineering Assurance

Purpose: FRCR 2025

Date: 05/03/2025

Context

To accompany the publication of FRCR 2025, NESO is proving integrated technical assurance whereby Accenture, with whom NESO has an Engineering Services Framework, is performing an independent review, using NESO prepared test criteria, of the end-to-end FRCR report creation process, with oversight being provided by NESO's functionally independent Engineering Assurance Team.

Scope and approach

Phase 1 covered up to and including the development of the (draft) policy recommendations and included:

- Verification that robust governance processes were used in finalising the methodologies to be followed via agreed tests carried out by Accenture.
- Methodologies are documented and were rigorously applied; this covers the sourcing and processing of cost and risk data, and their flow through the FRCR model. Accenture examined the methodologies, documentation, and data as per agreed tests.
- Results are reproducible and support the (draft) policy recommendations.

Testing of the above was performed by Accenture using tests provided by NESO's Engineering Assurance Team who subsequently performed a challenge and review of the output from Accenture's review.

Validation of the coding of the FRCR model was beyond scope as this would introduce a very significant delay in the process.

Phase 2 will cover the processing of feedback from industry consultation, including any re-running of the FRCR model. A separate report will be provided at the end of Phase 2.

Accenture's output

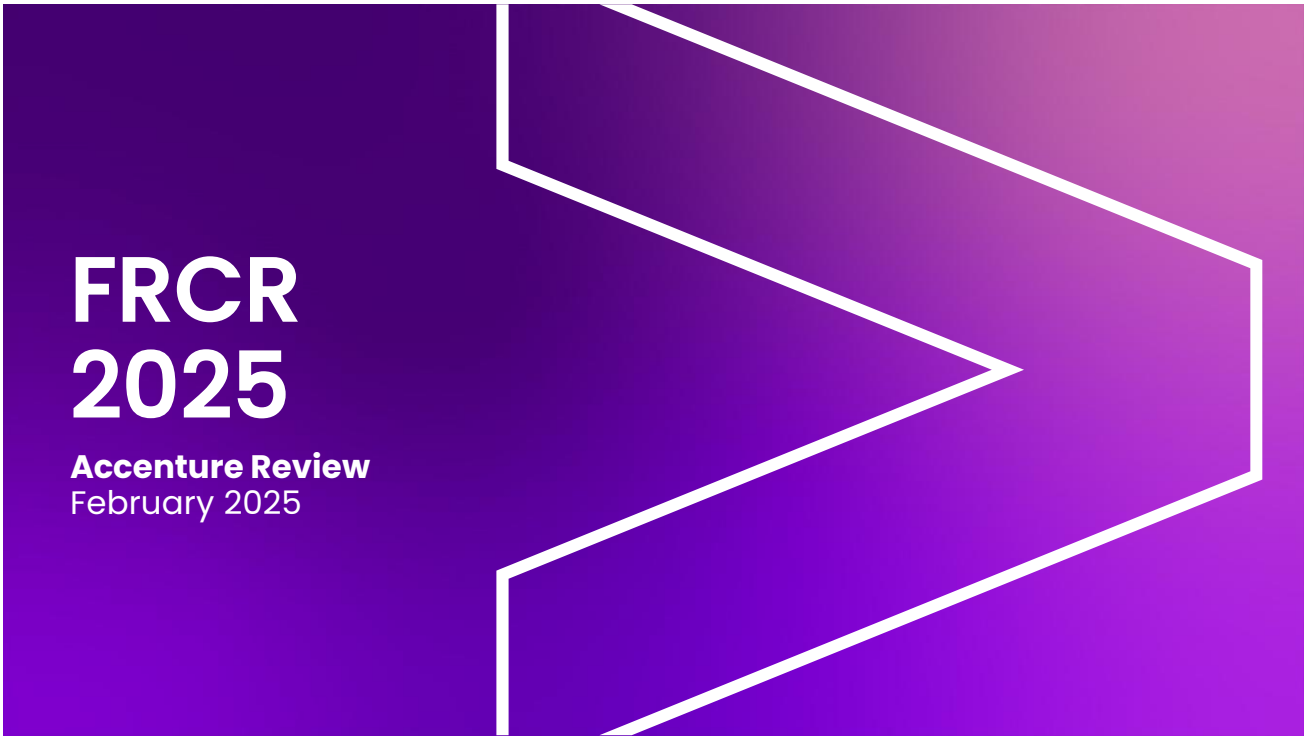
Accenture's conclusions and recommendations are summarised in their report to us (Appendix A) and may be shared with the SQSS Panel for the purpose intended by Accenture's review.

Conclusion

Having reviewed the output from Accenture's testing, we (NESO) are satisfied that a rigorous process has been followed in: agreeing the methodology with industry; applying the methodology both in terms of sourcing and processing key supporting datasets; running the model, the outputs from which are reproducible and have been subject to expert challenge and review; and developing policy recommendations from the model outputs.

A number of process improvements have been identified for future iterations of FRCR but these do not undermine confidence in the output of FRCR 2025.

Appendix A: Accenture report



FRCR 2025

The requirement for a Frequency Risk and Control Report (FRCR) was introduced following the approval of Security and Quality of Supply Standards (SQSS) modification GSR027. The first version of the report was published in 2021 and it is revised annually, following consultation with industry, and is reviewed by the SQSS Panel ahead of submission to Ofgem.

FRCR includes an assessment of the magnitude, duration and likelihood of transient frequency deviations, the forecast impact on and the cost of securing the system, and confirms which risks will or will not be secured operationally.

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Accenture's Scope

NESO asked Accenture, as a critical friend, to undertake a review of NESO's approach to FRCR 2025.

Accenture's scope is to review the approved governance structure, processes and methodologies NESO used to produce FRCR 2025.

The focus will be on reviewing that the analysis is robust and satisfies any recommendations.

Accenture's Scope of Work:

Part A- Governance
- In relation to external & internal stakeholders

Part B– Data Preparation
- Data from internal and external sources alongside any analysis undertaken

Part C– Data Modelling
- Sample Testing scenarios modelled in FRCR 2025

Part D– Policy Development
- Challenge and review evidence in process through to recommendation

Outcomes:

Process review across Governance, Data Preparation, Data modelling and Policy Development	Evidence of approvals, internal & external challenges and recommendations

Deliverables :

Summary report commenting on the alignment of NESO's approach to agreed methodologies.	Identify potential process improvement opportunities for future iterations of FRCR

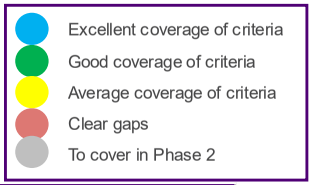
Please note : *Accenture is not authorised and makes no representation that the Services constitute legal advice or certification for any industry or other standards, nor does Accenture represent that the implementation of some or all the recommendations will enable the Customer to achieve compliance with any policies, laws, regulations or standards.*

Accenture's Approach

Accenture's role is to act as an independent external party to review NESO's approach to FRCR 2025. Primarily, the focus of Accenture's work has been to review available documentation, interview the relevant stakeholders and ensure that methodologies shared with industry have been followed.

	Review documentation	Interview stakeholders	Review evidence
Our Aims / Objectives	• Understand what documentation exists within the scope of this work	• Understand how processes have been followed and assumptions agreed upon	• To ensure that decisions, assumptions and outputs have been subject to rigorous challenge and review, and that conclusions are evidence based.
How	• Work with NESO's functionally independent Engineering Assurance team and the NESO FRCR team to identify all available documentation	• Utilising checklists, interview SME's in NESO FRCR team to identify key processes and decision points	• Work with NESO stakeholders to share, explain or take Accenture's team through the process.
Output	Summary report highlighting the findings from the Review Process		

FRCR Assessment Summary (1/2)



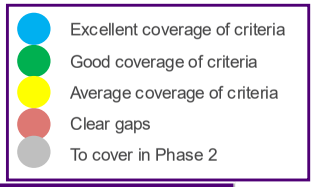
Part A – Governance

Workstream	Methodology Documented	Process Review*	Evidence of Peer Reviews and Approvals	Workstream Summary
External Stakeholders				The webinars provided sufficient context and explanation of the methodology and assumptions used in FRCR 2025. Questions from industry have been either replied to or actioned.
Internal Stakeholders				Weekly cadence with FRCR team where assumptions and data sets are discussed. Use of 'Editorial board' with SME's across NESO who support with expertise. More rigour needed in record keeping.

Part B – Data Preparation

Workstream	Methodology Documented	Process Review*	Evidence of Peer Reviews and Approvals	Workstream Summary
Control Scenarios				Control scenarios are well-documented, with test cases and key assumptions. Weekly reviews ensure validation, consistency, and policy alignment.
BOA Price				Methodology for compiling the data set well documented and the data analysis processing repeated for the Accenture team. Assumptions evidence provided and approval evidence shared.
Frequency Control Price				The methodology for response price calculations relies on scripts rather than formal documentation, with validation through internal reviews and approvals. Process demonstrated to Accenture team.
Inertia Price				Methodology for compiling the data set well documented and the data analysis processing repeated for the Accenture team. Assumptions evidence provided and approval evidence shared.
New Connections				Methodology outlined clearly and engagement with SME's throughout to validate data set and assumptions. Evidence within documentation of approval.
Inertia Capacity/Stability				Methodology for compiling the data set well documented and the data analysis processing repeated for the Accenture team. Assumptions evidence provided and approval evidence shared.
Wind Constraints				Methodology for compiling the data set well documented and the data analysis processing repeated for the Accenture team. Evidence of meeting to approve data set.
BMU Fault Statistics				Methodology for compiling the data set is outlined well, and the data analysis processing repeated for the Accenture team. Evidence of meeting with relevant stakeholders to approve data set.
Event Definitions				Data provided into the FRCR team by SME's within NESO. Much of the documented assumptions are covered in other workstreams and therefore approvals completed through them.
Simultaneous Events				Simultaneous events are well-documented with consistent assumptions and reporting. Methodology and data analysis processing clearly demonstrated to the Accenture team.

FRCR Assessment Summary (2/2)



Part B – Data Preparation (continued)

Workstream	Methodology Documented	Process Review*	Evidence of Peer Reviews and Approvals	Workstream Summary
Transmission Fault Statistics				Transmission fault data is documented and updated annually; aligned to historical trends. Validation occurs through test scenarios; clearly demonstrated to Accenture team.
Transmission Planned Outages				Methodology to produce the data set documented and NESO SME's have reviewed the list of BMU-connected substations. Evidence of meeting to approve data set but no written approval
BMU+VS Events				BMU and vector shift events are documented and updated annually, with regular reviews ensuring accurate classification and risk assessment, no formal written approvals.
Loss of Mains Volume Review				This data set has remained the same as FRCR 2024. Evidence shared of approval process for using the same data set. Recommended to update documentation for the next FRCR report.
System Conditions				System conditions are well-documented, with biannual reviews ensuring accurate forecasts, scaling, and inertia calculations.

Part C – Data Modelling

Workstream	Methodology Documented	Process Review*	Evidence of Peer Reviews and Approvals	Workstream Summary
Process Integrity				Accenture verified that the model processes data in line with the documentation shared with Industry; the steps were followed sequentially both in the calculation of costs and of residual risk. Validation of the algorithmic basis of functions is out of scope of this review, evidence of continual reviews with SME's as the data model develops would give further confidence of the output.
Traceability				For an independently selected sample of control scenarios, Accenture verified that the correct inputs were used and that the results in terms of both cost and residual risk are reproducible

Part D – Policy Development

Workstream	Methodology Documented	Process Review*	Evidence of Peer Reviews and Approvals	Workstream Summary
Technical focus				Accenture has seen evidence of the decisions and data model output that supports the policy recommendation. Further clarification has been provided where a recommendation is given.
Procedural focus				Evidence of material and meetings with the Editorial board. This work is in-flight so Accenture will pick it up as part of Phase 2 (i.e., post consultation)

** Process Review includes reviewing documentation, testing data preparation steps and evidencing how the data is fed into the model*

Conclusion & Next Steps

Throughout this project, there is strong evidence that the NESO FRCR team have followed the outlined methodologies and processes when producing this year's report. Where documentation has been limited, the FRCR team have identified this and demonstrated to us the process followed.

When NESO's FRCR team look to undertaking next year's study, we recommend a number of initiatives that may aid future reviews of the FRCR report:

1. Implement processes to ensure that decisions, assumptions, and peer review processes are consistently documented and stored in a central location.
2. Eliminate single point of failures within the team – the skillset and experience required to perform some modelling aspects of FRCR would be difficult to quickly allocate to someone new; succession planning would reduce this risk.
3. Given the complexities of the data modelling work, peer reviews at regular stage gates in the development journey would give further confidence in the results and policy recommendation.

FRCR 2025 Accenture Review Phase 2:

NESO have asked Accenture to verify, through review, that all feedback from the industry consultation on the policy recommendation has been processed (recorded, responded to, acted upon and, if necessary, further studies undertaken)