Welcome to the DS3 System Services Protocol Consultation Information Session

March 2022

- Please log in with Mic muted / Video off
- Speaker turn video on and off when speaking
- Questions can be logged to DS3@Eirgrid.com & DS3@SONI.ltd.uk

- *6 on conference line is to mute / unmute

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Agenda

Topic	Time	Speaker
Introduction (including purpose of workshop and overview process)	5 mins	Sam Matthews
TSO Proposed Change: 1. Reduction in threshold for performance monitoring 2. Industry Q&A	10 mins	Vivienne Price
TSO Proposed Change: 1. POR average assessment 2. Industry Q&A	15 mins	Vivienne Price
TSO Proposed Change: 1. Ramping assessment methodology 2. Industry Q&A	15 mins	Nezar Kamaluddin
Next Steps and Future Engagements in 2022 - Consultation times - V4 go live at autumn gate	10 mins	Eimear Watson

Introduction

- Version 3 of the DS3 System Services Protocol – Regulated Arrangements was effective from 1st October 2020
- Workshop held to discuss future changes November 2020
- Industry notified in March 2021 that we would be delayed in publishing the version 4 consultation

Purpose of today's session

1. Overview of the proposals presented in the consultation paper

2. Address industry queries on the proposals

DS3 System Services Protocol Consultation Proposals

Vivienne Price & Nezar Kamaluddin

System Support & Analysis

Reduction in Threshold for Assessing Units for Operating Reserve and Fast Frequency Response (FFR)

Operating Reserve & FFR

- Operating Reserve & FFR is the additional MW output (and/or reduction in Demand) required compared to the pre-incident output (or Demand), which is fully available and sustainable for defined time periods after a Frequency Event.
  - FFR Period: 2 – 10 seconds
  - POR Period: 5 - 15 seconds
  - SOR Period: 15 – 90 seconds
  - TOR1 Period: 90 - 300 seconds

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Reduction in Assessment Threshold

- **Issue:**
  - Units available <1MW during a frequency event are not currently assessed and they receive N/A records.
  - Long term N/A records lead to becoming data poor.

- **Proposal:**
  - Reduce the assessment threshold for OR services to 0.5MW.
  - Reduce the assessment threshold for FFR to 0.2MW.

- **TSOs Rationale for Changes:**
  - Increases the number of units available for assessment, therefore reducing the likelihood of going data poor for smaller units.

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Review of events from Oct 2019-2020 previously presented

- **POR Review:**
  - 17 additional assessments would have been completed for 10 different units.
  - Out of these 10 units, 4 of these units are currently data poor.
  - Therefore 4 units no longer data poor
  - Additional assessment results:

Passes	Partial Passes	Fails
8	0	9

- **SOR Review:**
  - 19 additional assessments would have been completed for 12 units.
  - Out of these 12 units 3 of them are currently data poor.
  - Additional assessment results:

Passes	Partial Passes	Fails
10	2	7

- **TOR1 Review:**
  - 14 additional assessments would have been completed for 12 units.
  - Out of these 12 units 5 of them are currently data poor.
  - Additional assessment results:

Passes	Partial Passes	Fails
7	3	4

- **FFR Review:**
  - 5 additional assessments would have been completed for 3 units.
  - 1 of these units is currently data poor.
  - Additional assessment results:

Passes	Fails
4	1

Example text from Protocol

For each Performance Incident, where the **Average SOR Requirement** is greater than or equal to ~~1~~0.5 MW the **Performance Incident Scaling Factor** (Q_i) is calculated as follows;

i) If the **Average SOR Requirement** minus the **Average Achieved SOR** response is less than or equal to 1 MW and the **Average Achieved SOR** divided by the **Average SOR Requirement** is greater than or equal to 0.5, Then

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Summary

- Lowering of threshold for assessment of POR, SOR & TOR1 to 0.5MW from 1MW.
- Lowering of threshold for assessment of FFR to 0.2MW from 1MW.
- Providing the opportunity for units with smaller contracted values for these services to be assessed more frequently.
- Helps units to avoid becoming Data Poor.

Questions

Change to the POR Assessment Method

Primary Operating Reserve (POR)

- POR is the additional MW output or reduction in demand required at the Frequency nadir, compared to the pre-incident output/demand, which is fully available and sustainable between 5 and 15 seconds after the Event.

- POR Inertia Credit:
  - In March 2021 we publicly stated that the removal of the POR inertia credit would not be included in the scope of changes planned for the next consultation. This was a result of the feedback from the industry workshop in Nov 2020 and from one to one meetings with stakeholders.
  - We will continue to review for future iterations

Change to POR Assessment

- **Issue:**
  - Greater number of events where the frequency nadir has occurred in a sub 5 second timeframe due to higher system inertia – the POR assessment will then occur at 5s.
  - Fast acting response of service providers will not only have arrested the fall in frequency before the 5 second POR assessment period but will also have returned system frequency to a nominal state
  - FFR payment which covers the reserve period of sub 2 seconds to 10 seconds has since been introduced providing a source of income for units which are reacting quicker than the POR period.

- **Proposal:**
  - Change POR assessment method to assess the average response of a unit over the entire POR period.

- **TSOs' Rationale for Assessment Changes:**
  - Average assessment looks at the overall performance of a unit during the POR period.
  - This gives a truer and fairer reflection of how a unit performed when providing POR and does not restrict its performance assessment to one moment in time.
  - Assessment in line with that for SOR and TOR1.

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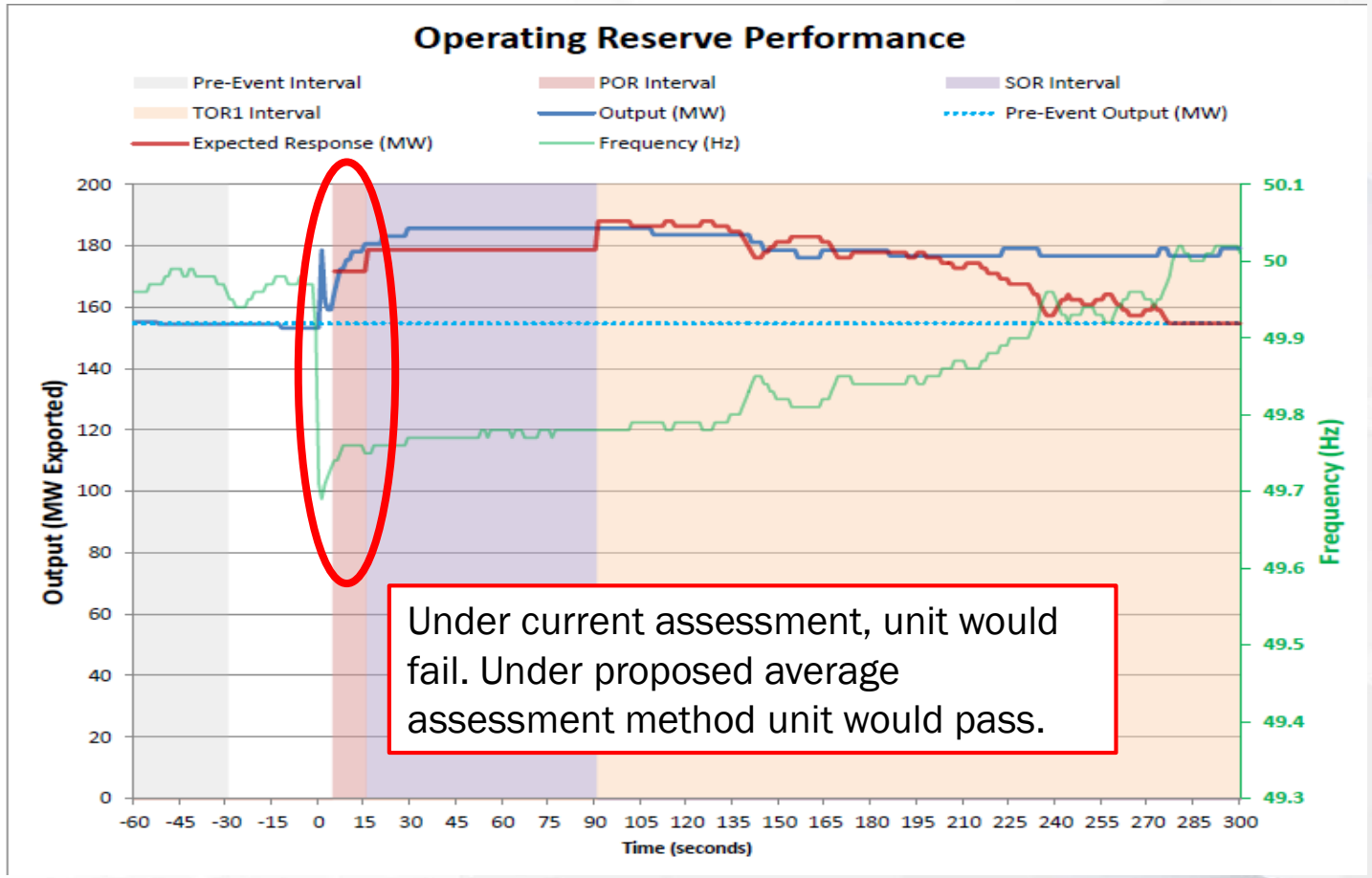
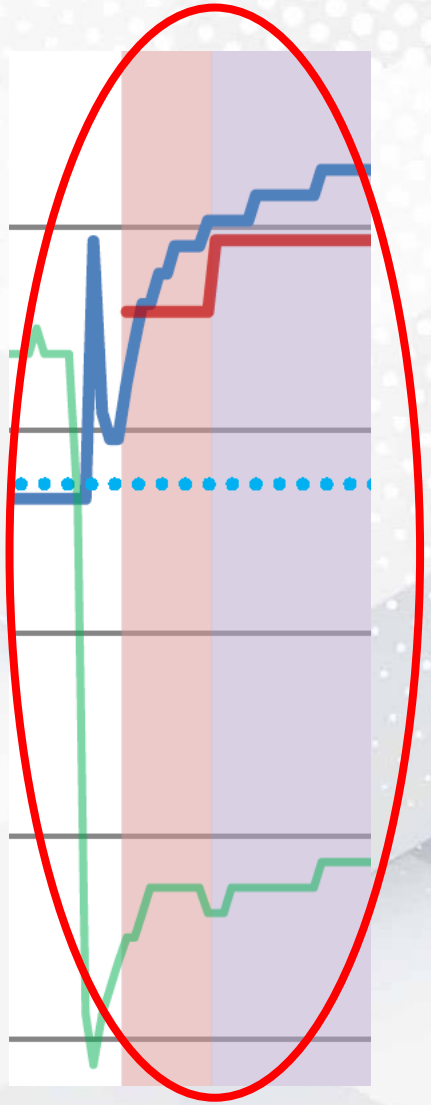
Change to POR Assessment

- Current Assessment Method:
  - In the next slide the report shows the Frequency Event Nadir occurs before the POR Period, therefore it is taken at T = 5s for assessment purposes.
  - At this time the Unit output is below the calculated expected output.
  - Inertia Credit would be applied however the unit would still fail to Pass POR performance assessment.

- Proposed Assessment Method:
  - It can be seen that the Unit output, on average is greater than the calculated expected Unit output for the entire POR period.
  - This unit would pass the proposed POR performance assessment.

Change to POR Assessment





POR Assessment Review

- A review was completed on the performance data from units from all chargeable Frequency Events in the last 12 months. The units were reassessed using the proposed average assessment method.

Unit	Current Assessment	Average Response Assessment
1	Pass	Pass
2	Pass	Pass
4	Pass	Pass
5	Pass	Pass
6	Partial Pass	Pass
7	Partial Pass	Pass
8	Pass	Pass
9	Pass	Pass
10	Pass	Pass
11	Fail	Fail
12	Pass	Pass
13	Pass	Pass
14	Fail	Fail
15	Fail	Fail
16	Fail	Fail
17	Pass	Pass
18	Pass	Pass
19	Pass	Pass
20	Pass	Pass
21	Pass	Pass

3rd July 2021 Event

Unit	Current Assessment	Average Response Assessment
1	Pass	Pass
2	Pass	Pass
3	Pass	Pass
4	Pass	Pass
5	Pass	Pass
6	Pass	Pass
7	Partial Pass	Pass
8	Pass	Pass
9	Partial Pass	N/A
10	Pass	Pass
12	Fail	Fail
14	Pass	Pass
15	Pass	Pass
16	Pass	Pass
17	Pass	Pass
18	N/A	N/A
19	N/A	N/A
20	Partial Pass	N/A
21	Pass	Pass
22	Pass	Pass
23	Fail	Pass
24	Fail	N/A
25	Fail	Fail

18th July 2021 Event

POR Assessment Review

18th November 2021 Event

Unit	Current Assessment	Average Response Assessment
1	Pass	Pass
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	Pass	Pass
6	Pass	Pass
7	Pass	Pass
8	Pass	Pass
9	Pass	Pass
10	Pass	Pass
12	Fail	Fail
14	N/A	N/A
15	N/A	N/A
16	Pass	Pass
17	Pass	Pass
18	Pass	Pass
19	N/A	N/A
20	Partial Pass	Partial Pass
21	Pass	Pass
22	Pass	Pass
23	N/A	N/A
24	N/A	N/A
25	Pass	Pass

22nd November 2021 Event

Unit	Current Assessment	Average Response Assessment
1	Partial Pass	Partial Pass
2	N/A	N/A
3	Pass	Pass
4	Pass	Pass
5	Pass	Pass
6	Pass	Pass
7	Pass	Pass
8	Pass	Pass
9	Pass	Pass
10	Fail	Pass
12	N/A	N/A
14	Pass	Pass
15	N/A	N/A
16	Pass	Pass
17	Pass	Pass
18	Pass	Pass
19	N/A	N/A
20	Partial Pass	Partial Pass
21	Fail	Partial Pass
22	Partial Pass	Pass
23	N/A	N/A
24	N/A	N/A
25	Fail	Pass

Summary

- An assessment of POR based upon a nadir in a 5-15 second period is no longer appropriate and as such the TSOs propose amending the assessment of the DS3 SS POR service to align with the assessment methodology for the SOR and TOR1 services.

- TSOs believe this is a fairer and truer reflection of a unit's performance.

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Questions

Proposal for New Ramping Margin PM Assessment Method

Ramping Margin Service

- Ramping Margin is the increased MW Output and/or the MW Reduction that a Providing Unit can provide and maintain within certain time periods after the TSO has issued a Dispatch Instruction (DI) to the Service Provider.
  - Ramping Margin 1 (RM1): MW Output and/or MW Reduction a Providing Unit can provide within 1 hour and maintain for a further 2 hours.
  - Ramping Margin 3 (RM3): MW Output and/or MW Reduction a Providing Unit can provide within 3 hours and maintain for a further 5 hours.
  - Ramping Margin 8 (RM8): MW Output and/or MW Reduction a Providing Unit can provide within 8 hours and maintain for a further 8 hours.

Ramping Margin Assessment

- **Issue:**
  - Current approach to ramping assessment is limited and does not provide a true reflection of a unit's performance with regards to the provision Ramping Margin services.
  - For units with low number of Syncs, even if the unit is providing adequate ramping services, one Fail Sync can have a knock on effect on payments for 5 months.
- **Proposal:**
  - Ramping assessment method for RM1 which assesses a unit's ramping performance against its ability to follow dispatch instructions through the use of publicly available SEM data*.
  - Provides more transparency simplifies the calculation process since the profiling is already built into the half-hourly market settlement data.
  - The services listed in the table will continue to be aligned with the method of assessment used to calculate RM1.

DS3 System Service
TOR2 (dispatch)
RRS (dispatch)
RRD (dispatch)
RM3
RM8

*where data is currently unavailable in market systems for certain units we may evaluate other information sources

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Ramping Margin Assessment - Process

Steps to calculate the performance for each Providing Unit contracted for a ramping product on a monthly basis.

- The resulting monthly Ramping Margin Performance Assessment Percentage (RPP) will determine how the Monthly Scaling Factor (Km) will be applied to the Providing Unit.
    - For each Providing Unit the TSOs will identify the assessible Trading Periods in the reporting month where the DQ (Dispatch Quantity) values were different from those in the previous Trading Periods, which indicates ramping in general.
    - For each of those assessible Trading Periods, the TSOs will evaluate whether the unit has followed those identified DQs, Yes (Y) or No (N) within a tolerance.
        - Tolerance level = Maximum of [5% of DQ] and [2% of Registered Capacity].
        - Tolerance used for under provision only. Over provision is not penalised.
    - RPP will be calculated as the percentage in the reporting month of those assessible Trading Periods where the unit is Y.
        - RPP will be calculated to 3 decimal places (XX.XXX%).

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Sample Half-Hourly Assessment

- Ramping performance assessments for each half-hourly trading period.

Unit	Trading Period	DQ	QM	Assessible Period	Assessment
UT1	01/01/2022 00:00	0	0	--	--
UT1	01/01/2022 00:30	0	0	--	--
UT1	01/01/2022 01:00	0	0	--	--
UT1	01/01/2022 01:30	20	19	Y	Y
UT1	01/01/2022 02:00	100	130	Y	Y
UT1	01/01/2022 02:30	120	121	Y	Y
UT1	01/01/2022 03:00	150	125	Y	N
UT1	01/01/2022 03:30	200	150	Y	N
UT1	01/01/2022 04:00	220	222	Y	Y
UT1	01/01/2022 04:30	220	220	--	--
UT1	01/01/2022 05:00	200	197	Y	Y
UT1	01/01/2022 05:30	150	160	Y	Y
UT1	01/01/2022 06:00	20	25	Y	Y
UT1	01/01/2022 06:30	0	0	Y	Y
UT1	01/01/2022 07:00	0	0	--	--

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Sample Report

- We propose to issue a monthly report of the RPP value to each Providing Unit that is contracted for a DS3 System Service that uses the RM1 Performance Assessment for the calculation of their Performance Scalars.

Month	No of Assessible Trading Periods	No of Assessible Trading Periods where Unit Followed DQ (with Tolerance)	RPP
Jan-2021	147	97	66.0%
Feb-2021	10	9	90.0%
Mar-2021	94	90	95.7%
Apr-2021	412	380	92.2%
May-2021	3	0	0.0%
Jun-2021	38	31	81.6%
Jul-2021	816	786	96.3%
Aug-2021	42	42	100.0%
Sep-2021	336	269	80.1%
Oct-2021	974	974	100.0%
Nov-2021	871	870	99.9%
Dec-2021	0	N/A	N/A
Jan-2022	258	252	97.7%
Feb-2022	816	815	99.9%
Mar-2022	448	444	99.1%

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Ramping Margin Scalar

- The TSOs propose the following approach to determine the **Monthly Scaling Factor (K_m)*** for RM1 for all Providing Units:

- If the RPP of a Providing Unit is 90% or above then $K_m = 0$
- If the RPP of a Providing Unit is 70% or less then $K_m = 1$
- Otherwise, $K_m = (0.9 – (RPP/100))*5$

- TSOs are minded to retain the historical scalar values upon implementation of new method.

*see Section 5.4 of the DS3 Protocol for more detail on how this relates to monthly performance scalars

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Ramping Margin Assessment

TSOs' Rationale for Changes:

- Gives a truer reflection of how a unit performed in delivering their Ramping products.
- Units with low number of syncs and can face long term effects of a single failed sync, these units would stand a better chance of having a more accurate scalar for the Ramping Services.

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Questions

Protocol – Next Steps

Eimear Watson

System Support & Analysis

Next Steps

- Submit your response to the consultation by uploading on the EirGrid and SONI consultation portals, preferably structured in line with the specific questions raised in this paper. Please note your consultation response will be publicly available.

- You can also submit your response via email to DS3@soni.ltd.uk and DS3@eirgrid.com by 15th April 2022.

Next Steps

- TSOs will provide a recommendations paper to the RAs by end of May 2022.
- Aim is for RA's to review in advance of June 2022 Oversight.
- V4 is scheduled to be implemented in Q4 of 2022.
- V4 will be included in the relevant tender documentation as appropriate.

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Thank you for your participation today

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