



WELCOME

GSR029

Review of Demand Connection Criteria to Align with EREC P2/7

Meeting 9

5 May 2023

Online Meeting via Teams

Agenda

Topics to be discussed	Lead
Welcome	Chair
Review of Actions Log	Chair
Proposer's Presentation	Can Li
AOB & Next Steps	Chair

Expectations of a Workgroup Member

Contribute to the discussion

Be respectful of each other's opinions

Language and Conduct to be consistent with the values of equality and diversity

Do not share commercially sensitive information

Be prepared - Review Papers and Reports ahead of meetings

Complete actions in a timely manner

Keep to agreed scope

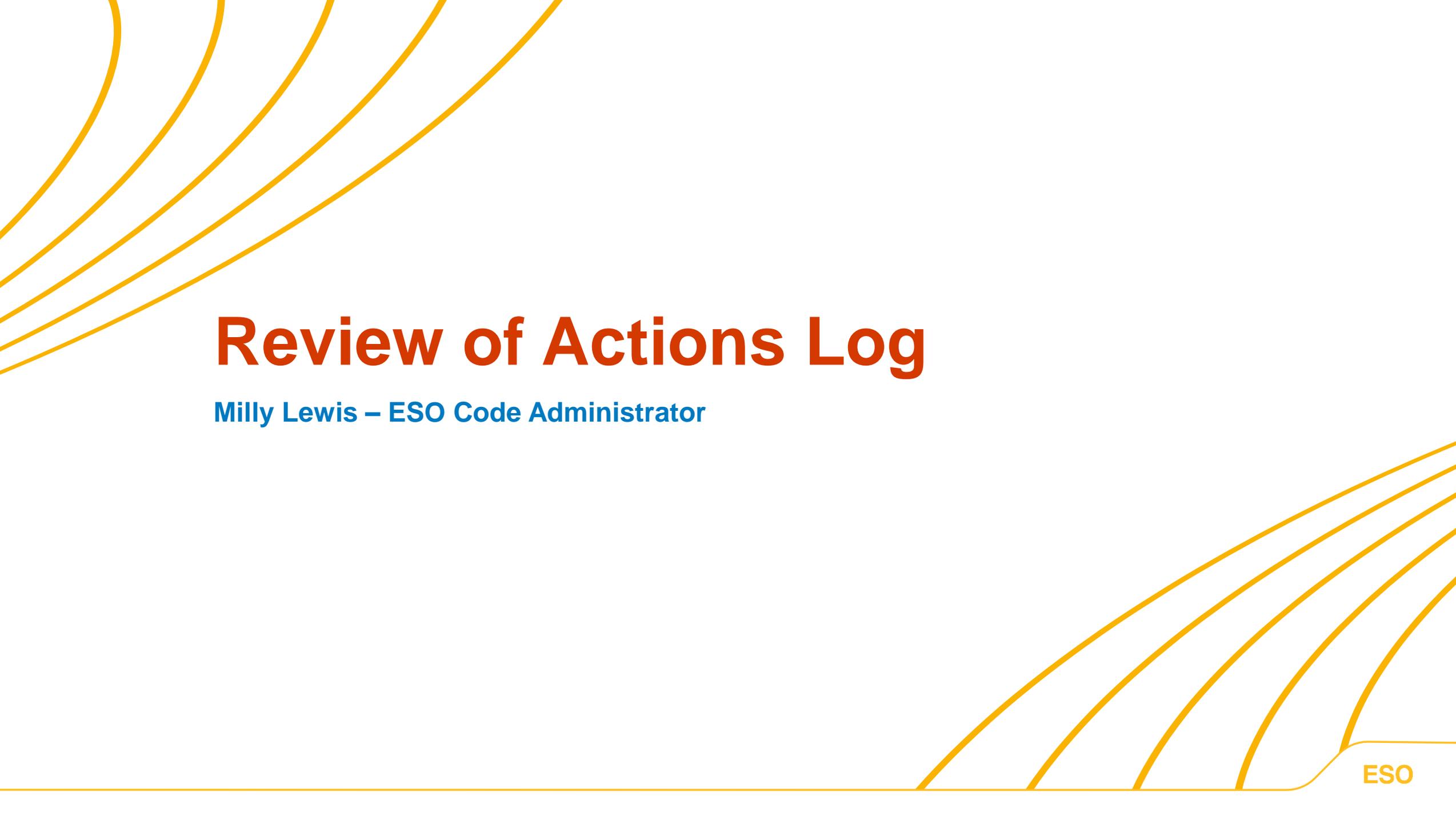
Your Roles

Help refine/develop the solution(s)

Bring forward alternatives as early as possible

Vote on whether or not to proceed with requests for Alternatives

Vote on whether the solution(s) better facilitate the Code Objectives



Review of Actions Log

Milly Lewis – ESO Code Administrator

Terms of Reference

Workgroup Term of Reference

Consider whether the guidance provided in EREP 130 for assessing the security contribution to the distribution system is suitable for assessing the security contribution to the transmission system

Consider the option to review the analysis undertaken by Imperial College London when developing EREP 130

Given the materiality of typical BESS installations, provided specific guidance on the assessment of BESS demand on the transmission system and assessing the security contribution from it (noting that the security contribution from a BESS is not included in the scope of EREP 130)

Consider if there are any alternative proposals

Consider if there are consequential changes to other codes, such as the Grid Code in relation to planning data,



Update from Proposer

Can Li – ESO

GSR029 objectives

There are two main objectives of the modification:

Align the NETS SQSS with P2

- 1. In relation to the use of gross demand**
- 2. Ensure that demand side management options and security contribution from embedded generation is taken into account where necessary**

GSR029 current status

	Technical details	Process and responsibility	Impact assessment	SQSS legal text	Grid Code legal text
Group demand assessment	<ul style="list-style-type: none"> • Storage • Aggregation of individual GSPs into larger demand groups 	<ul style="list-style-type: none"> • W24 data submission process 	<ul style="list-style-type: none"> • Developing 	<ul style="list-style-type: none"> • Developed 	<ul style="list-style-type: none"> • Developing
Demand security assessment	<ul style="list-style-type: none"> • Large power stations • Storage • EREP 130/131 queries • TO connected (tertiary and TIP) • Forecast 	<ul style="list-style-type: none"> • Planning process: W24 data submission process • Operational process: near real-time access to services 	<ul style="list-style-type: none"> • Developing 	<ul style="list-style-type: none"> • 3.7, 3.13-14 • Developed • 3.15 • Developing 	<ul style="list-style-type: none"> • Developing

Issues

- *Storage contribution to group demand (existing issue)*
- *Aggregation of individual GSPs into larger demand groups (existing issue)*
- *Estimating the contributions from embedded generation and flexible demand*
- *Data exchange required to ensure that the assessment of contribution towards demand security takes place correctly and in a timely manner (triggered by the mod, Grid Code issue)*

Storage contribution to group demand

Storage would not affect the size of the Demand Group and would not warrant an increased level of security of supply. However, it does not negate the need to reinforce the connection to ensure that storage can operate as required.

One limitation is that, unlike an embedded Small/Medium Power Station that contains generation only, the operation of storage following an outage could affect the Network Operator's ability to restore demand. Therefore, measures would need to be put in place to ensure that storage does not take demand in situations where that could affect the ability of the Network Operator to meet the operational demand security requirements.

PC.A.4.3.2 (a) :

1. It should not include any export over **Embedded External Interconnections** or **Active Power** supplied to **Embedded Electricity Storage Unts** unless the **Network Operator** or the **Non-Embedded Customer** has no means to reduce this export over **Embedded External Interconnections** or **Active Power** supplied to **Embedded Electricity Storage Unts** to zero;

Aggregation of individual GSPs into larger demand groups

In the first instance, Transmission Licensees could ignore diversity and assess compliance against a Group Demand for the aggregate Demand Group that is equal to the sum of the Group Demands for individual Demand Groups. This would constitute a worst-case scenario.

If non-compliance is identified and if there is a need for reinforcement, Transmission Licensees would request load profiles for the individual Demand Groups to perform the aggregation.

PC.A.4.3.1 :

In addition, forecast daily **Demand (Active Power)** profiles, as specified in (a), (b) and (c) below, in respect of a **Connection Point** notified in accordance with PCA.4xxx is required for days notified in accordance with PCA.4xxx:

PC.A.4.3.2 :

- (e) in the case of forecast daily Demand Profiles for Connection Sites and dates notified in accordance with PC.A.4.3.6, be such that the profiles comprise average **Active Power** levels in 'MW' for each time marked half hour throughout the day;

PC.A.4.3.6 No later than calendar week 17 each year, **The Company** shall notify each **Network Operator** and **Non-Embedded Customer** in writing of the following, for the current **Financial Year** and for each of the following seven **Financial Years**, which will, until replaced by the following year's notification, be regarded as the relevant specified days and times under PC.A.4.2.1:

- (a) any Connection Point that The Company requires the User to submit forecast daily Demand (Active Power) profiles for specific dates; and
- (b) the dates for which The Company requires that User submits a forecast daily Demand (Active Power) profile for the specified Connection Points

Estimating the contributions from embedded generation and flexible demand

1. Flexible demand and power stations that are parties to a demand security contract:

The value of this contribution will always be equal to the contracted level.

2. Embedded small and medium power stations:

EREP130 provides several options for the estimation of the security contribution from embedded small and medium power stations.

3. Embedded large power stations and power stations connected at the interface point:

The same options available for small and medium power stations could be used to estimate the contribution from embedded large power stations. However, the workgroup concluded that the use of the spreadsheet (EREP131) is the most appropriate methodology for these power stations.

Current data exchange process

	Week 6	Week 6-17	week 17	Week 17-28	Week 28	Week 28
ESO	Propose Access Periods	Discussions between National Grid and Network Operators to agree Access Periods	Send details of agreed access periods, GB Max & Min demands proforma and guidance notes to Network Operators		Receive and acknowledge data submissions	Send data submission to TO
TO						Receive data submission
DNO	Receive Access Periods proposal	Discussions between National Grid and Network Operators to agree Access Periods	Receive details of agreed access periods, GB Max & Min demands proforma and guidance notes	Prepare group demand data for submission	Submit group demand data to ESO	

Data exchange required for demand security contribution

	Week 6	Week 6-17	week 17	Week 17-28	Week 28	Week 28	Week 28- week ?	Week ?	Week ?
ESO	Propose Access Periods	Discussions between National Grid and Network Operators to agree Access Periods	Send details of agreed access periods, GB Max & Min demands proforma, sites for group demand load curve, sites for additional demand security contribution and guidance notes to Network Operator		Receive and acknowledge data submissions	Send data submission to TO		Receive data from TO and send it to relevant DNO	Receive demand security contribution data from DNO and send it to TO
TO						Receive data submission	TO assess group demand data and site compliance; identify sites needing additional demand security contribution (site name, time and date, Tm, etc.)	Send non-compliant site information for demand security assessment to ESO	Receive demand security contribution data from ESO and assess further
DNO	Receive Access Periods proposal	Discussions between National Grid and Network Operators to agree Access Periods	Receive details of agreed access periods, GB Max & Min demands proforma and guidance notes	Prepare group demand data for submission	Submit group demand data to ESO			Receive data from ESO and carry out demand security assessment for the non-compliant sites	Send demand security contributions data to ESO





AOB / Next Steps

Milly Lewis – ESO Code Administrator

Timeline

Workgroup 1	08/08/2022
Workgroup 2	06/09/2022
Workgroup 3	10/10/2022
Workgroup 4	07/11/2022
Workgroup 5	21/11/2022
Workgroup 6	12/12/2022
Workgroup 7	18/01/2023
Workgroup 8	09/02/2023
Workgroup Check in	25/04/2023
Workgroup 9	05/05/2023
Workgroup 10	To be discussed
Workgroup 11	To be discussed
Workgroup Consultation	TBC
Workgroup 12	To be discussed
Workgroup 13	To be discussed
Workgroup 14	To be discussed
Workgroup Report to Panel	Dependent on above