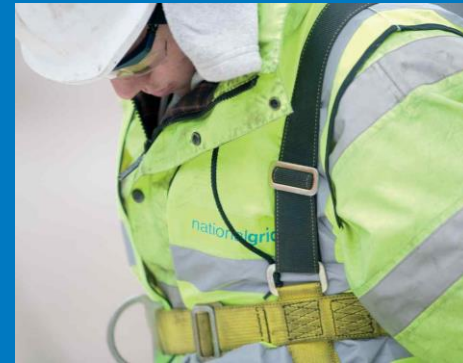


Gas Charging Review



NTSCMF – 05 September 2017

Final slide pack – Update provided on 4 September 2017. All slides added or update are marked with a blue star



Agenda

Area	Detail
EU Tariff Code Update	<ul style="list-style-type: none"> • EU Tariff Code relevant updates
Sub-workgroups	<ul style="list-style-type: none"> • Output / summary of recent sub groups <ul style="list-style-type: none"> • Existing Contracts • Revenue Reconciliation / Recovery Mechanisms
Action 0707 (update)	<ul style="list-style-type: none"> • Influence on entry vs exit impact in the CWD model of existing contracts
Action 0803	<ul style="list-style-type: none"> • CWD Calculation / overall Transmission Services Charging methodology and where there are potential discounts
Plan and change process	<ul style="list-style-type: none"> • Overview of the future sub groups and NTSCMF meetings and their focus • GB / EU process alignment
Charging Models	<ul style="list-style-type: none"> • Development of Transmission Services CWD spreadsheet
UNC Modification	<ul style="list-style-type: none"> • Any updates related to UNC 0621
Next Steps	<ul style="list-style-type: none"> • Next Steps

Gas Charging Review

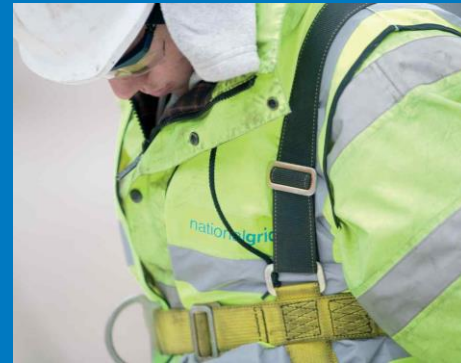


EU Tariff Code – Current Outlook

Gas Charging Review: Relevant EU updates

- Information in the Transmission workgroup material for 7 September:
<https://www.gasgovernance.co.uk/tx/070917>

Gas Charging Review



Output from sub workgroups

Gas Charging Review: Output from sub workgroup

- Two sub groups since 23 August NTSCMF
 - 24 August – Existing Contracts
 - 31 August – Revenue Reconciliation / Recovery mechanisms
- All documentation and outputs, when updated from the meetings will be available on the NTSCMF pages as part of the meeting material:

<http://www.gasgovernance.co.uk/ntscmf> and

<http://www.gasgovernance.co.uk/ntscmf/subg>

- And will also be updating the summary documents in the document library

Gas Charging Review:

Sub workgroups – Joining and Contributions

- Inputs in advance of the meetings are welcome
 - Questions or comments or any position papers, for example
 - The one-pager documents can also be used to frame the discussions

<http://www.gasgovernance.co.uk/ntscmf/subg1page>

- To receive joining instructions for the meetings (or to join a specific sub group on a particular topic) please contact National Grid

box.transmissioncapacityandcharging@nationalgrid.com

Gas Charging Review: Sub-group output summary

- From each of the sub-groups we have produced a set of summary slides which give an overview of what was discussed at the meeting
- These are presented in the relevant parts of the NTSCMF material

Gas Charging Review



Sub-group 24.08.17
Existing Contracts

Gas Charging Review:

Existing Contracts – Key questions to address

Suggested questions/areas to address

- What falls under the definition of an Existing Contract?
 - Understanding of Article 35 TAR NC
 - Article 35 and transition rules
- How to accommodate Existing Contracts into the capacity calculations?
 - What does this mean in practice?
- Are there any other considerations related to Existing Contracts?

Gas Charging Review: Existing Contracts (1)

Question	Some of the views expressed for each question
<p>Understanding of Art 35 (general points)</p>	<ul style="list-style-type: none"> • Agreement that ECs relate to Long Term Entry capacity allocated before 6 April 2017 (EIF of TAR NC). Article 35 applies to eligible Entry capacity and therefore other articles of TAR NC do not apply where A35 does (covers capacity and not commodity). Therefore no change to reserve price payable for any EC. • What is being “signed onto” when booking LT Entry capacity under current arrangements is a fixed capacity price and accepting a variable commodity (or revenue recovery under current arrangements) charge. Commodity changes at least every six months. • ENI presented a draft paper and summarised to the group – some key points highlighting differences between bilateral and multilateral contracts (such as the UNC), LT subsidising ST users, differences between Entry and Exit processes. • Entry / Exit differences - No option to manage entry capacity holdings (similar to Reductions on Exit) and User Commitment arrangements for entry may need to be reviewed. • UNC is a modifiable contract, and so terms and conditions may change after capacity is purchased. • There was questioning on whether it is right for capacity and commodity element to be de-linked in this manner w.r.t to art 35 application. Capacity must be bought and there is a choice to flow or not. • Much of the recovery issues could be resolved through the FCC however accept there are challenges for FCC – to be discussed further at dedicated FCC sub group on 8 September.

Gas Charging Review: Existing Contracts (2)

Question	Some of the views expressed for each question
Understanding of Art 35 (practice)	<ul style="list-style-type: none">• Some proposing capacity top should not be applied to any EC. Also highlighted in ENI draft paper on ECs. Some proposed that long term capacity is both useful and necessary in some circumstances; important to minimise risk associated with LT holdings, and to avoid a negative impact upon existing capacity holders.• Some parties going further and saying that preferred approach is some form of capacity handback, but failing that then the capacity top up should be avoided.<ul style="list-style-type: none">• Referred back to UNC0501 – what has changed? Also highlighted that scope of UNC 0621 is not to change the capacity framework.• Discussed application of charges – if LT EC not paying any reconciliation charge then LT ECs could be contributing less. Also applies if any capacity handback took place.• Discussed charges being a fair allocation of costs, that transitioning from one regime into another and should be reflected in approach. There could be discrimination against LT users with ST discounts therefore more rationale for ECs not paying further capacity charges.• A significant number of parties expressed a view that retaining flow based reconciliation was preferable to trying to replace it with a capacity top up. One party suggested network charges should be all capacity based.• Those on the call – overall preference was for a flow based revenue recovery charge. Such a charge could not be applied at IPs. This could serve as a form of discount at IPs if considered appropriate. Could still apply a form of capacity revenue recovery at IPs thereby having a dual regime. Would need to consider how this could be done in practice.• Scale of revenue reconciliation required will be determined by the level the FCC is set at. If the FCC is changed over time, as is envisaged, if starting with obligated or % or obligated, the revenue reconciliation required should naturally reduce.

Gas Charging Review: Existing Contracts (3)

Question	Some of the views expressed for each question
<p>How to accommodate Existing Contracts into the capacity calculations? What does this mean in practice?</p>	<ul style="list-style-type: none">• TAR NC requires Existing Contracts to be considered. Does not propose or mandate a specific treatment in any of the calculations or processes in determining capacity charges or any reconciliation charges. Need to have a way to accommodate.• The CWD models for Transmission Services charging is based on one approach (highlighted at NTSCMF on 2 and 23 August). No challenge or concern on how they are accommodated. Encouraged group to refer back to NTSCMF material for 2 or 23 Aug and share any concerns next NTSCMF on 5 September.
<p>Transition Rules</p>	<ul style="list-style-type: none">• This is for LT Entry capacity purchased after EIF of TAR NC and before implementation of UNC 0621.• Discussed the capacity this relates to. Entry only (as current methodology only has Entry with fixed capacity charge when allocated). Discussed options for this 'interim' period and what rules should apply.• Parties initial thoughts are that prevailing methodology should continue to apply (i.e. if sold at fixed price then that should be maintained), rather than changed retrospectively through mod 621. Essentially following spirit of Article 35 even if not mandated under TAR NC.

Gas Charging Review: Existing Contracts – General themes

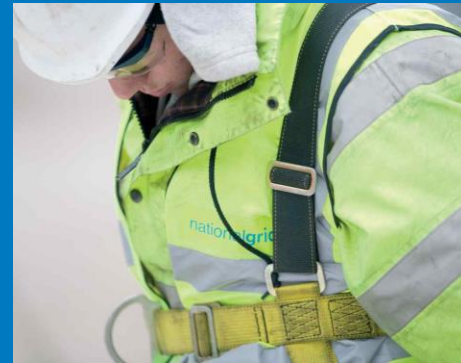
- Summary of general themes:
 - Revenue reconciliation and application to ECs: majority expressed preference for this to be flow based rather than on capacity bookings. Capacity see as fixed for EC. Flow see as variable.
 - Arrangements should manage / mitigate transition into a new charging framework.
 - General support for how ECs have been accommodated into CWD calculations, as shared in models published and discussed at NTSCMF



Existing Capacity link with ASEP disaggregation mod

- Web Ex held on 29th August on *Treatment of Capacity at Combined ASEPs*.
- The mod will allow for different capacity classifications at an ASEP (e.g. storage, abandoned). This will allow different charges to be applied - both from an enduring perspective and 'existing capacity' perspective.
- Should existing capacity at different classifications of entry points be treated differently (in event of capacity top up)?

Gas Charging Review



Sub-group 31.08.17
Revenue Reconciliation

Gas Charging Review: Revenue Recovery / Reconciliation Mechanisms

Suggested questions/areas to address

- Status of discussions – review of where we are
- Development linked to other topics
- Key questions left to address (discussed in the sub group):
 - The nature of a revenue recovery charge (why needed, what aims does it have)?
 - The timings of setting a revenue recovery charge and any links under TAR NC?
 - Application to IP and Non IP



Gas Charging Review:

Revenue Recovery (from July 2017 NTSCMF)

Topic	Capacity Charge	Commodity Charge
EU Compliance	<ul style="list-style-type: none"> • “TAR NC shall be recovered by Capacity based Transmission Tariffs” – might be considered more compliant 	<ul style="list-style-type: none"> • A flow based charge for the purposes of revenue recovery, can only be applied to Non IPs. If charge is too great a proportion of Transmission Revenue then might be considered less compliant • Commodity charge cannot be applied at IPs so may be a more minimalist approach to compliance
Denominator	<ul style="list-style-type: none"> • Based on aggregate bookings 	<ul style="list-style-type: none"> • Based on aggregate flows.
Existing Contracts (ECs)	<ul style="list-style-type: none"> • Might be applied to EC’s even if no flows if levied on bookings • Treatment of ECs and article 35 of TAR NC needs to be considered. Application of capacity “top-up” or uplift could charge on bookings irrespective of flows. 	<ul style="list-style-type: none"> • Only applied to flows. For any EC’s with no flows against them, not charged. • Treatment of ECs and article 35 of TAR NC needs to be considered. Might mean EC treatment is simpler as no change to overall Capacity charge from when Capacity purchased.
Single / Dual regime	<ul style="list-style-type: none"> • Same treatment for IP and Non IP 	<ul style="list-style-type: none"> • If levied for revenue recovery then may not be applied to IP therefore dual regime would be required.
Cross subsidy / discriminatory approach – this is about measuring the relative charging between IP and Non IP.	<ul style="list-style-type: none"> • Cost Allocation Assessment (Article 5 of TAR NC) would need to be considered and output justified. 	<ul style="list-style-type: none"> • Cost Allocation Assessment (Article 5 of TAR NC) would need to be considered and output justified.



Gas Charging Review: Revenue Reconciliation (2)

Question

Some of the views expressed for each question

Status of discussions – review of where we are and updates

- Cost allocation assessment – this is a method of reviewing the allocation of costs/charges as part of the applied methodology between IP and Non IP and is part of the TAR NC requirements. The output % would need to be justified as part of TAR NC process. There could be options of how the calculations are done depending on the overall methodology. To be explored further with calculations ultimately being built into Charging Models.
- There is a Licence obligation for National Grid to recover its allowed revenues in a given period. This is something that will need to be considered in selecting a revenue recovery approach.
- Compliance is still needed under TAR NC.
- Majority favour commodity over capacity as a means of revenue reconciliation / recovery.
- Acknowledge other issues drive under recovery – this is about the mechanism to recovery any amount. Anticipated bookings will be needed irrespective of approach (Cap or Comm) but anticipated bookings would not be codified (similar to anticipated flows currently). Under recovery could also be driven by FCC, discounts, multipliers, application of recovery mechanisms.
- Some not in favour of having multiple opportunities for discounts where charges would be picked up by other parties. Discounts upon discounts could be taken too far. Others commented access to market is a key driver behind charges.
- Most prefer to transition into new arrangements. Where the anticipated under recovery reduces as a result of reviewing and updating FCC over time the revenue reconciliation requirement will naturally reduce. This would reduce or remove the need for it over time.
- Avoiding market distortions was also raised as an issue some keen to avoid.



Gas Charging Review: Revenue Reconciliation (1)

Question	Some of the views expressed for each question
Key questions left to address	<p>During the meeting, the group discussed:</p> <ul style="list-style-type: none">• the timing of when certain charges may be set• factors that influence the timing and need / ability to recover allowed
Status of discussions – further development	<ul style="list-style-type: none">• Discussed the timing of when certain charges may be set. The likelihood of under recovery is high and therefore to avoid need to materially adjust charges year to year (as a result of under recovery) and fulfil Licence obligations on revenue recovery, any mechanism would benefit from being flexible in updateable and applied.• Development of IP charging any equivalent reconciliation amount. If commodity based then this cannot apply to IP flows as per TAR NC. Suggestion to consider a capacity based recovery that could be calculated in a number of ways. Further discussion needed to consider options, methods of calculating and applying such a charge. Some concerns about subsidising IP flows if not levying a recovery charge (under the option of commodity for any recovery).• Timing and comparison between capacity and commodity approach. Does either approach have any limitations or greater flexibility in when they can be applied that could be more in keeping with required objectives.• Review the TAR NC to determine relevant text on how revenue recovery charges may be applied and updated.

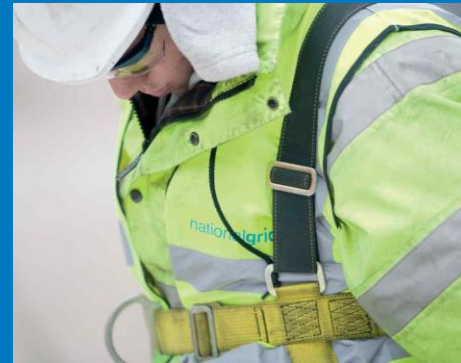


Gas Charging Review: Revenue Recovery / Reconciliation Mechanisms

■ General Themes

- Majority prefer a commodity (flow based) recovery charge.
- The likelihood of under recovery is high and therefore to avoid need to materially adjust charges year to year and fulfil Licence obligations on revenue recovery, any mechanism would benefit from being flexible in being updateable and applied.
- Over time the size of the reconciliation amount should reduce with a continued review of key inputs (FCC) and methodology components (multipliers, discounts, etc.).

Gas Charging Review

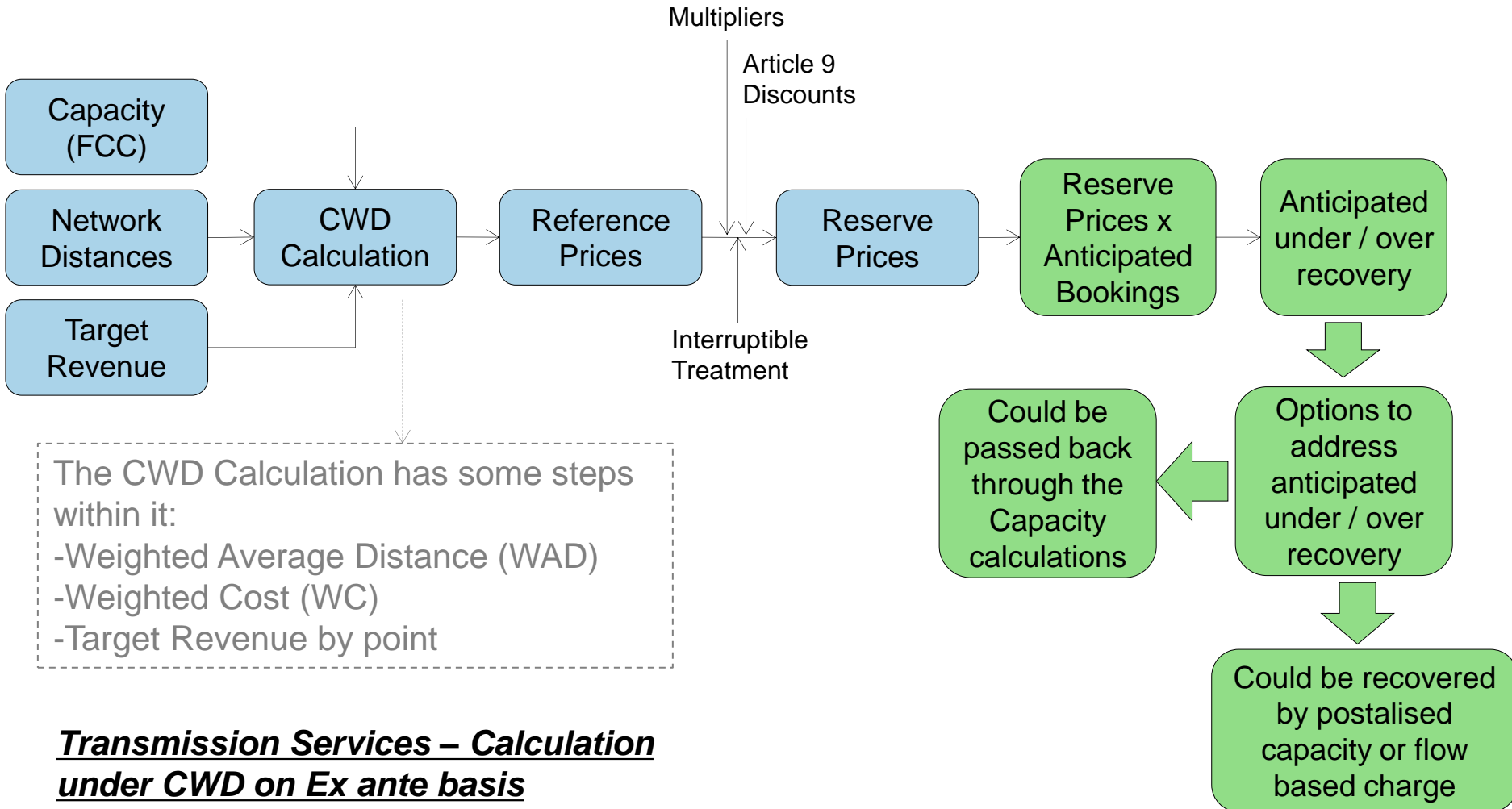


Action 0707 update - Influence on entry vs exit impact in the CWD model of existing contracts

Gas Charging Review: CWD Calculation – Existing Contracts

- Existing contracts and how they are to be taken into account in any Capacity price calculations are not prescribed in TAR NC
- The method of inclusion in the modelling to date is as per material presented at NTSCMFs on 2 August 2017 and 23 August (repeated here for information in the following slides)

Gas Charging Review: CWD Calculation - simplified



Gas Charging Review:

Some key steps in CWD Calculations

	Entry Capacity Calculation	Exit Capacity Calculation
Weighted Average Distance (WAD)	$\frac{(\text{Sumproduct Exit Point FCC} \times \text{Distance to Entry Point})}{\text{Sum Exit Point FCC}}$	$\frac{(\text{Sumproduct Entry Point FCC}^{\#} \times \text{Distance to Exit Point})}{\text{Sum Entry Point FCC}^{\#}}$
Weighted Cost (WC)	$\frac{\text{Entry Point FCC}^* \times \text{WAD}}{(\text{Sumproduct Entry Point FCC}^* \times \text{WAD})}$	$\frac{\text{Exit Point FCC} \times \text{WAD}}{(\text{Sumproduct Exit Point FCC} \times \text{WAD})}$
Target Revenue by point (TRP)	Entry Target Revenue x WC	Exit Target Revenue x WC
Reference Price (RefP)	Entry TRP / Entry Point FCC*	Exit TRP / Exit Point FCC

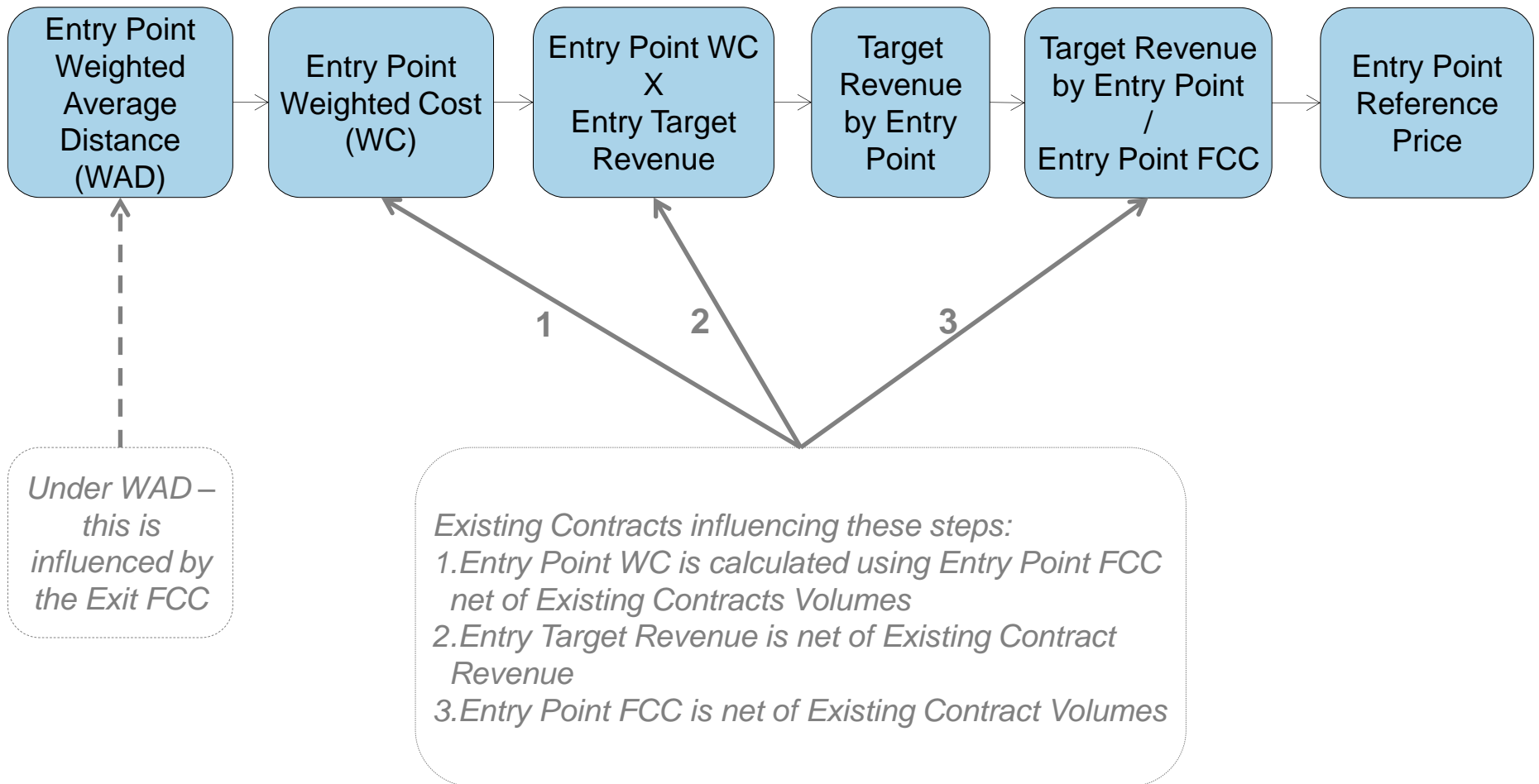
Entry Point FCC: How the current CWD Model is designed:

#Entry Point FCC – this is Gross Entry Point FCC (not reduced by Existing Contracts)

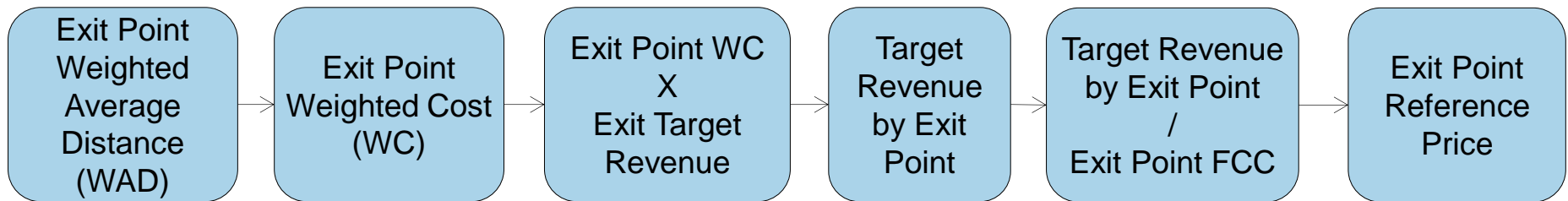
*Entry Point FCC – this is the Entry Point FCC net of Existing Contract Capacity

N.B. Exit Capacity has no Existing Contracts (as per article 35 TAR NC definition)

Gas Charging Review: Entry Calculations under CWD



Gas Charging Review: Exit Calculations under CWD



Under WAD – this is influenced by the Entry FCC. The Entry FCC used is the FCC without any Existing Contracts netted off (i.e. the Gross FCC).

If Existing contracts were netted off at this point then Exit would be impacted by ECs.

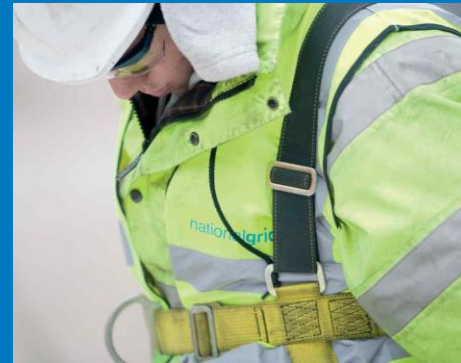
Gas Charging Review: CWD Calculation Summary

- Under CWD, Entry does influence Exit and vice versa at the Weighted Average Distance (WAD) stage, linked to the FCC levels
- Existing contracts, if netted off FCC will impact Entry Capacity calculations and may impact Exit
 - Level of impact not driving by overall level of FCC but the profile of capacity across the points, so the relative differences between points.
- Overall the FCC number for each has the most influence on its own charges when spreading the target revenue by point over the FCC per point

Gas Charging Review: Accommodating Existing Contracts

- For Entry, the method of incorporating Existing Contracts is not prescribed under TAR NC
- Existing Contracts (ECs) must be taken into account in the overall charging methodology.
 - Net capacity at each point with total entry target revenue net of ECs (as per available Transmission Services CWD Model available)
- A question was asked about the impact of pricing at a gross capacity level
 - Gross capacity at each point and entry target revenue excluding ECs
 - Discussion for potential impacts of such an approach

Gas Charging Review



Action 0803 - CWD Calculation / overall Transmission Services Charging methodology and where there are potential discounts

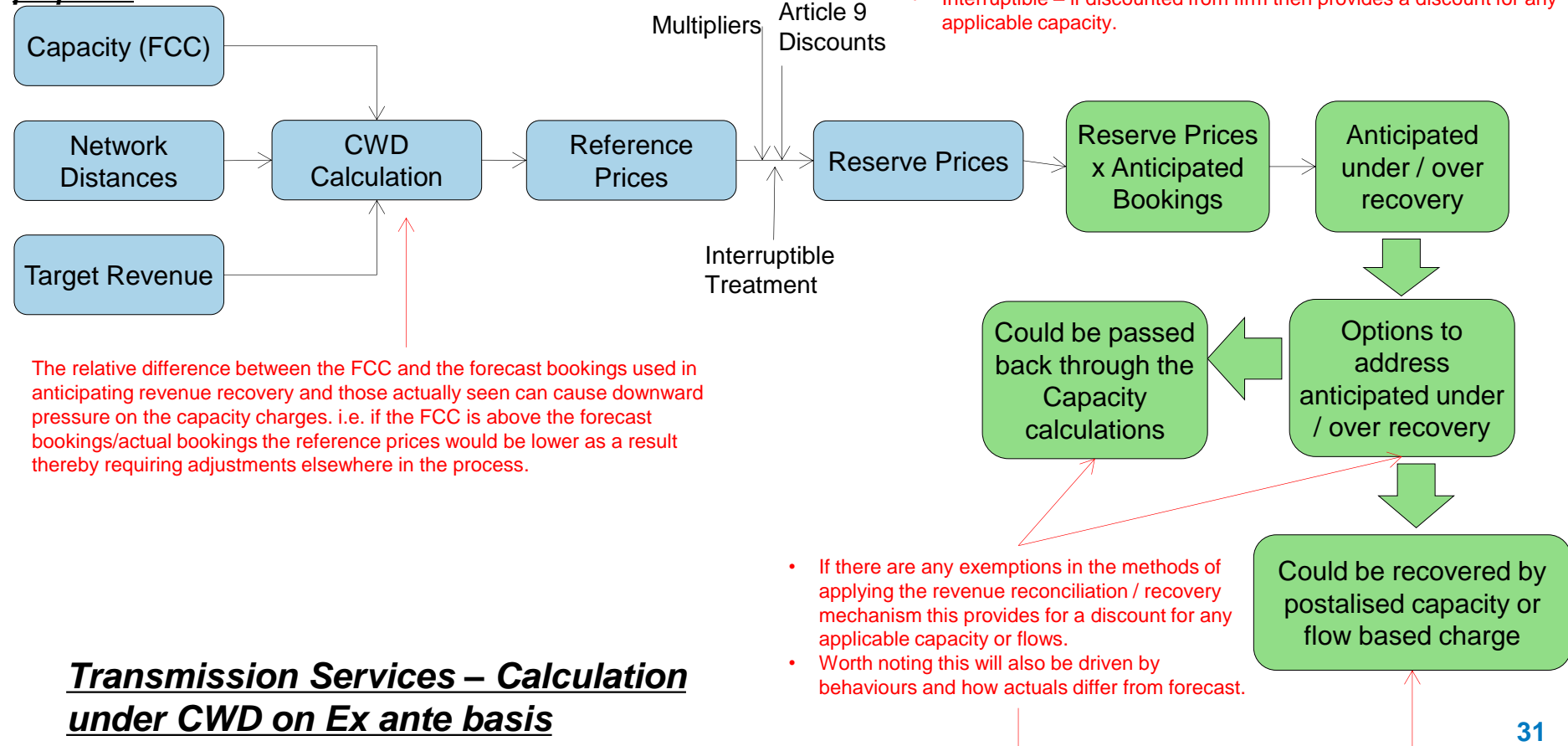


Gas Charging Review: Action 0803

This diagram shows where there could be adjustments that may result in discounts where any under recovery would need to be picked up in any adjustment mechanism.

N.B. this for illustration and discussion, this does not form a proposal.

- Multipliers – if less than 1 provides for discounts to any applicable capacity. If equal to 1 then no separate treatment. If greater than 1 then results in an increase in prices for applicable capacity.
- Article 9 – for any discounts provided for under article 9, this provides a discount to the applicable capacity
- Interruptible – if discounted from firm then provides a discount for any applicable capacity.



The relative difference between the FCC and the forecast bookings used in anticipating revenue recovery and those actually seen can cause downward pressure on the capacity charges. i.e. if the FCC is above the forecast bookings/actual bookings the reference prices would be lower as a result thereby requiring adjustments elsewhere in the process.

- If there are any exemptions in the methods of applying the revenue reconciliation / recovery mechanism this provides for a discount for any applicable capacity or flows.
- Worth noting this will also be driven by behaviours and how actuals differ from forecast.

Transmission Services – Calculation under CWD on Ex ante basis

Gas Charging Review



Plan and change process

Gas Charging Review: Topic Development

- The discussion topic timeline was put together to ensure all topics had time against them
 - Discussing at least twice
 - Additional meetings will be added in as needed
- The discussions are facilitated to encourage as many views and positions as possible. This is form part of the evidence and relevant information, that in addition to other inputs, will help inform National Grid and industry on the individual topics and how they work together as part of an overall methodology.
- This will ultimately be useful in helping National Grid to update UNC0621.

Gas Charging Review:

Topic Development – Discussion timeline (1/2)

Date	Meeting	Key topic to discuss#
30 May 13:00 – 15:00 (complete)	Sub Group	<ul style="list-style-type: none"> Forecasted Contracted Capacity
5 June (complete)	NTSCMF	<ul style="list-style-type: none"> Forecasted Contracted Capacity*
14 June 10:00 – 12:00 (complete)	Sub Group	<ul style="list-style-type: none"> Revenue Reconciliation / Recovery (may also include some views on Multipliers)
29 June 10:00 – 12:00 (complete)	Sub Group	<ul style="list-style-type: none"> Avoiding inefficient bypass of the NTS
7 July (complete)	NTSCMF	<ul style="list-style-type: none"> CWD Updated Model Revenue Reconciliation / Recovery* Avoiding inefficient bypass of the NTS*
11 July 13:00 – 15:00 (complete)	Sub Group	<ul style="list-style-type: none"> Specific Capacity Discounts
17 July (complete)	NTSCMF	<ul style="list-style-type: none"> Specific Capacity Discounts* Non-Transmission Services Model*
25 July 13:00 – 15:00 (complete)	Sub group	<ul style="list-style-type: none"> Multipliers

#There may be some occasions where the topic runs over a few meetings, we will revisit the sub-group / NTSCMF meeting topic if this happens.

* These topics will be relaying outputs from the sub-group in addition to further discussion at NTSCMFs

Gas Charging Review: Topic Development – Discussion timeline (2/2)

Date	Meeting	Key topic to discuss [#]
2 August (complete)	NTSCMF	<ul style="list-style-type: none"> Multipliers* Avoiding inefficient bypass of the NTS
8 August 13:00 – 15:00 (complete)	Sub Group	<ul style="list-style-type: none"> Interruptible
23 August (complete)	NTSCMF	<ul style="list-style-type: none"> Interruptible* Specific Capacity Discounts Non-Tx Services
24 August 10:00 – 12:00 (complete)	Sub Group	<ul style="list-style-type: none"> Existing Contracts
31 August 10:00 – 12:00 (complete)	Sub Group	<ul style="list-style-type: none"> Revenue Reconciliation/Recovery Mechanisms
5 September	NTSCMF	<ul style="list-style-type: none"> Existing Contracts* Revenue Reconciliation/Recovery Mechanisms*
8 September 10:00 – 12:00	Sub Group	<ul style="list-style-type: none"> Forecasted Contracted Capacity
12 September 10:00 – 12:00	Sub Group	<ul style="list-style-type: none"> Avoiding inefficient bypass of the NTS
19 September 13:00 – 15:00	Sub Group	<ul style="list-style-type: none"> Multipliers / Interruptible
26 September	NTSCMF	<ul style="list-style-type: none"> Forecasted Contracted Capacity Avoiding inefficient bypass of the NTS Multipliers / Interruptible
28 September 10:00 – 12:00	Sub Group	<ul style="list-style-type: none"> To be confirmed

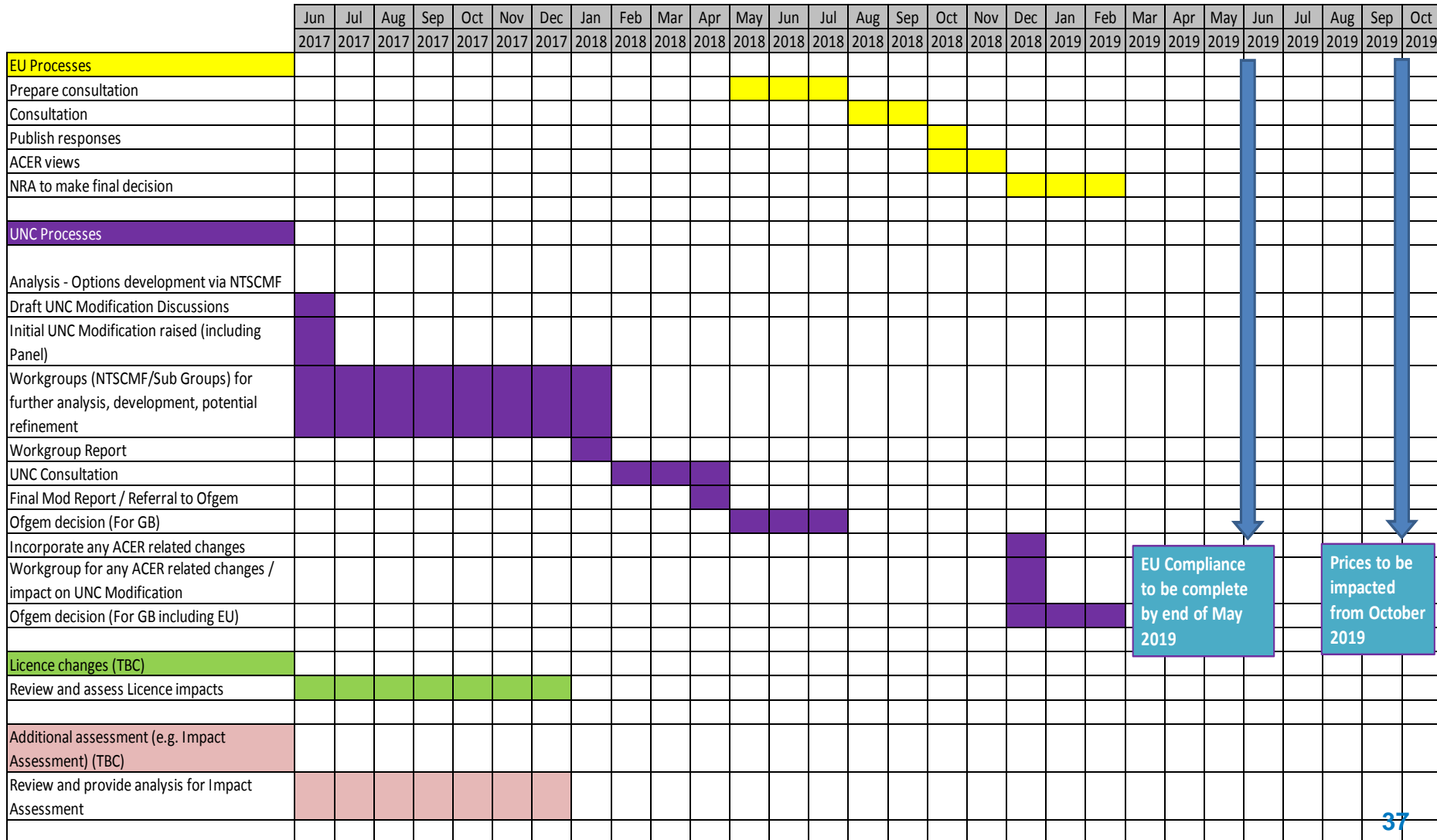
Plan and Change process

Timeline – options for GB / EU consultations

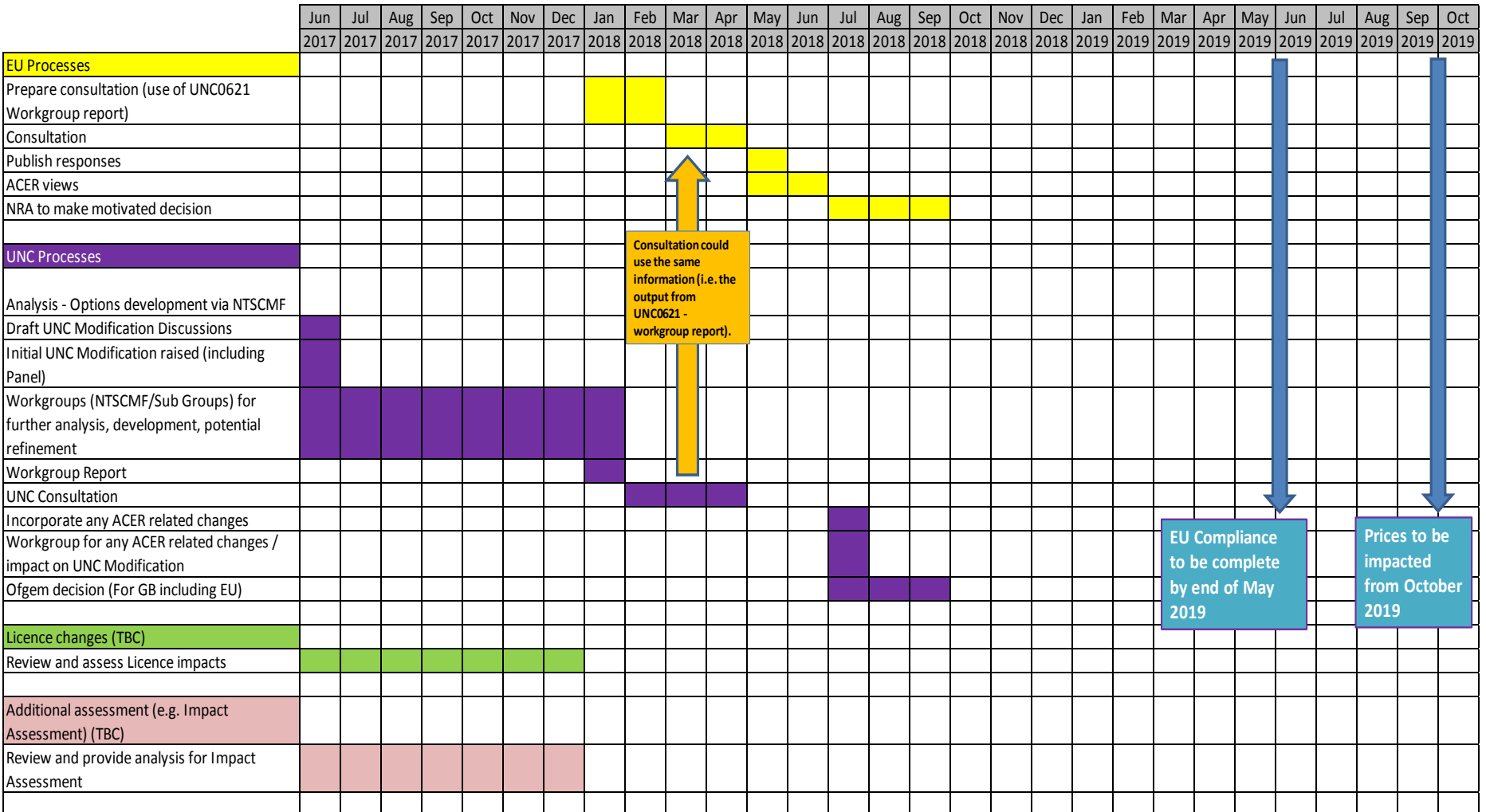
- Previously we have discussed the options of carrying out the GB UNC change process and the required EU consultations (as per TAR NC) either:
 - In series; or
 - In parallel
- At 23 August NTSCMF the group discussed the scenario whereby the Workgroup report could be used for the EU TAR NC consultation (the two approaches are shown at a high level on the next two slides)
- Opportunity to discuss further views and observations

Plan and Change process

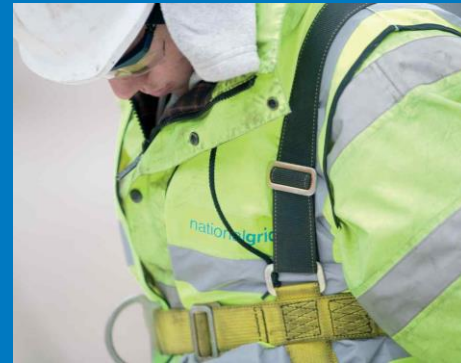
Timeline (simplified) – in “series”



Plan and Change process Timeline (simplified) – in “parallel”



Gas Charging Review



Charging Models – Development of Transmission Services CWD spreadsheet



Gas Charging Review: Charging Model development

- Update on developments being made to the Transmission Services CWD Model
 - Model for use to help show sensitivities in calculations and a flexible tool to help industry participants
- Short demo of the changes being made for discussion and input
 - Prior to model being made widely available
 - Some changes or updates may be needed ahead of publication

Gas Charging Review



UNC Modification

Gas Charging Review:

UNC 0621 Modification – relevant updates

- UNC 0621 Modification was sent to Panel on 2 June
- Voted to go to workgroup for development and back to Panel for January 2018
 - Twice monthly NTSCMFs, at least twice monthly Sub Groups
- As progress is made through the workgroups and sub groups UNC 0621 will be updated accordingly at the appropriate time

Gas Charging Review



Next Steps

Next Steps

- Sub Groups as per timetable
- Next NTSCMF on 26 September

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