

Public

# Advisory

## Integrated technical review: FRCR 2025

Author: NESO Engineering Assurance

Purpose: FRCR 2025

Date: 02/05/2025

### Context

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

The assurance was performed in two phases; for ease of reference, this report covers both the Phase 1 assurance, as previously submitted to the SQSS Panel, and the more recent Phase 2 work.

### 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.

Phase 2 covered:

- the processing of feedback from industry consultation on the draft policy recommendations, including the re-running of the FRCR model to include results for additional levels of DC-Low overholding, in order to finalise the policy recommendations.
- one element carried over from Phase 1 for timing reasons (testing of the controls around approval of the draft FRCR report to be issued for consultation).

Testing of all 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 and validation of the previously agreed methodology was outside scope, as this would introduce a very significant delay in the process.

## Accenture’s output

Accenture’s conclusions and recommendations are summarised in their reports to us – see Appendices A and B for Phases 1 and 2 respectively. These 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: responding to detailed feedback from industry on the methodology; 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; developing draft policy recommendations from the model outputs for consultation; and, taking due account of industry feedback, finalising the policy recommendations.

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

## Appendix A: Accenture report (Phase 1)

# FRCR 2025

Accenture Review  
February 2025

## 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.

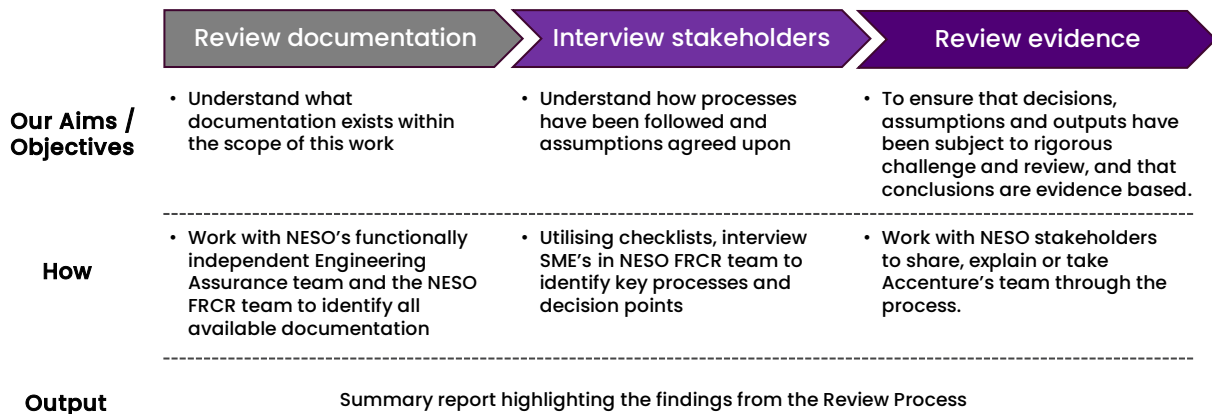
Identify potential process improvement opportunities for future iterations of FRCR

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## 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.



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# FRCR Assessment summary (1/2)

● Excellent coverage of criteria  
● Good coverage of criteria  
● Average coverage of criteria  
● Clear gaps  
● To cover in Phase 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) <small>Copyright © 2025 Accenture. All rights reserved.</small>

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

● Excellent coverage of criteria

● Good coverage of criteria

● Average coverage of criteria

● Clear gaps

● To cover in Phase 2

## 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)

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## Appendix B: Accenture report (Phase 2)

# FRCR 2025

Accenture Review Phase 2

April 2025

## 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.

In **Phase 1** Accenture reviewed the approach to Governance, Data Preparation, Data Modelling and aspects of Policy development

In **Phase 2** Accenture will conclude the review of Policy development and assess the 'Consultation phase' of FRCR 2025

### Accenture's Phase 2 Scope of Work:

#### Policy Development

- Internal Challenge and Approval

#### Consultation

- Engagement with External stakeholders
- Management of Feedback
- Inputs for Future FRCR

### Outcomes:

Process review across Policy Development and the Consultation phase of FRCR 2025.

Evidence of approvals, internal & external challenges and recommendations

### Deliverables :

Summary report commenting on the alignment of NESO's approach to agreed methodologies.

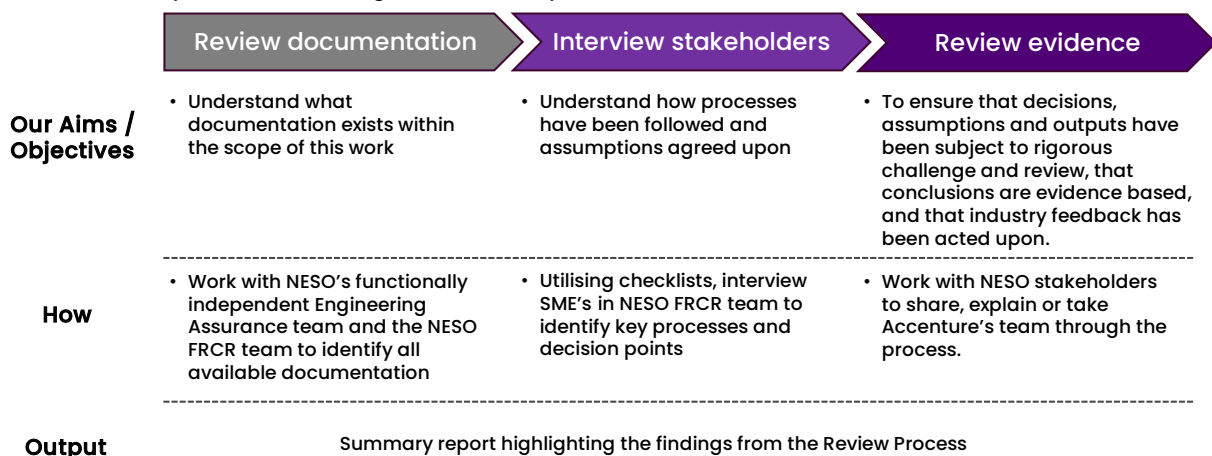
Identify potential process improvement opportunities for future iterations of FRCR

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## 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 to ensure that methodologies shared with industry have been followed, and that feedback from industry on the draft FRCR report has been sought and acted upon.



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# FRCR Assessment Summary

<span style="color: blue;">●</span>	Excellent coverage of criteria
<span style="color: green;">●</span>	Good coverage of criteria
<span style="color: yellow;">●</span>	Reasonable coverage of criteria
<span style="color: red;">●</span>	Clear gaps

## Phase 1 Continued:

### Part D – Policy Development

Workstream	Methodology Documented	Process Review*	Evidence of Peer Reviews and Approvals	Workstream Summary
Procedural focus	<span style="color: green;">●</span>	<span style="color: green;">●</span>	<span style="color: blue;">●</span>	Evidence of NESO Editorial board probing the policy recommendations and the FRCR team actively engaging with the feedback. Additionally, evidence of the approvals from each stakeholder on the editorial board has been shared to ensure approvals from all relevant internal stakeholders from across the business.

## Phase 2:

Workstream	Consultation process and good practice	Evidence documented	Workstream Summary
Consultation management	<span style="color: blue;">●</span>	<span style="color: blue;">●</span>	The FRCR team outlined the Consultation process and presented the recommendations of FRCR 2025 in a webinar for all interested parties. The published consultation period was subsequently extended to provide an additional opportunity for industry to submit feedback.
Stakeholder engagement	<span style="color: green;">●</span>	<span style="color: blue;">●</span>	On a timely basis, the FRCR team proactively approached all stakeholders who had submitted feedback as part of FRCR 2025 to agree follow-up meetings as appropriate.
Consultation Feedback	<span style="color: blue;">●</span>	<span style="color: blue;">●</span>	All feedback received as part of the Consultation process was actioned in both a specific response and a follow up discussion.
Additional Actions	<span style="color: blue;">●</span>	<span style="color: green;">●</span>	The FRCR team actioned all relevant questions to FRCR 2025. This includes undertaking additional studies to confirm policy recommendations. Where questions from industry were out of scope of FRCR 2025, the team have committed to follow up with the relevant NESO stakeholder
Planning for the future	<span style="color: blue;">●</span>	<span style="color: blue;">●</span>	All feedback relating to future iterations of the FRCR process have been documented in a central tracker, and NESO have committed to reporting back to the Operational Transparency Forum on how this feedback will be addressed.

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

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## Conclusion

### On Phase 2:

Throughout the Consultation period, the NESO FRCR team have effectively managed the feedback received from industry partners, engaging proactively to understand and comment upon all correspondence.

Where required, the team have undertaken further analysis and documented potential improvement areas for future iterations of the FRCR process.

### On the FRCR 2025 Review:

After undertaking Phase 2 of this review, it is clear that the NESO FRCR team are already implementing recommendations from the Phase 1 report.

NESO's FRCR team have worked diligently to support this review of the FRCR process and have shown a strong willingness to engage proactively to ensure the scope of this review could be completed.

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## Next Steps

At the request of NESO, Accenture have documented some recommendations across both Phase 1 and Phase 2 of this review to help develop the FRCR process further.

Outlined below are these recommendations:

- |         |   |   |   |
|---------|---|---|---|
| Phase 1 | [ | ① | Implement governance and methodologies best practice 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 and production of standard operating procedures (SOPs) 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.   |
| Phase 2 | [ | ④ | Through the consultation phase, it is evident that not all stakeholders are aware of the scope of the FRCR report. The FRCR team should consider producing a terms of reference annually at the start of the FRCR process outlining the scope boundaries for each FRCR report   |
|         |   | ⑤ | To aid in transparency, NESO should consider sharing with the SQSS panel and industry stakeholder's details of the Editorial board within the business. This could help build confidence that the breadth of experience within NESO is being fully utilised to ensure the factual accuracy of the FRCR report and the rigour in the underlying processes. |

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