Transmission Charging Methodologies Forum and CUSC Issues Steering Group

Meeting 95

10 April 2019

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Welcome

Jon Wisdom

National Grid ESO

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Today's agenda

#	Item
1	Introduction, meeting objectives and review of previous actions
	TCMF
2	Code modifications update
3	TNUoS Charging Methodology for Co-located Generation
4	BSUoS Task Force Update
	CISG
5	User commitment – long lead time, high value schemes
6	Reactive power update
	AOB
	Close

Action Item Log

Action items: In progress and completed since last meeting

ID	Month	Agenda Item	Description	Owner	Notes	Target Date	Status
22	Feb-19	Actions	JW took an action to speak to the revenue team to ascertain whether they could publish anything on the calculation of the error margin.	JW	Details of the error margin calculation will be published in the Five Year View this month (March).	Apr-19	In-progress
24	Mar-19	Code Modifications Update	RH took an action to share a progress report on CMP308.	RH		Apr-19	In-progress
25	Mar-19	CUSC Horizon Scan	TNUoS Generation zones: HH took an action to get that clarification on whether the £1 which was set in 1992 and never inflated will be addressed in this modification	HH		Apr-19	In-progress

Code Administrator Update

Rachel Hinsley,

National Grid ESO

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New modifications

New Non- Urgent Modifications

CMP313 – Critical Friend review period for submission of new modifications

Panel, by majority vote, approved for this to follow the self-governance route and proceed straight to Code Administrator Consultation (CAC). This was issued on 5th April with a close date of the 8th May

CMP314 – Updating the CUSC to align Power Available with the Grid Code definition for Power Park Modules

Following some discussions, the Panel recommended that the decision on the governance route CMP314 should follow should be deferred until the next Panel meeting in April, to allow for some additional comments and questions to be addressed

Modifications at workgroup (1/2)

Mod	Latest update	Next WG date	Next meeting
CMP280/ CMP281	1 WG held: CMP280 WG Report Est. May Panel – 2 alternatives raised and voted on CMP281 WG Report Est. May Panel – Extension Granted to take into account BS Task force	11 April 2019	WG14
CMP286	Separated from CMP287, NG ESO liaising with proposer to discuss the RFI being issued	TBC	WG7
CMP287	Liaising with the proposer to discuss the contents of the WG Consultation. WG consultation issued early April. Extension on Report until May	TBC	WG7
CMP288/ CMP289	WG Consultation Closed 1 February 2019, WG to be arranged in coming weeks; no workgroup convened in March due to quoracy issues. Extension until June	April or early May 2019	WG8
CMP291	WG decoupled from GC0117; workgroup 12th April, no workgroup convened in March due to quoracy issues.	April 2019	WG3
CMP292	No workgroup convened in March due to quoracy issues. WG TBC April or May 2019	April or early May 2019	WG3

Modifications at workgroup (2/2)

Mod	Latest update	Next WG date	Next meeting
CMP295	WG6 5th April; highest on the prioritisation stack, continuing to progress. Panel approved an extension until May 2019	5 April	WG6
CMP298	Next WG to be held on 1 May, progressing and on track	1 May	WG4
CMP300	WG2 held 22 March; WG consultation to be issued in April	May 2019	WG3
CMP303	FMR to be issued to the Authority for decision	NA	NA
CMP304	WG report sent out for review and action completion. WG Consultation to be issued following a final WG to confirm. WG5 to be held in April	April 2019	WG5
CMP306	WG held on 25 March 2019; WG consultation to be issued in April	May 2019	WG3
CMP308	WG consultation to be issued in April	May 2019	WG5

Authority Decision updates

Pending Authority decisions

There are no pending decisions

Authority Decisions

The Authority approved the urgent modification **CMP312 Correcting erroneous legal text in Section 14 following implementation of CMPs 264/5 (consequential)**

This was effective from 1 April 2019

Dashboard - CUSC

New Modifications	In-flight Modifications	Modifications issued for workgroup consultation	Modifications issued for code admin consultation
2	27*	0	0

Workgroups held March	Authority Decisions	Modifications on hold	Workgroups postponed due to quoracy issues
9	1	4	5 (CMP288/289, 295, 291,292)

*includes 4 on hold, and those not at Workgroup phase for example any at CAC and any approved awaiting implementation

Questions

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Transmission Charging Methodology Forum

13 March 2019

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TNUoS Charging Methodology for Co-located Generation

Grahame Neale &
Eleanor Horn
National Grid ESO

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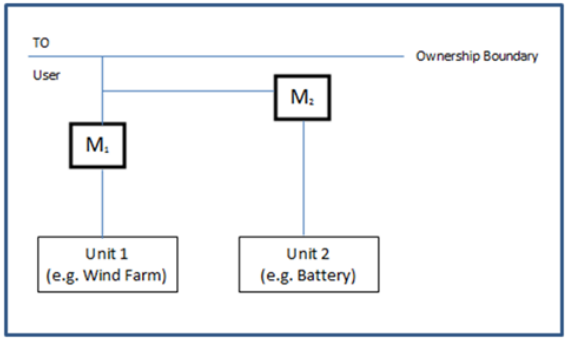
Contents

Co-location and the Current TNUoS Arrangements

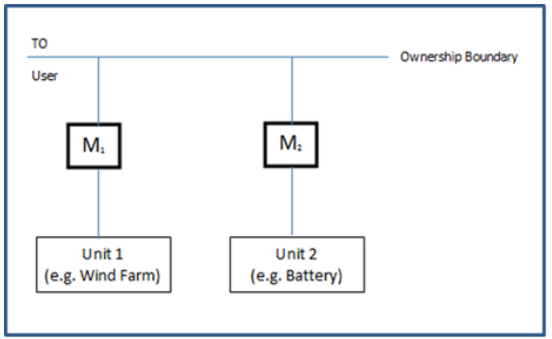
What is Co-Location?

A situation where multiple generation technologies are “co-located” within one **Power Station**.

Consolidated Connections



Parallel Connections



TNUoS guidance note for co-located sites was published by NGESO last month. It advised that co-located sites should be charged in accordance with their **pre-dominant technology type**.

Power Station	An installation comprising one or more **Generating Units** or **Power Park Modules** or **Power Generating Modules** (even where sited separately) owned and/or controlled by the same **Generator**, which may reasonably be considered as being managed as one **Power Station**.

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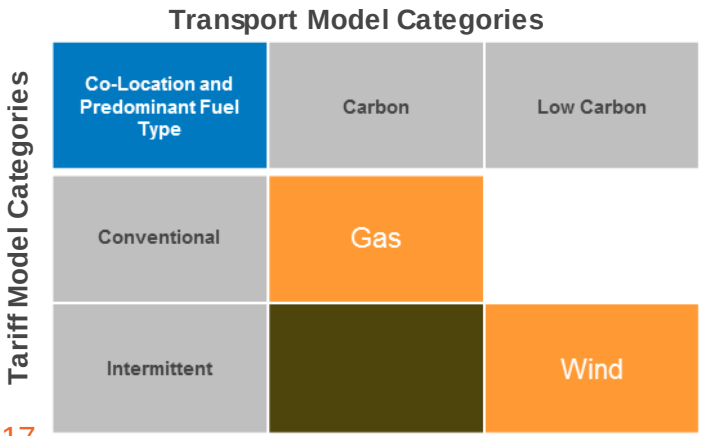
What defect does the modification seek to address?

The non-dominant technology type is not considered in the calculation process at a co-located site. This means there is the potential to improve the cost reflectivity of the charging arrangements by catering for these particular configurations in the CUSC.



Conventional Carbon Generation:

Peak + Year Round Shared ALF + Year Round Not Shared ALF

Conventional Low-Carbon Generation:

Peak + Year Round Shared ALF + Year Round Not Shared

Intermittent Generation:

Year Round Shared ALF + Year Round Not Shared

What's in scope, what's out of scope?

In Scope

- 'Co-located' generation only – where a single Power Station has multiple generation technologies
- All technology types/combinations
- Any number of co-located technology types
- New stations (i.e. built with co-located generation) & retrofitted stations (i.e. built with a technology with a other technologies added on)

Out of Scope

- Shared Access connections – where two or more Users share a connection – as covered in SCR
- 'Fundamentals of TNUoS' – Who does/doesn't pay, how the charge is calculated (per technology type) etc

Need to be mindful of existing work currently underway in the industry (e.g. Ofgem's Access and Forward Looking Charges SCR) and so need to precisely define the scope of this work.

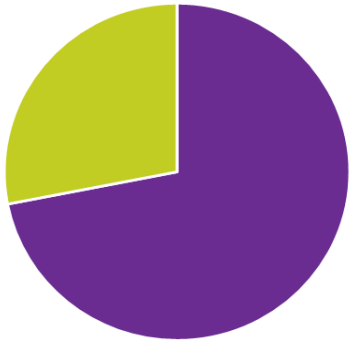
Outputs of the Co-Location Workshops

- Two workshops
- London/Warwick
- Representatives from 14 companies

The workshops explored four different methodologies for TNUoS charging on co-located sites. These largely fell into two categories:

Pro-Rata Approach

More accurately reflects the generator's network impact as multiple technologies are taken into consideration

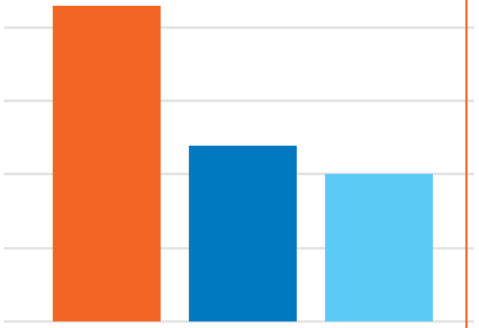


Clarify "Pre-dominant" Approach

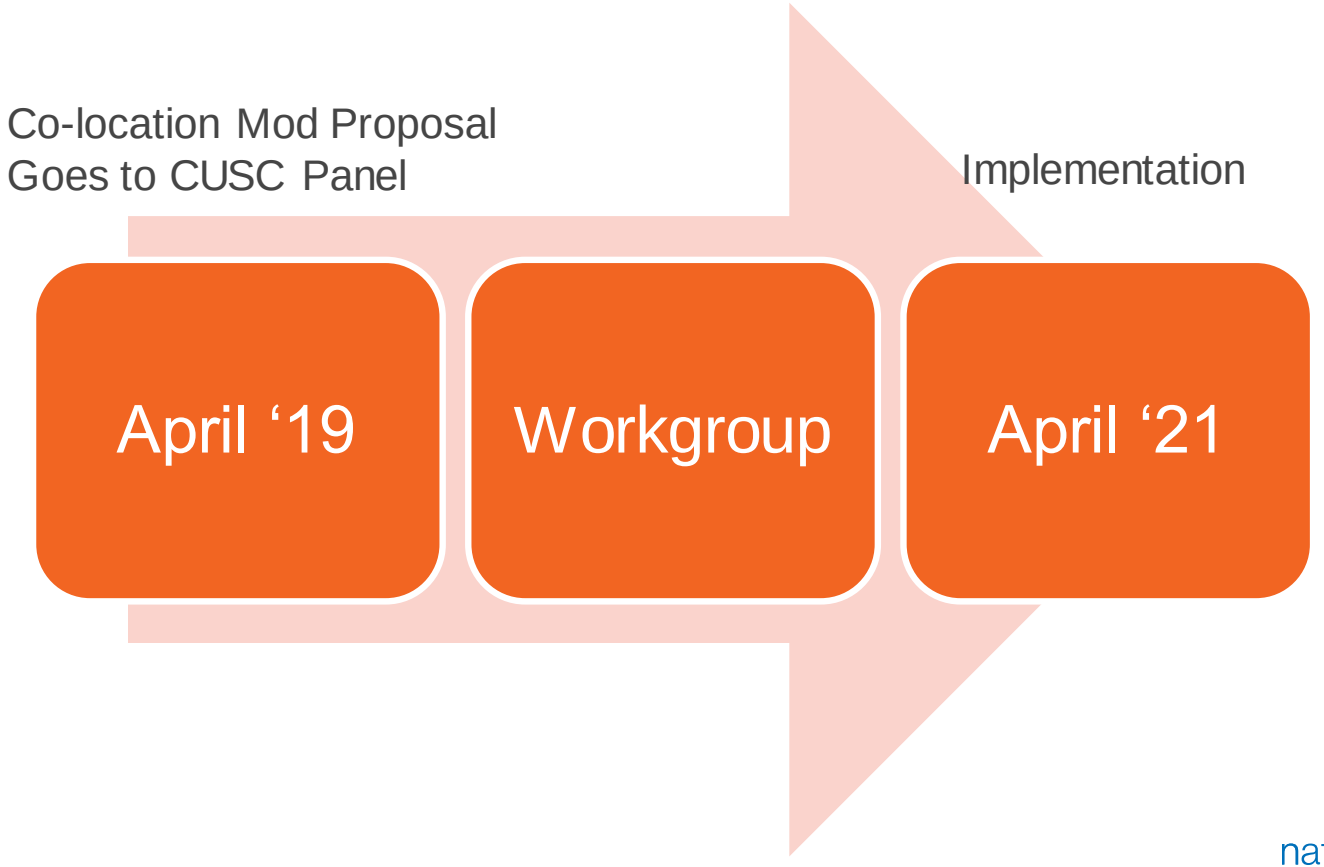
Simple

Easy to Review

Minimal Change



Timelines for the Modification Process



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Balancing Services Charges Task Force update

Grace Smith

UK Power Reserve

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CUSC Issues Steering Group (CISG)

13 March 2019

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User commitment – long lead time, high value schemes

Richard Smith

National Grid ESO

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User Commitment

Is the balance of risk between consumers and Users appropriate for Long lead Time High Value Schemes?

By Long Lead Time High Value Schemes, we are looking at schemes which require expenditure typically a number of years before a Trigger Date and that have expenditure which is significantly above average for that period of a scheme.

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User Commitment – Attributable works liabilities

Works up to MITS Node

Liabilities are scaled by

- Strategic Investment Factor (SIF)
- Local Asset Reuse Factor (LARF)
- Distance Factor

Securities are based on forecast liabilities

Actual Liabilities reconciled at time of cancellation

Alternatively a User can choose to Fix their labilities

- Fixed based on forecast spend at time of fixing (including factors)
- Liabilities are fixed £1,2,3/kW pre trigger
- Liabilities follow a preordained profile post trigger

User Commitment – Wider works liabilities

- Wider Works Liabilities apply both Pre Commissioning/ Post Commissioning
- Wider Works Liabilities reflect the principle that Wider Works are for the benefit of many Users, both Generation and Demand
- Wider Works Liabilities are a £/MW tariff on a zonal basis
- They are revised annually based on TO forecast expenditure across boundaries and the additional capacity that the works are designed to deliver

Issues from Case Studies

Overhead Line Consents

MITS

Strategic Wider Works

Backfeed / Staging

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Potential Defects

Where wider works are driven predominantly by one customer in timing or specification, and that customer has no liabilities associated with that work prior to the Trigger Date.

When fixing, the 'averaging' of using £1, £2, £3/kW for the Pre-Trigger Amount results in the liability for high value scheme being significantly under the value of the spend prior to the Trigger Date.

The £1, £2, £3/kW has not been reviewed for some time and may not remain representative of appropriate values.

The Trigger Date being based on connection (and so charging date) rather than the construction timetable.

Risk Areas

Pre-Trigger Date

- **No Liabilities**

RISK: Placed on Consumers for high value long lead time projects who fix

Post-Trigger Date

- Liabilities split 50/50 Generation/Demand
- Liabilities socialised across multiple Users

RISK: Where works are enabling and driven by a single User, risk is placed on Consumers

Wider Works

Attributable Works

- Actual: Liability matches spend adjusted for SIF, LARF & DF factors
- **Fixed: Liability £1, £2, £3/kW – results in lower liabilities than costs for high value long lead time schemes**
- Securities match Liabilities

RISK: Placed on Consumers for high value long lead time projects who fix

- Actual: Liability matches spend adjusted for SIF, LARF & DF factors
- Fixed: Liability matches forecast spend at time of fixing adjusted for SIF,LARF & DF. Profile straight line and not actual
- Securities less than Liabilities by agreed CUSC factors

RISK: Acceptably distributed

We would like your views on the identified issues and potential defects

- Are there any other issues we should consider?
- Are there any other defects we should include?
- Are there any defects we should not take further?

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Options

1. Revise the £1, £2, £3/kW

This is perhaps an obvious option as it has not been reviewed or revised for some time. There would be a clear benefit in doing this even if it becomes apparent the values remain appropriate. However, since whatever figure was produced would still be an average of all schemes, it would not resolve the issue for the significantly higher value schemes

2. Completely Revise the Methodology for Those Customers Who Fix

The £1, £2, £3/kW pre-trigger and 25/50/75/100% profile post trigger currently provides certainty for customers who fix. An alternative would be for customers who fix to do so based on the forecast outturn and profile (adjusted for SIF, LARF and Distance Factor) of the Attributable Works associated with their scheme from the point of fixing through to the connection date.

3. Review the Attributable/Wider Boundary

To remedy the situation where significant expenditure is driven substantially by one party the boundary between Attributable and Wider works could be reviewed. An option would be to revert to using Enabling Works rather than the current definition for Attributable Works. An alternative and more targeted approach is to look at Enabling Works which are currently treated as wider but are predominantly or solely driven by a single customer.

Options

4. Remove the Ability to Fix Pre-Trigger

This would address the defect for High Value Long Lead Time Schemes where spend is attributable. However, it does have the disadvantage of looking very similar to Final Sums and of re-introducing some volatility for customers.

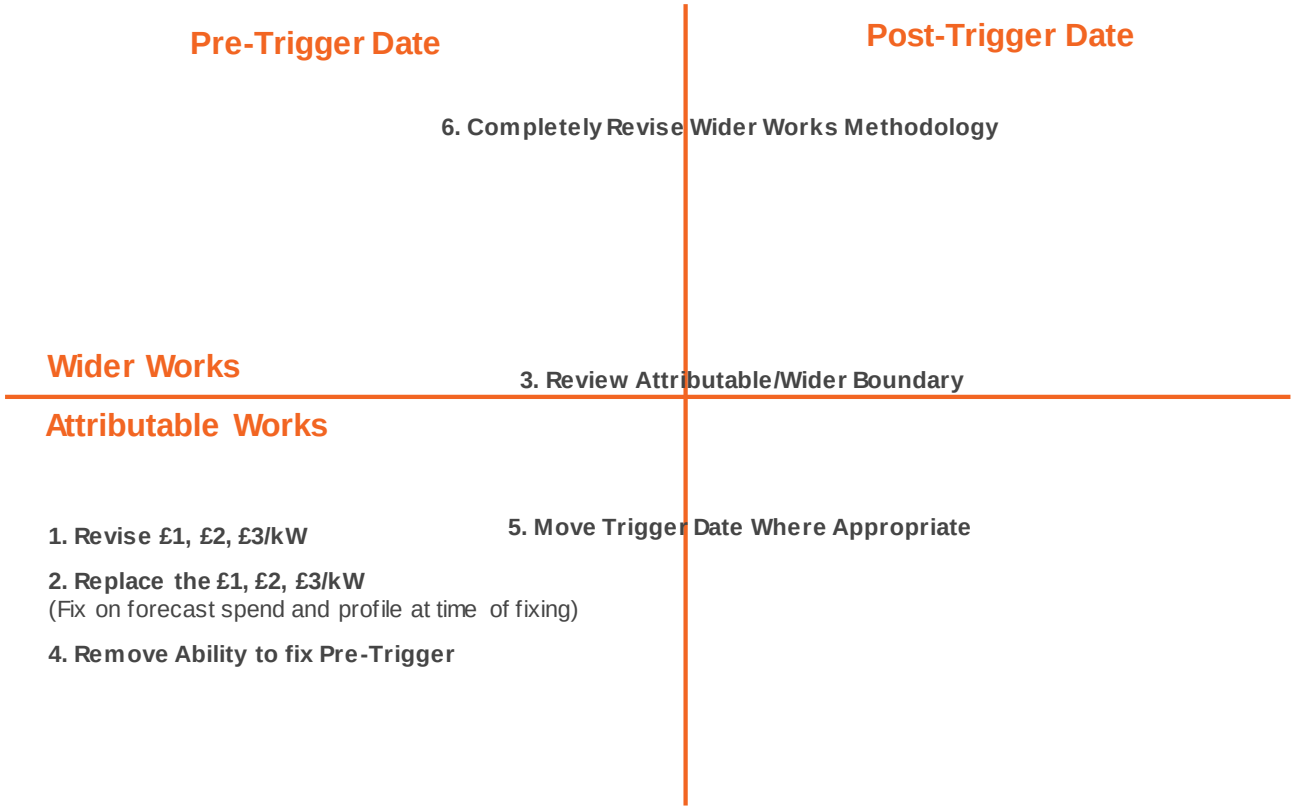
5. Move the Trigger Date Where Appropriate.

Instead of having a Trigger Date based solely on time, it could be related to either time or spend which ever came earlier. E.g., if spend was forecast to exceed either a percentage of the total forecast, or a set level, it would bring the Trigger Date forward. Another variation would be to link the Trigger Date to effective completion of the assets required. Once the Trigger Date was passed, then when fixed, the customer would fix on the forecast spend and profile at the time of fixing similar to option 2.

6. Completely Revise the Wider Works Security Methodology.

User have told us that they find the current Wider Works liabilities methodology opaque. We have noted this and plan to discuss this at TCMF to provide customers greater awareness of how they work. However, the current methodology is quite crude in that it only looks at spend in a single year and also only reinforcement requirements across boundaries. A review of the methodology could provide scope for more appropriate and cost reflective wider works liabilities.

Option Areas



We would like your views on the options explored

- Are there any other options we should explore?
- Do you agree with our view of the advantages/disadvantages of each option?
- Are there any options you favour at this stage?
- Are there any options we should reject?

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Questions

If you have any further feedback or questions please get in touch

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Reactive Power Update

David Preston

National Grid ESO

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Context – Operability Strategy Report

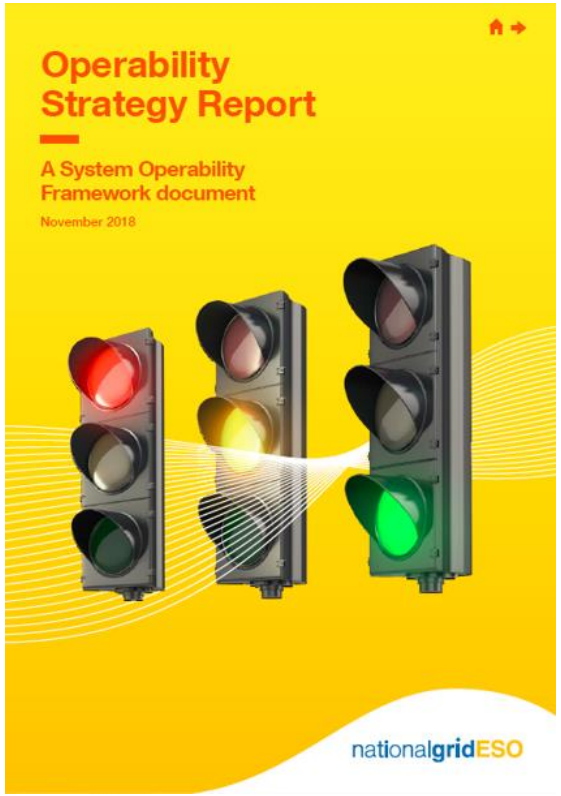
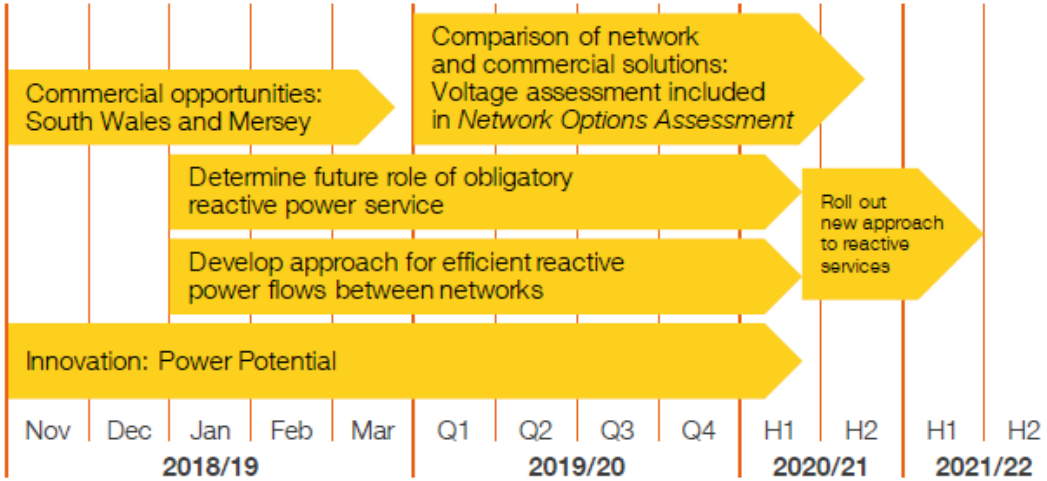


Figure 3.4
Voltage control timeline



- ESO Forward Plan and Reactive Roadmap are consistent with above but also commit to greater levels of transparency and ERPS / ORPS reviews

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Reactive Power / Voltage – an interesting space

Reactive Power is a product that has been largely untouched for ~20 years and is subject to very different challenges and realities compared to active power.

Very Locational

Low and falling levels of liquidity

Driven by mandated capability within codes

Default Payment Mechanism (DPM) for utilisation

No matter location, fuel type / technology, time of day / week / month / year

Requirements subject to short notice change

Based on the state of the network

Dispatched differently to Active Power

Reactive Power / Voltage – an “active” space

During this time the system needs and service utilisation have changed meaning that there is a clear need to deliver change to Reactive / Voltage with a number of strategic projects being undertaken in this space.

Power Potential (NIC)	Understanding how resources on the distribution system could provide Dynamic Voltage support to the transmission system
NOA Pathfinders	Development of medium to long term commercial solutions to potentially offset a network asset build option
Project Phoenix (NIC)	Sync Comp / Statcom hybrid in Scotland to provide voltage support and system inertia
Open Networks	Develop improved processes between Transmission and Distribution
Other	• DNO / TO network boundary transfer discussions for Voltage • Regional Reactive RFIs and tenders

So what's been happening more recently?

Progress to Date

- Increased transparency within MBSS by identifying voltage spend (BM activity and trades)
- Expressions of interest for Reactive Power service in South Wales and Mersey published and followed by commercial tender in Jan '19
- Tender for Scotland to access capability when active power <20%
- CUSC modifications issued on Enhanced Reactive Power Service (CMP304 and 305). CMP305 returned by Ofgem in lieu of CMP304
- Issues with Obligatory Reactive Power Service presented to the CUSC Issues Standing Group

Next Steps

- Additional transparency on voltage spend at a regional level
- Review of timelines and interdependencies of strategic projects within the Reactive Power / Voltage space (Power Potential, Project Phoenix, NOA pathfinders, DSO / TSO etc)
- Subsequent engagement with industry through workshops on the future direction and options for Reactive Power
- Discussions with Distribution Network Owners on efficient Reactive Power boundary transfers

Future state drivers

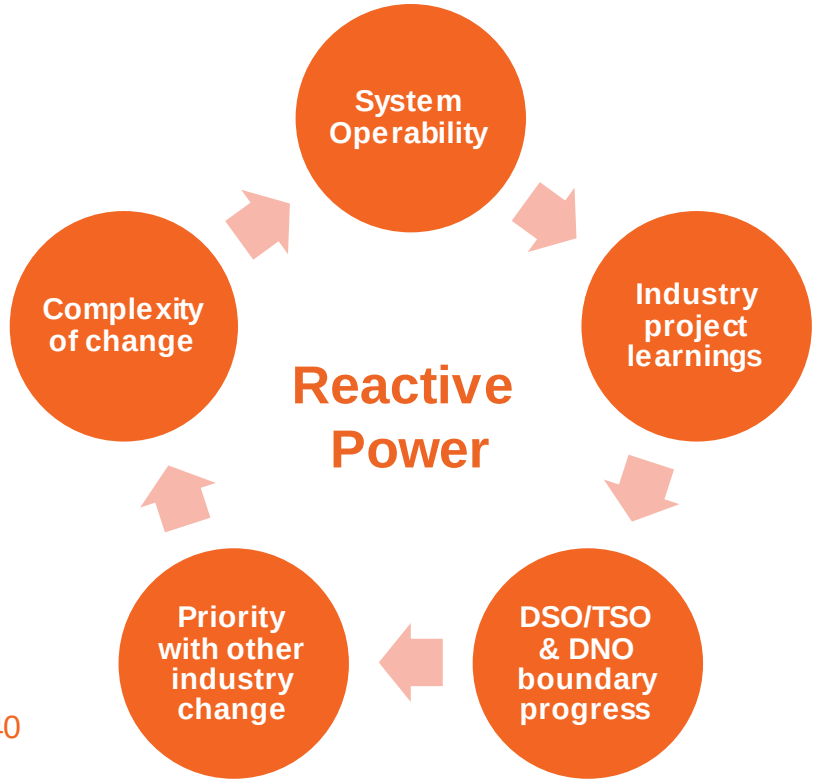
Our vision is for a more flexible electricity system which makes the most economic and effective use of all available resources to meet the needs of the network.

Our principles will be to design a market:

- With **transparent** procurement decisions, with methodology and **needs clear** to the market ahead of time
- That **increases competition** to release value to the end consumer
- Which balances **operational requirements** with the **technical ability** of provider assets while maintaining system security

Scoping considerations

Nothing is considered to be “off the table”, however we need to be conscious of the following when setting an appropriate scope across delivery timescales:-



To inform the way forward, and accounting for what strategic projects are happening in this space, we will develop an “operability” led strategy for a wider Reactive Review that will take account of our core challenges and appropriately prioritise the next steps.

Questions

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AOB

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