Charging Futures

Reforming electricity charging together

TNUoS Task Force

Meeting 13

27th February 2024

Agenda

10:00 – 11:30

- 10:00 Introduction & Welcome
- 10:10 Action Review
- 10:30 Signals sub group
- 11:15 DG sub group
- *11:30 Break*

11:45 – 12:15

- 11.45 Sharing sub group report
- *12:15 Lunch*

13:15 – 15:00

- 13.15 Data Inputs sub group
- 13:45 Security Factors case for change
- 14:45 AoB & Close

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Action Review

Chris Parsons

Signals sub group:

Lauren Jauss

The objective of this session is to provide:

- Discuss Frontier analysis
- Propose further analysis
- Define clear scope and deliverable of future analysis

DG sub group (Paper circulated)

Grace March

The objective of this session is to provide:

- Present final findings
- Hand sub group back to Ofgem

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Break

Next session starts at 11:45

Sharing sub group (Paper circulated)

Simon Lord

The objective of this session is to provide:

- Discus sub group conclusions.
- Agree to next steps.

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Lunch

Next session starts at 13:15

Data Inputs sub group: Next steps

Chris Parsons

The objective of this session is to provide:

- Discuss Frontier analysis
- Agree next steps.

Locational Volatility

- ESO are planning to review the week 24 data to asses other uses such as forecasting lighting and transport. We have proposed that we use this as a review of how fit for purpose the week 24 data is.
- We believe that ALFs overall shouldn't be a significant source of charge volatility – the rule for their calculation per site (take the middle 3 years of 5 years of annual load factors) was specifically and carefully designed in CMP213 to ignore unrepresentative individual years' data, for each site.

Locational volatility

- ALF is not a major contributor to locational charge volatility
- W24 data is highly volatile but only has significant impact on locational tariffs at network extremities
- Plant mix also drives volatility in locational charges at the network's extremities
- Inflation drives volatility in locational tariffs via the EC but this may be easier to forecast than other network charging parameters
- The cost of large reinforcements are hard to predict and are a significant driver of locational charge volatility

- Parameters that drive locational charge volatility could be fixed for longer periods of time.
- However, this would risk reducing the cost reflectivity of locational charges.

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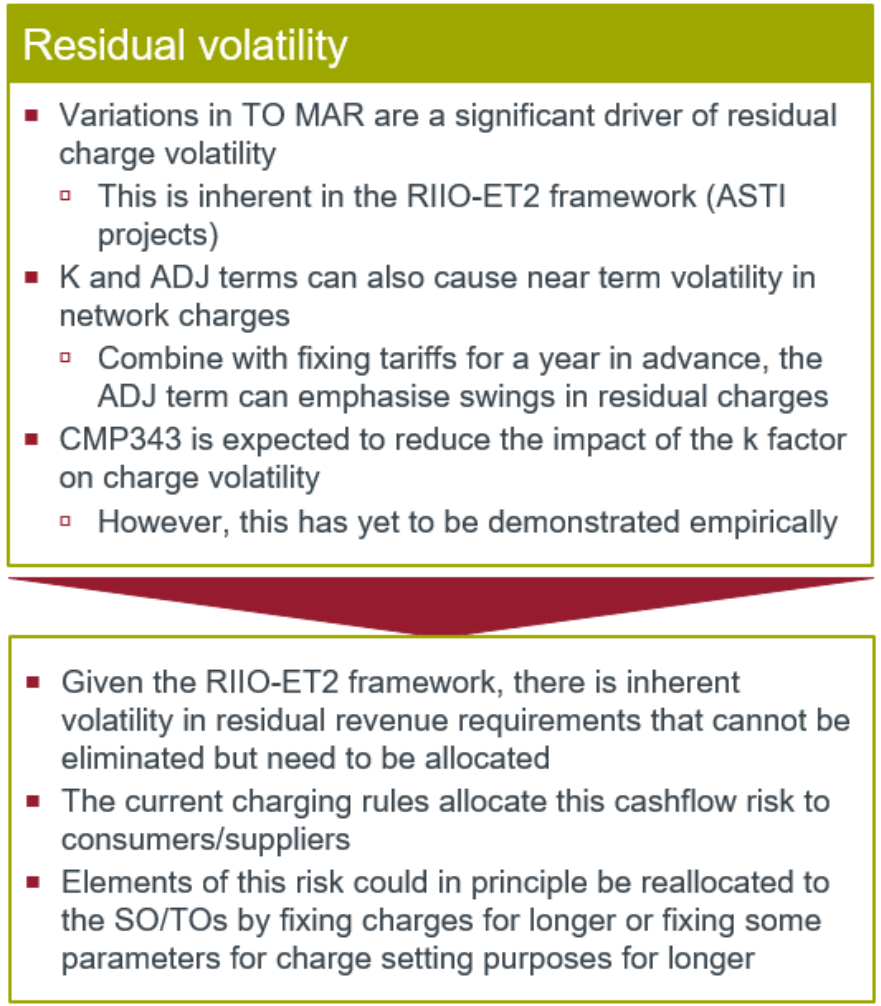
Residual volatility

- ESO and TO's have committed to work together to improve transparency and get any changes in the code to ensure we future proof any solutions.
  - Ask on Suppliers if they would like to be part of this conversation? What would you like to see? Vis STC or direct feedback to ESO.
- ESO have raised the possibility of the cash flow risk sitting with NESO in the future. We will feed back at a future task Force with an answer and reasoning
- ESO has committed to carry out analysis of the impact of TDR and present finding to TF and Industry.



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G/D split Risk Margin

- We believe that CMP423 (reference node reform) could reduce generation charges to make them “in band” in relation to the cap. This reform could thus comprise a step transfer of TNUoS burden from generation as a class onto demand, adding volatility – but only in the year the change came in. The Workgroup will carry out this analysis in due course to illustrate if this is true.

G/D split risk margin

- The methodology of updating the “y” term to reflect changes in forecasting confidence for revenue and generation output introduces the potential for additional volatility in demand residual and wider generation tariffs

- The “y” term could be fixed (hence fixing a target €/MWh value below €2.5/MWh) instead of being variable. However:
  - If “y” is fixed too low this would increase the risk that the limiting regulation is breached and retrospective tariff adjustments are required; or
  - If “y” is fixed too high this would increase the share of TNUoS paid for by demand.

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Security factors case for change

John Tindal

The objective of this session is to provide:

- Discuss potential case for change.
- Decide if the subject should go to TCMF on 29th Feb.

CUSC Modification Proposal Case for Change

Amendment to TNUoS Transport Model "Locational Onshore Security Factor”

February 2024

Contents:

Rationale for TNUoS Charges

"The underlying rationale behind Transmission Network Use of System charges is that efficient economic signals are provided to Users when services are priced to reflect the ***incremental costs*** *of supplying them."*

(CUSC 14.14.6 – underlying rationale behind TNUoS Charges)

SQSS requires that MITS Transmission network is already secure, so:

...If additional new MITS network build does not require extra cost for additional new security

...TNUoS Wider locational price signal should not charge a price for additional new security

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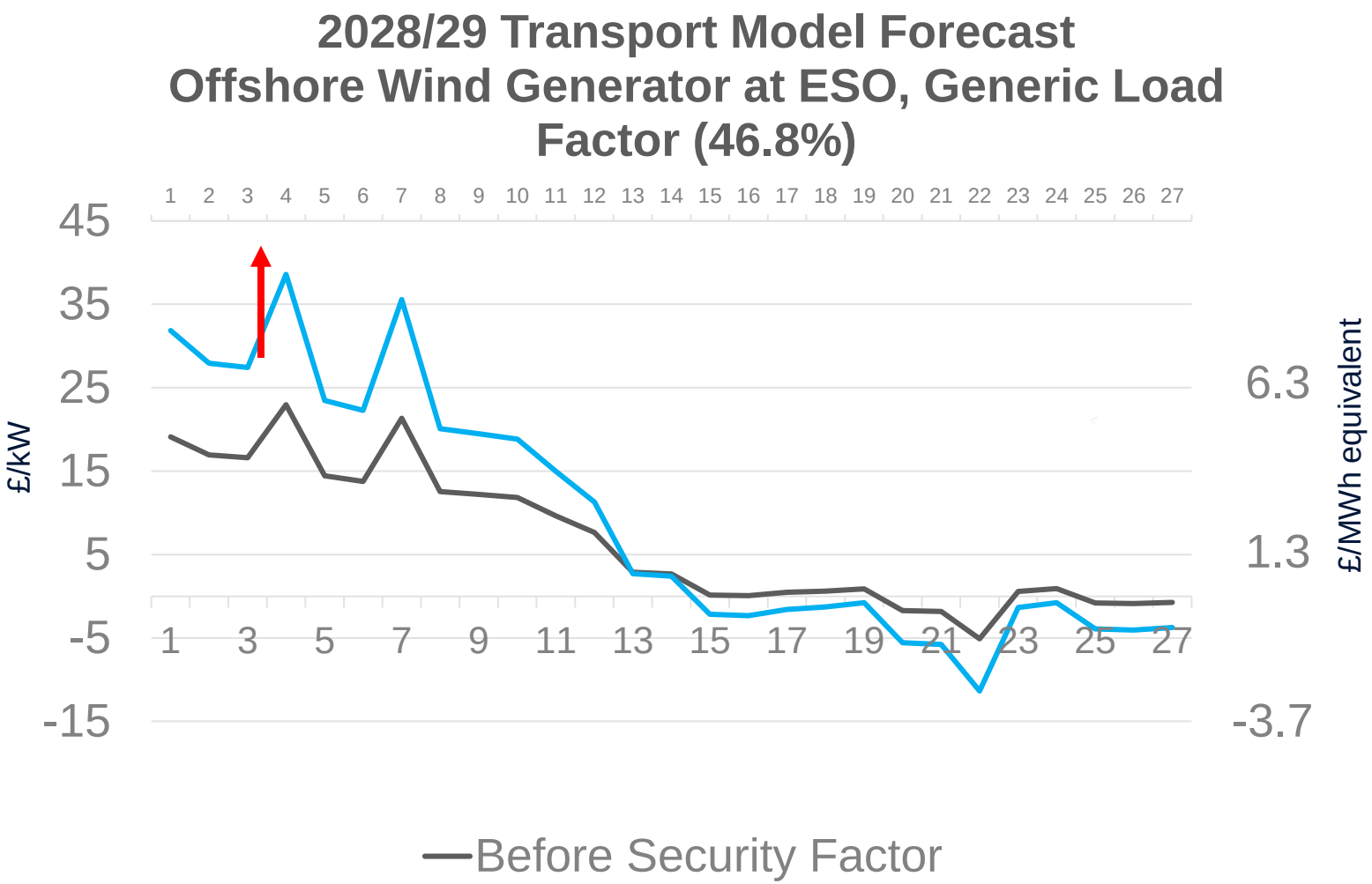
Security Factor amplifies locational signal



Security Factor multiplies Wider locational tariffs by 1.76

- Increases Zone 4 charges by £3.85 per MWh (from £5.66 to £9.51 per MWh)
- Increases Zone 22 credit by £1.53 per MWh (from -£1.26 to -£2.79 per MWh)
- Max-min spread increases by £5.39 per MWh (from £6.92 to £12.30 per MWh)

Note: Includes impact on Generator Adjustment Credit

What is the issue?

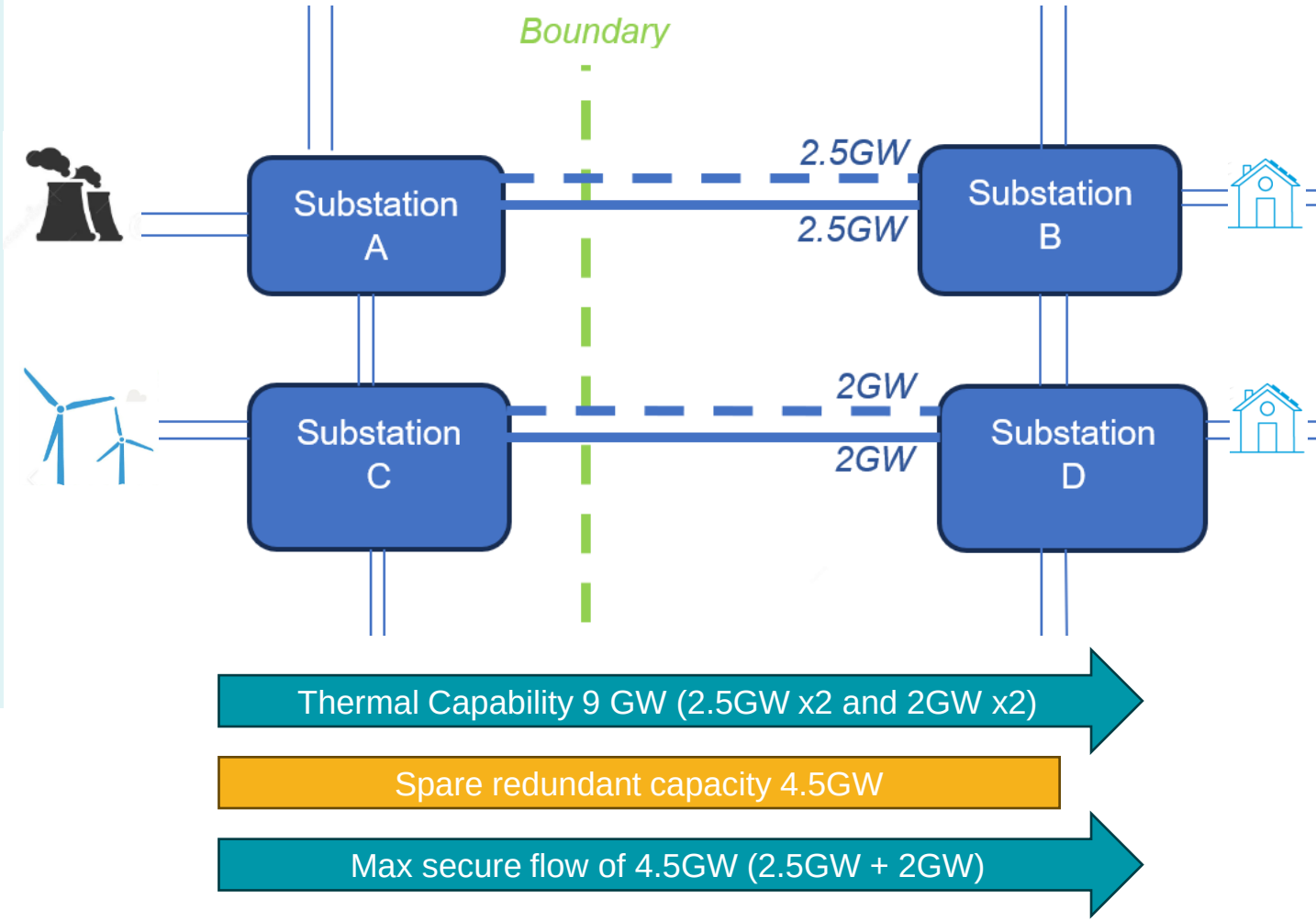
SQSS says: MITS network is already secure

SQSS

TOs plan network additions using SQSS criteria
Surplus capacity is required in case of faults or outages including:

- *"N-2" : O*utage on two largest separate circuits

- *Boundary is initially secure*



TO = Transmission Operator
SQSS = Security and Quality of Supply Standard

What is the issue?

SQSS says: Want 1GW, build 1GW

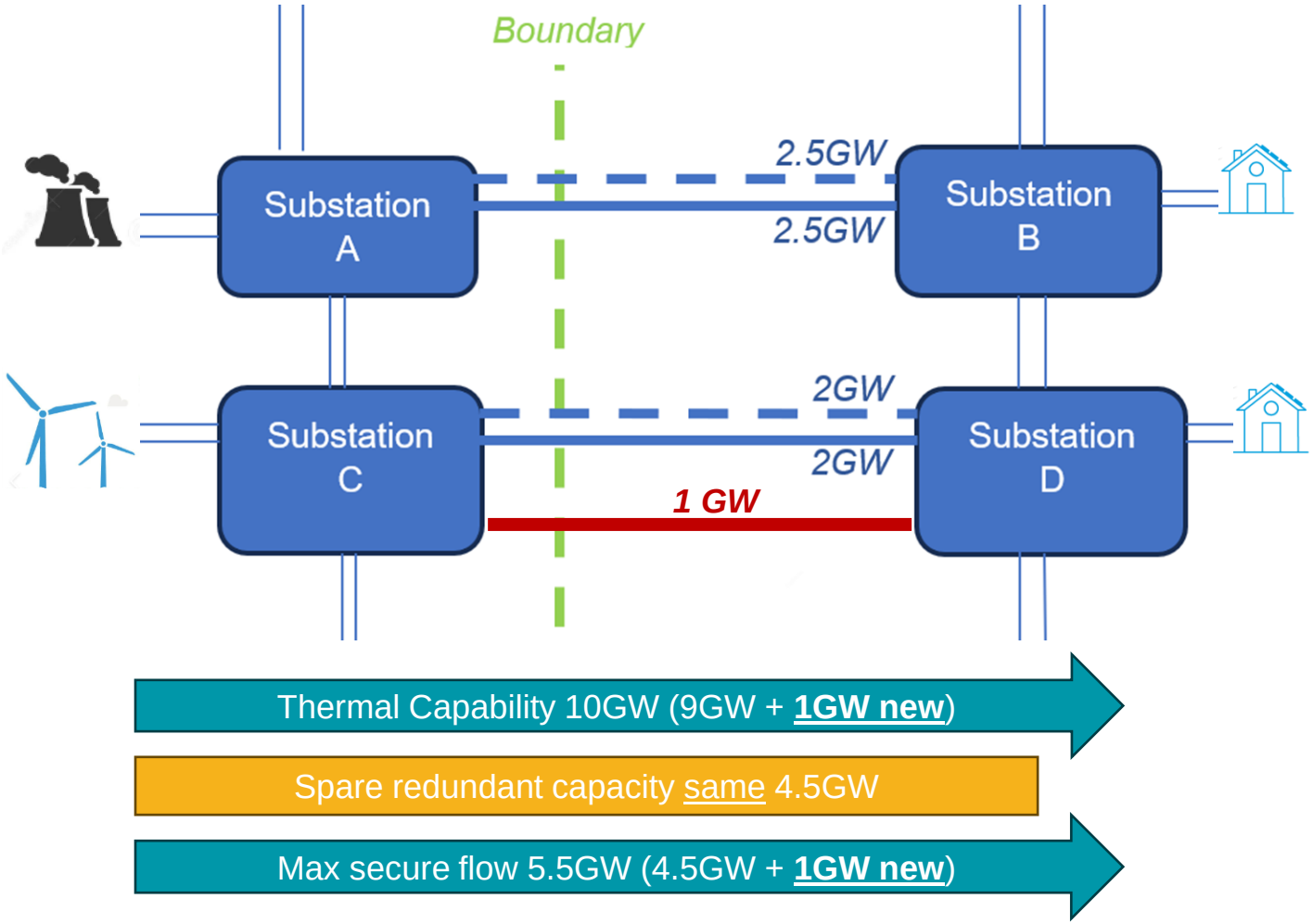
SQSS

TOs plan network additions using SQSS criteria
Surplus capacity is required in case of faults or outages including:

- *"N-2" : O*utage on two largest separate circuits
- *Worst case fault scenario remains the same*
- *Boundary is still secure*

An additional 1GW of network capacity is required for new generation

➢*Build a new 1 GW circuit*
➢*Boundary remains secure under SQSS*



What is the issue?

TNUoS says: Want 1GW, build 1.76GW

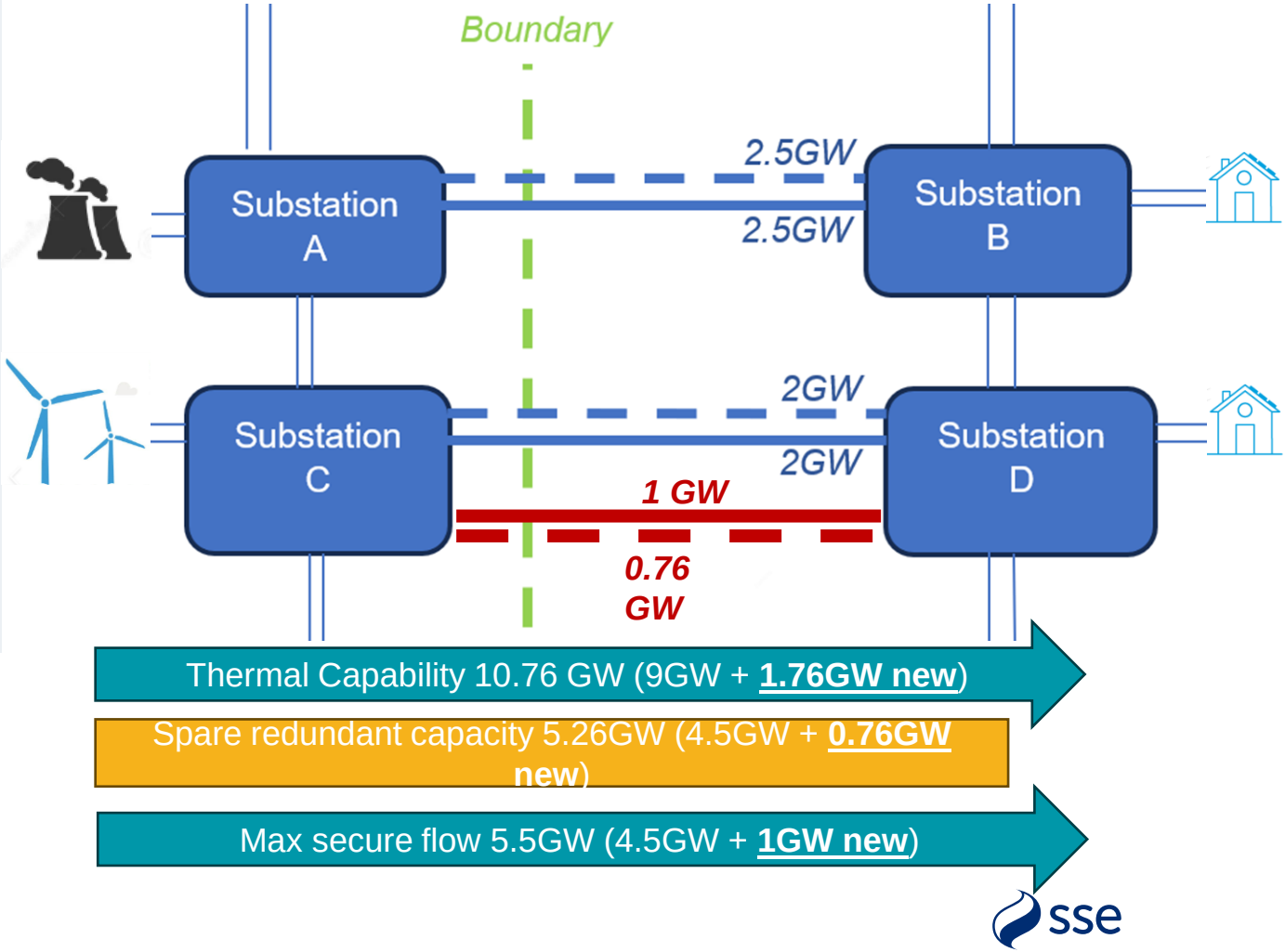
TNUoS

Transport and Tariff model assumes security is a ratio:

- *For each 1MWkm of new network, 1.76x this capacity is developed*
- *Boundary security modelled to increase pro-rata*
- *2.5GW + 2GW + 0.76GW = 5.26GW spare capacity*

An additional 1GW of network capacity is required

- ➢*Build 1.76 GW of network under CUSC methodology*
- ➢*Boundary is over-secure under SQSS*

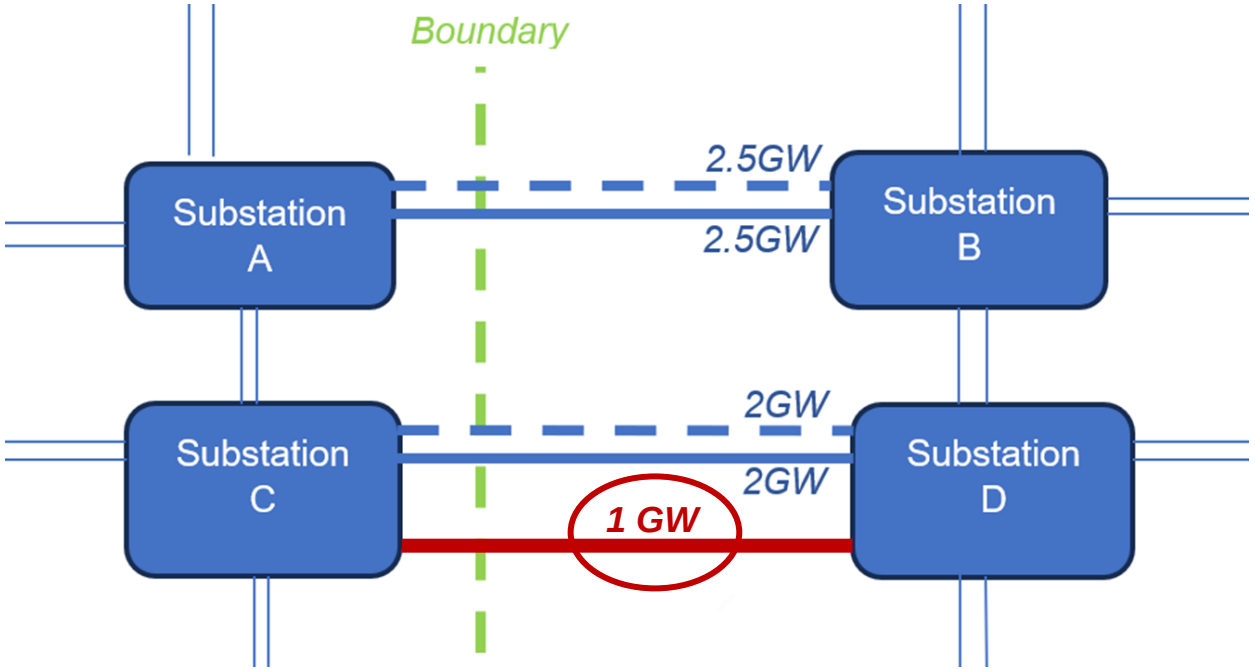


What is the issue?

A difference between how networks are planned vs how the TNUoS model reflects this

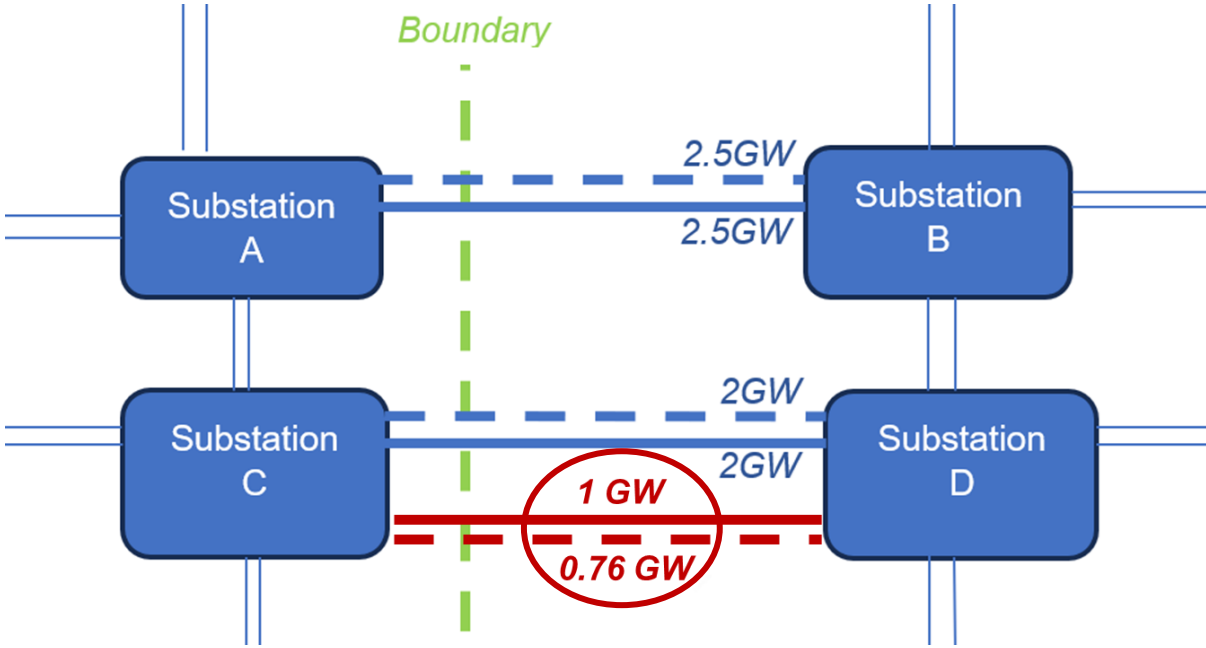
TOs plan network additions using **SQSS** criteria

Need 1GW, build 1GW



TNUoS model assumes security is a ratio

Need 1GW, build 1.76 GW



TNUoS Transport model is over-forecasting how much network will be planned for security

sse

What is the issue?

A difference between how networks are planned & how the TNUoS model forecasts this

Required redundant surplus capacity is an absolute number in MW

If current MITS boundary is already secure, new circuits don't cause need for additional security

Although if new circuit is larger than previous worst case fault, then some additional security measures may be needed

TNUoS charging model applies the Security Factor as a multiplier to all new circuits

For every new circuit, an additional 1.76 times that is assumed to be required and built

Note: Some circuits only have a factor of 1 applied, for example some remote island links and some local circuits

- **Issue**: TNUoS treatment of security is **not cost reflective** of network planning
- **Solution:** TNUoS Transport model treatment of security should be more cost reflective

sse

Contents:

What is the Proposed Solution ?

Remove or amend the Security Factor from the Transport model

Analysis of SQSS indicates:

- Locational Onshore Security Factor from Wider Tariffs (Peak Security & Year Round) should be = **1.00**

Options for amending the CUSC and Transport & Tariff model:

- **OPTION 1**: Remove the Locational Onshore Security Factor entirely from all Wider charges
- **OPTION 2**: Amend the Locational Onshore Security Factor for Wider Tariffs to be 1.00

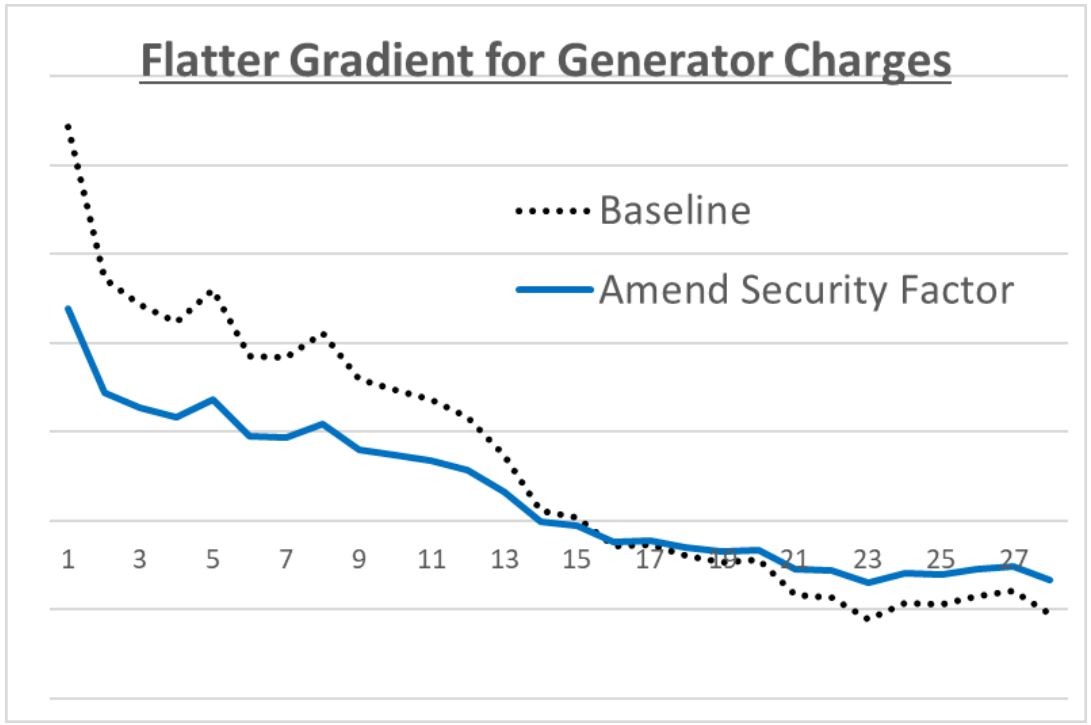
Note: Local charges remain unchanged, but could be investigated separately

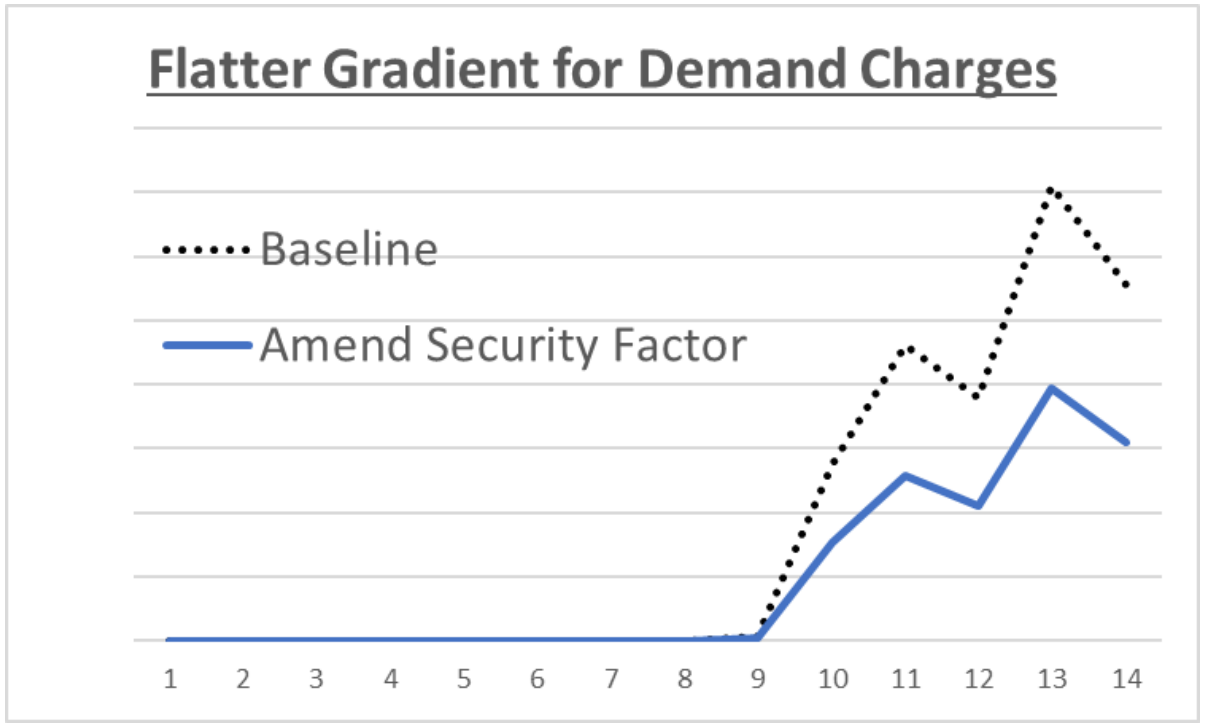
sse

Contents:

What is the Impact of the Change?

Examples of Charges Before and After Amending the Security Factor





Results for Generators:

- **Flatter gradient for locational charges**: reduced differential between North & South
- **Reduced magnitude of generator adjustment credit**

Results for Demand

- **Flatter gradient for demand charges**: reduced Southern charges, Northern floored at £zero
- **Higher Demand Residual charges**: smaller collection from demand locational, and possibly reduced total collection from generation

Expected process

1) Discuss at Task Force

2) Discuss at TCMF

3) Raise a CUSC Modification

4) Present at CUSC Panel

5) CUSC Workgroup

AoB and Close

Jamie Webb

AOB

- Meeting dates and locations.
    - 27th March in London
    - 24th April TBC (If required)

- TCMF rota.

Date	TF Rep
02/11/2023	John Tindal
23/11/2023	Binoy Dharsi
04/01/2024	No update
01/02/2024	Harriet Harmon
29/02/2024	Grace March
04/04/2024	

- Analysis prioritisation.

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Thank you

Actions from Meeting 9.5

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
1 25/10	3	Explore whether suppliers or ElectraLink could provide data to show measurement classes/billing status.	KK, ND		Nov-Jan	Open
2 25/10	3	Map the classification of different site types against available data points pre- & post-migration to identify changes in charging arrangements (and which sites will have a risk of double charging or inappropriate new arrangements).	KK, ND		Nov-Jan	Open
3 25/10	3	Approach suppliers as to the data that could be supplied re: whole current users over threshold and billing at point of migration.	KK, ND		Nov-Jan	Open
4 25/10	3	Identify the metrics for classifying domestic/non-domestic users and scenario/algorithm mapping for the impacts of different classifications.	KK, ND		Nov-Jan	Open
5 25/10	4	Email CP with any topics for the Distributed Generation sub group to discuss at meeting w.c. 30 October	Task Force		w.c 30 October	Closed

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Actions from Meeting 9

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
1 11/10	3	Feedback an update to Task Force on the SQSS review outlined in the 2021 Business Plan and any differences to the review required for the Backgrounds work.	JWe, CP		Nov mtg	Closed
2 11/10	3	Review 2022 Task Force documents for SQSS review plans for 2023.	CP		Nov mtg	Closed
3 11/10	3	Assess the materiality of the defect/changes for Backgrounds and urgency of the defect/changes (re: CUSC Panel prioritisation criteria) to define the method for making those changes.	Task Force		Ongoing	Open
4 11/10	4	Contact sub group(s) which may benefit from the Ocean Winds/Aurora consumer impact work to assess it as an evidencing resource.	AM		Ongoing	Open
5 11/10	6	ESO to contact SL to understand the technical input for the storage multiplier profile & a 'de minimis' level of sharing, assess what may be covered in CMP405 (or other lines of work), discuss if solar PV question is relevant for other sub groups to address.	CP	Update to be fed back to the Task Force	Nov mtg	Closed

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Actions from Meeting 9

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
6 11/10	6	Consider a new workstream to discuss the treatment of non-firm connections and charging.	CP/Task Force		Nov mtg	Closed
7 11/10	6	Find a consistent interpretation of 'non-firm connection' and bring to Task Force to agree.	Sharing sub group		Ongoing	Open
8 11/10	6	Consider where solar is included or reflected in the model/TNUoS assumptions.	Task Force/Sharing sub group		Ongoing	Open
9 11/10	6	Consider erroneous negative non-shared tariff zones in the South.	Task Force/Sharing sub group		Ongoing	Open
10 11/10	6	Assess who undertakes any technical analysis for Sharing and if this is best done as part of the Task Force or a CUSC Workgroup (i.e., move this to a modification proposal).	Task Force, CP, SL		Nov mtg	Open

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Actions from Meeting 9

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
11 11/10	7	Arrange a call with JT and ESO on the scaling factor modification and interactions with Backgrounds.	CP		Oct mtg	Closed
12 11/10	7	Scaling factor modification proposal to be submitted as soon as possible with a level of materiality clear within it (i.e., input scaling factors into the model).	ESO		Oct mtg	Closed
13 11/10	7	Bilateral conversations and regular updates to be shared with the Task Force from the scaling factor modification.	CP, MC		Ongoing	Open
14 11/10	7	Contact CP as to the information needing more transparency for ESO to review and respond to ahead of a discussion session at a future Task Force meeting (reminder to be shared at Oct, Nov meeting).	Task Force		Ongoing	Open
15 11/10	7	CP to discuss Transmission Owner (TO) data with the Revenue team to share how it's used in the model and arrange discussions with the TOs themselves.	CP		December	Closed

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Actions from Meeting 9

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
16 11/10	7	Ask the SQSS Team whether they can easily determine how double circuits are considered.	CP		Nov mtg	Closed
17 11/10	7	Arrange calls to discuss the pressing questions on Data Inputs and agree next steps ahead of Nov meeting.	CP		Nov mtg	Closed
18 11/10	11	Update consultants on when feedback on the Signals proposal will be available.	CP		October	Closed
19 11/10	11	Bring the Signals sub-group work packages to the CMP413 Workgroup to assess their materiality to the modification.	BD		Ongoing	Open
20 11/10	9	ESO representatives to take away lines of enquiry on MIC thresholds, line loss options, solution timings for suppliers' contracts and the tariff derivation option (to ESO Revenue team) to explore further.	KK, ND		Oct & Nov mtgs	Open

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Actions from Meeting 9

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
21 11/10	9	Set an agenda for the new Demand Charging workstream (including the ESO representatives on MHHS) on 25 Oct.	CP	To discuss objectives, priorities and key timing milestones considering Task Force and Authority comments from Mtg 9.	23 Oct	Closed
22 11/10	12	Specifics of the November meeting location to be shared with the Task Force.	DS, EB		Oct mtg	Closed
23 11/10	12	Email to be shared with a rota for Task Force members to share an update at TCMF.	CP		Oct mtg	Closed
24 11/10	12	Feedback required as to the benefits of the Task Force for tackling its objectives to play back to the Innovation funding team.	Task Force		Ongoing	Closed

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Actions from Meeting 8

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
1 15/09	3	Check whether OpTIC would smoothen step changes in network development, check whether the model could cope with half a circuit. Consider timing and frequency of phasing data with ESO outputs.	JD		Ongoing	Open
2 15/09	5	Set up a working session between the OpTIC proposers and ESO NOA experts (including exploration of risk)	CP	HH happy to be part of this conversation	TBC	Closed
3 15/09	5	Set up bilateral conversations with OpTIC proposer to pick up specific questions	GMa, Amo, PJ		Ongoing	Open
4 15/09	5	Share thoughts with the Authority representative as to the OpTIC model falling within scope for the Task Force	Task Force		October	Open
5 15/09	6	Provide absolute values for the Y-o-Y tariff changes across regions (re: historic volatility)	Frontier/LCP		TBD with Frontier/LCP	Open

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Actions from Meeting 8

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
6 15/09	8/9	Check with ESO SQSS experts as to a review of sharing factors to play back to the Task Force (and the Backgrounds workstream)	JW		TBC	Closed
7 15/09	8/9	Signals and Tech Type workstreams to feed back to Task Force their views on the treatment of demand raised in the Backgrounds workstream	GM, Amo		Nov/Jan meeting	Open
8 15/09	12	Contact the Abs v Rel workstream if there are other views for a case for change	Task Force		Oct/Nov meetings	Closed
9 15/09	12	Contact the Abs v Rel workstream with thoughts/questions	HH		Oct meetings	Closed
10 15/09	13	All workstream leads to create a high-level timeline and action plan for each workstream	Workstream leads	Timings to be collated by CP to create a longer-term Task Force road map	Meeting 9 (11 Oct) if possible	Closed

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Actions from Meeting 7.5

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
1 18/08	2	Backgrounds Case for Change to be shared with the Task Force for review and comment	JS		Mtg 8	Closed
2 18/08	2	Consider using initial workstream proposals as alternative format for information to stimulate stakeholder feedback.	Task Force	Discuss in Next Steps of Mtg 8 based on what's shared	Mtg 8-10	Closed
3 18/08	4	Ownership and timings defined for the OTNR Sub-Group closure report	JS	Closure Report to be shared with TF once complete (NP @ESO)	October	Closed
4 18/08	7	For completeness, Task Force members not present at Mtg 7.5 are to provide their view on progressing the Reference Node case into a modification proposal	EB, DS		1 Sept	Closed

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Actions from Meeting 7.5

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
5 18/08	7	A one-page report for the Charging Futures website to summarise the reference node modification plans and individuals involved.	JT	To also reflect any further views not captured at TF meeting 7.5 and provided as part of action 4 above.	15 Sept	Open
6 18/08	7	Draft modification proposal to be raised.	JT		Mid-Oct (JT to advise)	Closed
7 18/08	7	BAU update to TCMF with ESO/Propose to agree who will present the Reference Node proposal to relevant TCMF.	JT, JS/CP	Topic to be added to TCMF Sept agenda for BAU update, Oct agenda to present mod	31 Aug (TCMF 7 Sept for BAU update)	Closed
8 18/08	8	Co-ordinate with project leads about deliverables ahead of Mtg 8	JS	Check whether the Backgrounds workstream scope of work includes scaling as a consideration	30 Aug	Closed

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Actions from Meeting 7.5

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
9 18/08	8	Share draft 'negative scaling' modification proposal with the Task Force to review prior to submission	JS/MC	JT and Backgrounds workstream to link with this project for updates	Q4 2023	Closed
10 18/08	9	Review the current modification tracker for a version to feature in future Task Force meetings or shared for visibility.	JS, CP, DS, EB	An overview to alert workstreams of mods to consider	Mtg 8	Closed

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Open Actions from Meetings

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
1 27/07	3	Consider whether updating the 'pseudo-CBA approach' to scaling factors is currently feasible with the data available and whether case for change should include the analysis from the consultants	JT	Consider as part of Backgrounds case for change	Mtg 8	Closed
2 27/07	3	Provide a viewpoint as to the extent to which scaling factors currently mitigate volatility	Frontier/LCP		Mtg 8	Closed
3 27/07	3	Consider whether backgrounds are complicating understanding of how charges work or a necessary element of the cost reflectivity of the model.	Task Force		Mtg 8	Open
6 27/07	5	Review past calculations for sharing to provide a recommendation for what work would be feasible now	Frontier/LCP	Information shared by SL 28 Jul	Mtg 8	Open
7 27/07	5	Consideration of renewables in sharing (wind vs wind, treatment of solar).	Frontier/LCP	JS to assess information needed	Mtg 8	Open

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Open Actions from Meetings

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
8 27/07	5	Exploration of turning off sharing to see impacts on final charges and volatility	Frontier/LCP		Mtg 8	Open
9 27/07	8	Consider calculating using a 5 year average rather than current 5 year method	Frontier/LCP		Mtg 8	Closed
11 27/07	8	Consider the information available to share with consultants & TF re: potential new ESO products and impacts on FPN, and possible new data input modification	JS		TBC: updates can follow after final internal reviews of proposed products	Open
12 27/07	8	Absolute values to be shared for the impact of using FPN only on Year Round components of the tariff.	Frontier/LCP	Material impacts possible for different scales of plant	Mtg 8	Open
13 27/07	8	Contact DNOs for information on key assumptions used in their Wk 24 forecasting.	JS, NW		Mtg 8	Open

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Open Actions from Meetings

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
14 27/07	8	Consider aligning Week 24 data with the SQSS change and move to gross demand.	JZ		Mtg 8	Open
15 27/07	8	Contact TOs for a view on what data inputs could be more regularly updated (re: locational tariff calculations) with a material impact and their view on revenue being deferred for a year	JS, NW	Will form part of wider Data Inputs workstream and discussion	Ongoing	Closed
5 26/06	3-7	Can indicative monetary values be provided for the impacts of the different backgrounds on differently-sized projects.	Frontier/LCP		Mtg 6-10	Open
7 26/06	3-7	Additional analysis shared on metrics used to compare volatility between actual and estimated charges.	Frontier/LCP		TBC – Frontier need a steer on what is required	Closed

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Open Actions from Meetings

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
10 26/06	3-7	Bring together the Task Force representatives and the ESO SQSS Review team (when in a position to do so) to discuss potentially parallel/overlapping interests.	JS, SS to explore with BD	To feed into case for change if required	TBC	Closed
11 26/06	8-10	Consultants are to explore the questions raised on zoning	Frontier/LCP	Considering what adding more zones would do to the existing Ref. Node work? Clarity needed around the definition for zones & differing from sharing factors. Frontier to provide additional note for pack?	Mtg 8	
12 26/06	8-10	Revisit ESO work on embedded generation in relation to the transport model and share with the Task Force if relevant	JS & NW	To consider as part of distributed generation element work package	Ongoing	Closed

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Open Actions from Meetings

ID/ date	Agenda Item	Description	Owner	Notes	Target Date	Status
14 26/06	12	Task Force members are to engage industry colleagues and stakeholders and feed back at the next virtual meeting (incl. substantive effects on other work)	Task Force	TF decision on format and whether workstream proposals will serve this purpose	Ongoing	Closed
1 26/04	1	Provide update on recruiting Non-Domestic user reps to Task Force	JS & NW	Discussions ongoing for a named rep. Non-Domestic Supplier forums updated by JS	Ongoing	Open
8 26/04	7	Further work on design vs cost reflectivity to be presented at Mtg 6	JS & NW	Feedback from legal and SQSS to be shared by JS via feed into case for change relating to Backgrounds	Mtg 8	Open
10 26/04	7	Investigate more granular data sources for DNO embedded distribution to support the methodology & analytics	JS	Need TF to identify the data needs before exploring sources (part of Distributed Generation work)	TBC	Closed

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