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2nd August 2018

Dear Industry Colleagues

TESTING GUIDANCE FOR PROVIDERS OF FIRM FREQUENCY RESPONSE BALANCING SERVICE

The Testing Guidance Document was originally created to provide a tailored approach to pre-qualification for Demand Side Response (DSR) and storage parties. Pre-qualification requirements for conventional generation are contained in the Grid Code and supporting documents.

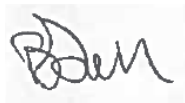
To ensure improvements are made to the Testing Guidance Document, we regularly review this based on provider feedback, observations from submitted testing data and changes to the Firm Frequency Response (FFR) service. Today we have issued a draft version of Testing Guidance Document for FFR containing these proposed changes. This can be found [here](#).

Views are invited from industry on these changes – a high level overview of these can also be found below in Appendix A. To be clear this does not replace the current Testing Guidance Document for FFR (which can be found [here](#)) which will remain in use until the consultation process, including final proposals, is formally issued. We would also welcome any additional changes which industry members consider worthy of raising with a view to improving the FFR testing process.

Looking ahead National Grid will continue to review the Testing Guidance Document to reflect new frequency products and the interaction between product testing and performance monitoring.

Responses to this consultation should be sent by **5pm on Friday 7th September 2018** to: commercial.operation@nationalgrid.com

Yours sincerely,



Ben Smith
Contracts Manager

Appendix A

Below are a summary of the proposed changes to the Testing Guidance Document for FFR which are being consulted on. References below relate to the Draft version of the Testing Document which can be found [here](#).

Issue	Existing	Proposed change
1 – Introduction		
1.2 - Non dynamic table 1.1	Non-dynamic table in section 1.2 refers to Primary and High Frequency	Primary and High timescales removed from non-dynamic table
1.2 - Dynamic table 1.2	High frequency – 10s – indefinitely	High frequency – 10s – 30 min (minimum) As a result of feedback we are clarifying this is the requirement.
2 – Non-Dynamic		
2 Non-dynamic testing		Frequency can be injected either at site or remotely. As a result of feedback we are clarifying that we will allow a central relay trip to confirm response.
2. Sample rate	10Hz	Now the sample rate for this test is 1Hz – as a result of direct feedback we are proposing this change to reduce potential testing costs to providers
2 Non-Dynamic testing -figure 2.2	Non-Dynamic High frequency response testing	Removal of Non-Dynamic High frequency response testing (figure 2.2)
3- Dynamic Testing		
3.1 Test 1 Step tests - Pass criteria	The standard deviation of load error at steady state over a 180 second period must not exceed 2.5% of the maximum contracted active power.	Any overshoot shall not exceed 10% of the steady state change in output for the duration of the test. The output should have attained the steady state value within 10s of the application of the frequency step.
3.2 Test 2 Frequency Sweep tests		As a result of direct feedback we are proposing to add a note regarding tolerance bands if the primary and secondary response values differ
3.3 Test 3 – Duration tests pass criteria	The standard deviation of load error at steady state over an 1800 second period must not exceed 2.5% of the maximum contracted active power.	The standard deviation of load error at steady state over a 30 minute period must not exceed 2.5% of the maximum contracted active power response. For Test 3.1 and 3.2, standard deviation is assessed from 10 seconds until 30 minutes after the frequency step, unless the contracted values for primary and secondary are different. In this case, standard deviation for Test 3.2 is

		assessed from 30 seconds until 30 minutes after the frequency step.
3.4 Test 4- Connection to the Grid Test	This test investigates the system's ability to respond to the system frequency. The active power response of the system and the system frequency will be recorded for 1 hour. The sample rate should be 10Hz for this test.	Test 4 (system frequency) replaced with injection frequency of a real frequency event. This allows aggregation to be easily tested.
Appendices		
Appendix A – Test data a test signals	Table A.1 for both Dynamic and Non Dynamic Test data	Dynamic and non-Dynamic have their own tables A.1 and A.2 (Simplification of what is required)
Appendix B – Format of test results	Figure B.1 Format of test results	Figure B.1 now has Non- Dynamic B.1 and Dynamic B.3 examples (Helps users by setting out what is required)
Appendix C – Test Request Form		Appendix C added for Non-BM Frequency Response Testing Request (helps ensure data is correctly submitted)