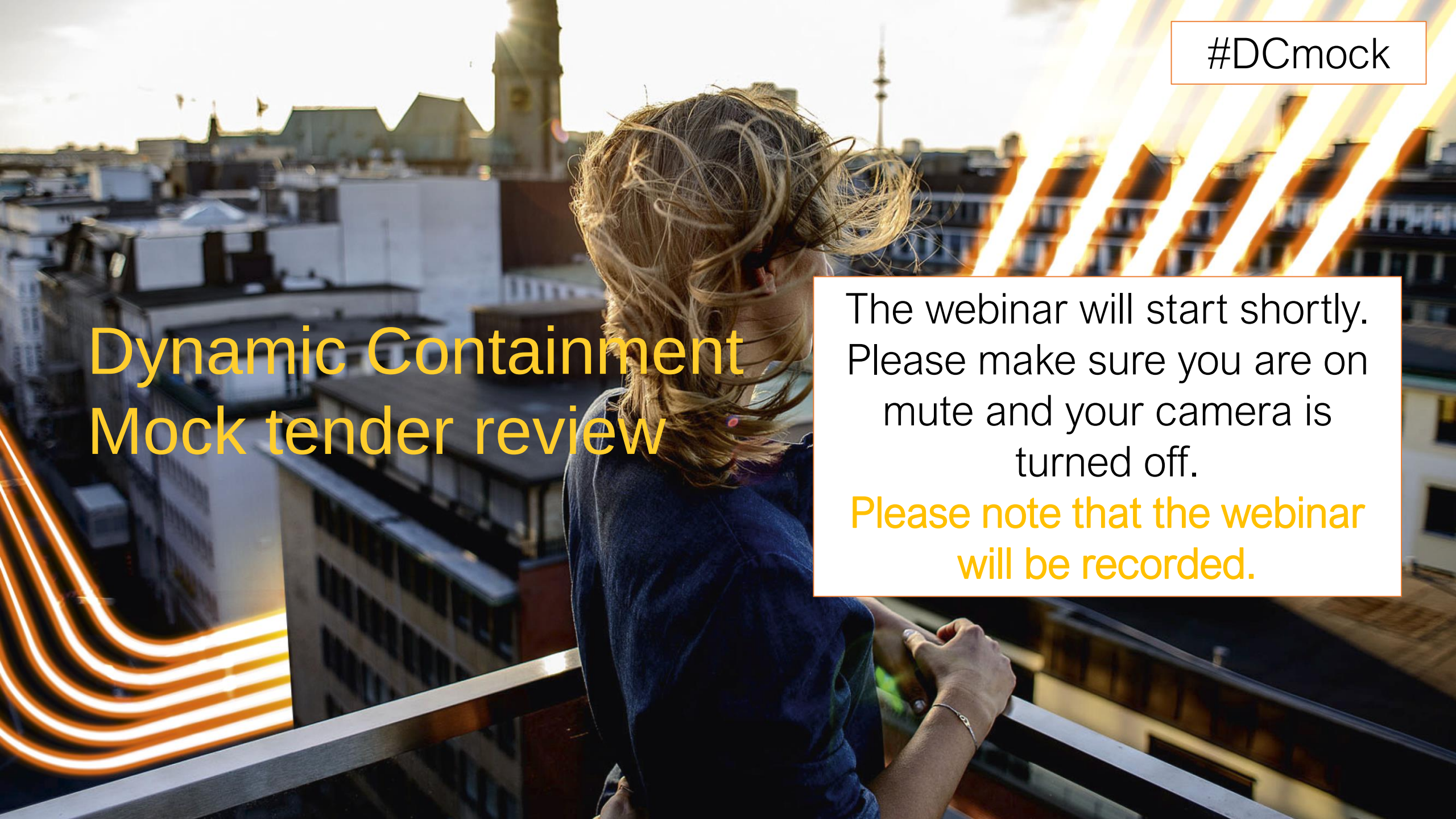

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Dynamic Containment Mock tender review

The webinar will start shortly. Please make sure you are on mute and your camera is turned off.

Please note that the webinar will be recorded.

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Dynamic Containment
Mock tender review

Agenda

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1. Overview
2. Learning points
3. Review of results
4. Next steps
5. Q&A session


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Overview
[Yingyi Wang]

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Why do we need DC?

Current system operability needs

Currently, the electricity system is experiencing lower inertia and larger, more numerous losses than ever before.

Faster acting frequency response products are needed because system frequency is moving away from 50Hz more rapidly as a consequence of imbalances. This is evident in the rate of change of frequency (RoCoF) and illustrated by the interaction of size of imbalance and inertia as show below:

$$RoCoF\left(\frac{Hz}{s}\right) = \frac{50}{2} \times \frac{Imbalance\ (MW)}{Inertia\ (MVA.s)}$$

As a system operator we need to manage both the absolute change in frequency and the RoCoF.

The variables we can control in the RoCoF equation are the size of imbalance (or losses) and the level of inertia.

- Managing low inertia is a key element of our 2025 zero carbon ambition. Our Stability pathfinder work is looking to create markets for inertia.
- The number of significant losses and their absolute size will increase as we welcome new interconnection and offshore wind onto our system.

Why do we need DC?

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The SQSS sets out the standards to which NGESO must operate the system to and defines “unacceptable frequency conditions” as a measure of reliability with respect to frequency control. To meet this standard NGESO uses a mixture of actions which enable frequency control as follows:

Frequency Response Services	→ reduces the size of the frequency deviation
Increase Inertia	• **synchronising units with non-zero inertia** → reduces the Rate of Change of Frequency (RoCoF) following an event → allows response services more time to react → prevents the consequential loss of RoCoF generation
Reduce Loss of Mains loss size (ALOMCP)	• **avoiding unintended tripping of distributed resources** → reduces the size of the frequency deviation
BMU loss size	• **reducing the size of individual generation / demand losses:** → reduces the size of the frequency deviation → reduces the Rate of Change of Frequency which: → allows response services more time to react → prevents the consequential loss of RoCoF generation

Dynamic Containment will allow NGESO to take fewer actions in constraining largest losses and increasing inertia

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Mock Tender – purpose and process

Purpose

- To facilitate DC soft launch, a mock tender was held to give all parties an opportunity to practice their internal processes around data collection, file formatting and timeline structures.

Process

- Providers submitted their mock provider data templates by 10am Wed 23rd Sep
- Providers submitted their mock tender templates by 10am Thu 24th Sep
- We ran these through our assessment rules, with a requirement of 300 MW and an alternative cost of £10/MW/h*
- The results were published at 5pm Fri 25th Sep on Data Portal

*Price discovery is out of the scope of this testing, thus dummy prices were used. Please do not take the mock clearing price as the indicative price.

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Learning Points

[Andrew Rice]

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Learning Points

Topic	Comments
Late submission	▪ No late submission appeared in the mock tender
Non- compliant submission	▪ Offered MW was bigger than unit's testing capacity ▪ Unit Id in tender template didn't match that in provider data template ▪ HF bids
Onboarding tool	▪ Learnings from the Mock tender have allowed us to refine the Tender submission and validation tool ready for soft launch this week. ▪ Provider tender submission must be in the correct excel format (**Microsoft Excel Macro- Enabled Worksheet**) otherwise is it is may be flagged as non compliant
Market Results	▪ New rejection code will be needed for withdraw / no participation ▪ New column will be needed to present product name within the results

In go-live phase, participants whose submission is non-compliant will be rejected. Non-compliant submissions will only be reflected in the market results with rejection code of 4.

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Difference between mock and go live

	Mock	Go-live
Email Address	Commercial.Operation@nationalgrideso.com	DC.Submissions@nationalgrideso.com *(submissions only. Questions/queries continue through acc manager or commercial.operation@nationalgrideso.com)*
Name of templates	[Agent/Applicant Name - DC - xx.xx.xx]	Provider Data Template: PD_dd.mm.yy_providername Tender Template: TT_dd.mm.yy_providername
Format of templates	Not CSV	Microsoft Excel Macro- Enabled Worksheet
Result publish timing	17:00	14:00
Real time metering	Not applicable	Only 300 MW can be accepted from no Real Time Metering Units

Based on learnings we identified in the mock tender, improvements have been made to the provider data template and tender template. Final drafts have been published alongside all other documents.

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Review of results

[Agnieszka Rozanska]

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Recap of assessment methodology

- Rank all orders by price
- Reject orders which are not economic against alternative action(s)
- Accept all economic orders until the sum of units without real time metering or baselines reaches 300MW limit, then reject all units which do not meet these criteria.
- Carry on accepting submissions which satisfy all criteria until the requirement is met
- Whereby we receive bids that have the same characteristics (same price, volume, aggregation type) as the marginal unit, use the last resort rank factor to determine which unit(s) to accept and reject.
- Reject any units that would incur overholding (either against overall requirement or due to them being a unit that would result in more than 300MW of units without real time metering or able to submit baselines). If there are units remaining in the stack that are economic and would meet the requirement with zero overholding continue to accept them.

Rejection code	Reason
1	Bid not beneficial against alternative cost
2	Requirement met by more economic offers
3	Requirement met by more economic offers. Applies only to units with no Real Time Metering and Baseline where requirement of 300 MW was met by more economic offers
4	Non-compliant bid
5	Withdraw

Mock Tender Result

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Delivery Date	Response Unit	Unit type	Volume offered	Volume Accepted	Availability Fee	RTM/no RTM	Accepted/Rejected	Rejection co
9/24/2020 23:00	Mock-1	BM	50		15	N/A	Rejected	4
9/24/2020 23:00	AG-HLIM03	BM	50	50	1	N/A	Accepted	
9/24/2020 23:00	SBIO-1	Non-BM	2	2	2	N/A	Accepted	
9/24/2020 23:00	TRIG-1	Non-BM	5	5	2.25	N/A	Accepted	
9/24/2020 23:00	TWPS-1	Non-BM	3	3	2.4	N/A	Accepted	
9/24/2020 23:00	BatteryMcBatteryFace	Non-BM	20	20	4.99	N/A	Accepted	
9/24/2020 23:00	TestBioNW	Non-BM	20	20	6.99	N/A	Accepted	
9/24/2020 23:00	Unit 42	Non-BM	2	2	8	N/A	Accepted	
9/24/2020 23:00	BGS - 03	Non-BM	15	15	8.5	N/A	Accepted	
9/24/2020 23:00	BGS - 05	Non-BM	1		10	N/A	Rejected	4
9/24/2020 23:00	DBESS-33	Non-BM	26	26	9	N/A	Accepted	
9/24/2020 23:00	BGS - 04	Non-BM	5	5	9.5	N/A	Accepted	
9/24/2020 23:00	BGS - 01	BM	20	20	10	N/A	Accepted	
9/24/2020 23:00	Mock-5	Non-BM	2	2	10	N/A	Accepted	
9/24/2020 23:00	BGS - 02	BM	5		10.5	N/A	Rejected	1
9/24/2020 23:00	AG-BFLX01	BM	7		15	N/A	Rejected	1
9/24/2020 23:00	AG-MFLX02	BM	49		15	N/A	Rejected	1
9/24/2020 23:00	Mock-2	BM	20		16	N/A	Rejected	1
9/24/2020 23:00	Mock-3	BM	20		17	N/A	Rejected	1
9/24/2020 23:00	RBESS	BM	49		18	N/A	Rejected	1
9/24/2020 23:00	Mock-4	BM	6		20	N/A	Rejected	1
9/24/2020 23:00	UPEN_01	Non-BM	1		20	N/A	Rejected	1
9/24/2020 23:00	ARNKB-1	BM	41		35	N/A	Rejected	1
9/24/2020 23:00	AG-HLIM04	BM	50		35	N/A	Rejected	1
9/24/2020 23:00	AG-ELIM03	BM	20		45	N/A	Rejected	1
9/24/2020 23:00	NBM-01	Non-BM	10		55	N/A	Rejected	1
9/24/2020 23:00	Lock Lomond Offshore Wind	Non-BM	10		72.99	N/A	Rejected	1
9/24/2020 23:00	AG-HEL01H	BM	20			N/A	Rejected	4
9/24/2020 23:00	AG-HEL00G	BM	49			N/A	Rejected	4
9/24/2020 23:00	UF_HAB01	Non-BM	5			N/A	Rejected	4
9/24/2020 23:00	UF_HAB02	Non-BM	15			N/A	Rejected	4
9/24/2020 23:00	UF_HAB04	Non-BM	36			N/A	Rejected	4

Non-compliant bid (offered volume was bigger than testing capacity) and bid not beneficial against alternative cost

Non-compliant bid (unit name not match that in provider data template)

Bid not beneficial against alternative cost

Bid not participate Friday tender

- Mock requirement: 300MW with an alternative cost of £10/MW/h
- To simplify the process, Non-RTM restriction is not applied in the mock tender
- Only Friday participation bids were cleared
- Cleared volume: 170MW


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Next steps
Richard Hanson

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Next Steps

- NGESO conducting first DC tender 01/10/20 for delivery 1 Oct 23:00
- 2 key contract changes to be aware of:
  - Additional Transitional Arrangement for DC testing process until 31 Dec.
  - Amendment to the tender process for week 1 only
- NGESO ready to support onboarding over the coming days. Parties should use existing FFR unit ID's for tendering.
- All templates to be submitted in Market Windows only.

Mon 28 Sep	Tues 29 Sep	Wed 30 Sep	Thu 1 Oct	Fri 2 Oct
Provider onboarding (contractual and connectivity)	Provider onboarding (contractual and connectivity)	Provider onboarding (contractual and connectivity)	**7:00-10:00** Submission window opens **DC Market Results time* (14:00)** Results published on the Data Portal	**7:00-10:00** Withdraw or change price **DC Market Results time* (14:00)** Results published on the Data Portal
			23:00 (1 Oct) – 23:00 (2 Oct) First Delivery of DC	
				23:00 (2 Oct) – 23:00 (3 Oct) Delivery of DC

*as defined in the Glossary of Terms and Rules of Interpretation

Questions

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Thank you

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Contact us

Onboarding support: Via your account manager, or email:

commercial.operation@nationalgrideso.com

General queries: box.futureofbalancingservices@nationalgrideso.com

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