CMP316: TNUoS Arrangements for Co-located Generation Sites

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Nicky White, NGESO

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Scope CMP316

Defect

- Generation sites which comprise multiple technology types within one Power Station are termed "co-located"

- The TNUoS methodology does not adequately accommodate co-located generation sites. This is especially true for sites which have a mixture of technologies that fall into different charging categories

- Section 14 needs a methodology by which such sites can be recognised and charged consistently with the cost-reflective principles underpinning the broader Generator TNUoS Charging Methodology

What

- We propose adding a new formula to the TNUoS methodology to calculate wider locational charges proportionally by technology type to the Power Station's Transmission Entry Capacity (TEC)

Why

- This approach could be sufficiently generic to map onto other future changes in the network charging arena such that any broader developments would not be precluded by, or preclude, this CMP

T&T Model: 3x Wider Generation Charging Categories

- The categories reflect the impact different types of generators have on the system

- Standard condition C5 of electricity transmission licence sets out the objectives to assess cost reflectivity against. This first objective states that transmissions charges should:

  "reflect, as far as is reasonably practicable, the costs…..incurred by transmission licensees in their transmission businesses…"

- For the purposes of this Mod assumption that allocation of fuel/technology types is given across the categories. The solution is flexible enough to accommodate changes of fuel types across the categories at a later date.

CFF, call for evidence, wider TNUoS reform

- Any items deemed out of scope for this Mod can be submitted under TNUoS Call for Evidence

Transitional Arrangements for Apr-23 Implementation

- To consider transitional arrangements for implementation
  - Impact on T&T Model and tariff setting (draft tariff to be published Nov-22)
    - The T&T up-front data manipulation to setup power stations as per CMP316
  - ESO Billing system
    - Requirements for new billing system

- To consider impact to connection agreements
  - To make a change to the App C template to show the Connection Entry Capacity (CEC) separately for different plant types to support the change
  - To consider all contracted on Apr-23 (both existing and future Connection Agreements)
  - TEC Register

- To update impacted customers for transparency / no surprises
  - Comms to be provided to sub-groups and trade associations
  - TCMF Communication following Ofgem decision

Actions from last Workgroup

- To review examples to illustrate temporary TEC

- Consider declaration process vs contracts

- Refine plans for transitional arrangements for implementation

- ALF setting process, Confirm - if there are no separate meters - what ALF is used
    - In most/all instances where there are multiple technology types there are multiple BMUs and so an ALF per technology type can be calculated
    - Current CUSC baseline defines the ALF setting process. E.g. CMP331 would have to consider interactions with CMP316 as it progresses

- View of how many co-located sites there may be in the future

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Spreadsheet Examples Reviewed within Workgroup

Wider Zonal Generation TNUoS Tariffs Tariffs (£/kW) delta *					1 North Scotland	2 East Aberdeenshire	3 Western Highlands	4 Skye and Lochalsh	5 Eastern Grampian and Tayside	6 Central Grampian	7 Argyll	8 The Trossachs	9 Stirlingshire and Fife	10 South West Scotland	11 Lothian and Borders	12 Solway and Cheviot	13 North East England	14 North Lancashire and The Lakes	15 South Lancashire Yorkshire and Humber	16 North Midlands and North Wales	17 South Lincolnshire and North Norfolk	18 Mid Wales and The Midlands	19 Anglesey and Snowdon	20 Pembrokeshire	21 South Wales	22 Cotswold	23 Central London	24 Essex and Kent	25 Oxfordshire Surrey and Sussex	26 Somerset and Wessex	27 West Devon and Cornwall
Ex1	conventional carbon	65%	conventional low-carbon	35%	6	5	6	6	5	5	7	4	4	4	3	2	2	1	0	0	0	0	0	-1	-1	-1	-1	0	0	0	-1
Ex2	conventional carbon	65%	intermittent generation	35%	3	3	3	5	2	2	5	2	2	2	1	1	0	-1	-1	-1	0	-2		-3	-1	-3	0	1	0	1	1
Ex3	conventional low-carbon	65%	conventional carbon	35%	-6	-5	-6	-6	-5	-5	-7	-4	-4	-4	-3	-2	-2	-1	0	0	0	0	0	1	1	1	1	0	0	0	1
Ex4	conventional low-carbon	65%	intermittent generation	35%	-4	-2	-3	-2	-3	-3	-2	-3	-2	-2	-2	-2	-2	-1	-2	-1	-1	-1	-2	-2	0	-1	1	1	1	1	2
Ex5	intermittent generation	65%	conventional carbon	35%	-3	-3	-3	-5	-2	-2	-5	-2	-2	-2	-1	-1	0	1	1	1	0	1	2	3	1	3	0	-1	0	-1	-1
Ex6	intermittent generation	65%	conventional low-carbon	35%	4	2	3	2	3	3	2	3	2	2	2	2	1	2	1	1	1	2		2	2	0	1	-1	-1	-1	-1	-2

* for local circuits/sub-station charge there will be no change

Conventional Carbon	Conventional Low Carbon	Intermittent
40%	75%	45%
Load Factor (£/kW)	Load Factor (£/kW)	Load Factor (£/kW)

- Reflects weighted ALF for 3x Wider Generation Charging Categories as Aug-21 forecast
- Note: analysis uses category illustrative ALFs, however station charges will use station ALFs as per today processes

- Workgroup happy that examples illustrate how pro-rata tariffs will be applied
- Next focus
  - How the ratios are determined
  - Worked example on temporary TEC

Temporary TEC

- STTEC - Short Term Transmission Entry Capacity
  - Any customer who has already connected to the transmission network can apply for STTEC, which is a temporary increase in TEC
  - See CUSC 6.31

- LDTEC - Limited Duration Transmission Entry Capacity
  - Allows a generating station to procure additional access rights to the system for the balance of the Financial Year, over and above any contracted TEC
  - Any customer who has already connected to the transmission network can apply for LDTEC, this means a TEC increase or decrease for a period of up to six months
  - See CUSC 6.32

- CMP316 solution will automatically flow through to LDTEC/STTEC charges

- LDTEC/STTEC tariffs are based on the stations liability for that year. Changes made through CMP316 will feed through automatically into the LD/STTEC calculations
  - E.g. Proportions for solar/battery are based on TEC only and there is no further opportunity to flex these proportions in the current model LDTEC/STTEC

Transmission / Distribution

- Transmission and Distribution connected sites paying TNUoS

- The Mod Covers any Generators liable for TNUoS Generation Charges, current and future
  - Generators which are directly connected to the transmission network and embedded generators with contracts for **≥100MW of Transmission Entry Capacity (TEC) are liable to pay generation TNUoS tariffs**. Generators are charged based on the level of their TEC and other factors specific to that generator
  - Embedded Generators <100MW do not currently pay TNUoS generation charge

- The Workgroup request that the Mod solution should be future proofed and accommodate this future possible change
  - Current TNUoS methodology is based on TEC
  - Future charging methodology will look to use additional data flows to ensure this approach stills remains

Declaration (e.g. as TDR) V source from contracts

- ESO preference to source capacity by technology type rather than declaration
  - Proportions should reflect underlying plant

- To refer to generation defined capacities within contracts
  - Not always captured within Bilateral Connection Agreement(s) (BCAs) App C or Connection and Use of System Code Construction Agreement (ConsAg) App O (User's Data / assumptions)
  - Potential to look to make a change to the App C template to show the Connection Entry Capacity (CEC) separately for different plant types to support the change
  - CEC is stored within Data Registration Code (DRC). To use and populate and update contracts
  - View that ESO needs to know what is connecting to the system
    - T&T Model considers that if total capacity is greater than TEC then likely to use close to full TEC more often
    - TNUoS charge is based on TEC and we believe that the fairest way to do this is via the CEC.
    - We note that TEC can be lower than CEC.
  - Consider impact on TEC register

- Workgroup Discussion on views how the Declaration process would work
  - How often? When? Once per annum? Monitoring?
  - Required when tariffs are set; no changes within year; assume % ratio since TEC will not change
  - As final demand sites, via Director's declaration

- Process TBC with Connections Team
  - To be documented internally
  - Implementation of updated Appendix C template to capture CEC split across technology types

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ALF setting

- Each Technology Type will have its own BMU
  - *We should have metering by technology type*
  - *CEC in Connection agreement is listed by BMU*

- Is there a situation where we will have 1 BMU and multiple technology types
  - *If we do not have this metering then we have an approach to deal with this eventuality (e.g. hierarchy)*

- Distributed Generation
  - *To futureproof solution*

Questions

- **Issues / concerns?**
- **Any potential alternative options?**
- **Analysis required?**

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