STC Panel

Wednesday 16 December 2020

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WELCOME
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Introductions & Apologies for absence

- **Apologies**

- **Alternates**

  None

- **Presenters**

  Richard Woodward

  Mike Lee

- **Observers**

Approval of Panel Minutes

Approval of Panel Minutes from the Meeting held 25 November 2020

Actions Log

Review of the actions log

Authority Decisions

Decisions Received since last Panel meeting

None

Decisions Pending

None

Other

New modifications submitted

- **CM075 'Clarification on Final Sums Definition'**

  Richard Woodward, NGET

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Critical Friend Feedback – CM075

Code Administrator comments	Amendments made by the Proposer
Minor amendment – Code documents shows "**TO** Final Sums definition" Clarity required whether Panel or Ofgem to make the decision – dependant on the route of the modification. Clarity required on the implementation date "ASAP" to enable a time table to be produced Acronyms inserted for clarity	

Timeline for CM075 – *(Self Governance (Panel decision) and Code Administrator Consultation) 15 working day consultation*

Milestone	Date	Milestone	Date
Modification presented to Panel	16 December 2020	Final Self Governance Modification Report issued to Panel to check votes recorded correctly (5 working days)	1 February 2021
Code Administrator Consultation (15 working days)	21 December 2020 to 13 January 2021	Appeals Window (15 working days)	9 February 2021 to 5pm on 2 March 2021
Draft Final Self Governance Modification Report issued to Panel (5 working days)	19 January 2021	Implementation Date	9 March 2021
Panel undertake Draft Final Self Governance Modification Report determination vote	27 January 2021		

Timeline for CM075 – *(Self Governance (Panel decision) and Code Administrator Consultation) 20 working day consultation*

Milestone	Date	Milestone	Date
Modification presented to Panel	16 December 2020	Final Self Governance Modification Report issued to Panel to check votes recorded correctly (5 working days)	1 March 2021
Code Administrator Consultation (20 working days)	21 December 2020 to 20 January 2021	Appeals Window (15 working days)	9 March 2021 to 5pm on 30 March 2021
Draft Final Self Governance Modification Report issued to Panel (5 working days)	16 February 2021	Implementation Date	6 April 2021
Panel undertake Draft Final Self Governance Modification Report determination vote	24 February 2021		

Self-Governance Criteria

Self-Governance

The modification is unlikely to discriminate between different STC Parties and is unlikely to have a material effect on:

- Existing or future electricity customers;
- Competition in the generation, distribution, or supply of electricity or any commercial activities connected with the generation, distribution or supply of electricity,
- The operation of the National Electricity Transmission System
- Matters relating to sustainable development, safety or security of supply, or the management of market or network emergencies
- The STC Panel's governance procedures or the STC Panel's modification procedures

CM075 - the asks of Panel

- **Do you agree that the CM075 meets the Self-Governance Criteria (Panel decision) rather than Standard Governance (Ofgem decision)?**

- **Do you agree that this can proceed to Code Administrator Consultation – to be issued on 21 December 2020?**

Draft modifications to be discussed

- None

Brexit update

NO DEAL	DEAL – two possible routes	
SELF-GOVERNANCE	**SELF-GOVERNANCE**	**STANDARD PROCESS + URGENCY**
• CACs have concluded for CMP309 and CMP310 (CUSC), GC0121 (Grid Code) and CM072 (STC). • No responses received. • Draft Final Modification Reports (DFMR) to be presented to next available Panel or a Special Panel for decision vote once it is confirmed there will be no deal. • Assuming No Deal isn't confirmed until 31st December, we'll arrange Special Panels in January (4th Jan for Grid Code, 6th Jan for STC, 8th Jan for CUSC). • Panel approvals required to have less than 5 days to review DFMR.	• ESO withdraw deal mods immediately once brexit deal is confirmed. • ESO raise new self-governance mods with legal text at January Panel. • For Grid Code, a one-month CAC will be required (EBGL Article 18) • For CUSC, a one-month CAC is only needed if the Regulated Sections are impacted, otherwise 15WD. • For STC, 15WD consultation. • Then each mod will be presented to Panel for self-governance decision. Likely to be at March 2021 Panel, or a Special Panel earlier in March.	• ESO withdraw deal mods immediately once brexit deal is confirmed. • ESO raise new urgent mods with legal text at Special Panel in January. • For Grid Code, CUSC and STC the subsequent process will be determined by Ofgem's decision on urgency. • Following consultation, the Panel recommendation likely to be at March 2021 Panel, or a Special Panel earlier.

Potential Future Modifications and impacts of other modifications

European Network Code Impacts – Rob Wilson

Significant Code Review – Jonathan Coe

Force Majeure – All

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Reports from Sub-Committees

Joint Planning Committee (JPC) – Nicola Bruce

Network Access Policy Workgroup (NAP) – Milorad Dobrijevic

Transmission Charging Review Group (TCRG) – Richard Woodward

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Forward Plan Update/Customer Journey)

(January, March, May, July, September, November)

- **No update**

AOB

- Presentation by Mike Lee of:-
- Application of P28 in Operational Timescales

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TRANSMISSION INVESTMENT

Application of P28 in Operational Timescales

Mike Lee December 2020

Circuit Energisation Versus CC6.1.7

- OTSDUW in designing the OFTO network typically performs energisation studies against **CC6.1.7** as required by the Grid Code/BCA. **CC6.1.7** for infrequent events, which includes export circuit energisation is illustrated in the diagram.
- The studies in the case TCP have recently encountered are performed with no dynamic MVAr response from either onshore TO or OFTO dynamic voltage control equipment. The most onerous switching event is the energisation of an offshore export cable circuit.
- An example of "non-compliance" versus **CC6.1.7** is shown in the diagram for a low fault level. The exceedance of **+6%** is a very short time and response from Dynamic Onshore TO and OFTO voltage control equipment is not modelled.

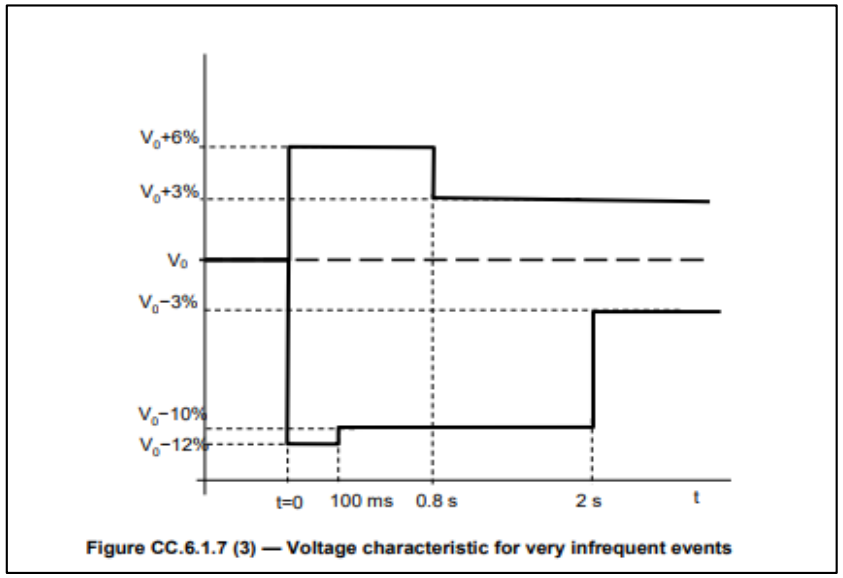
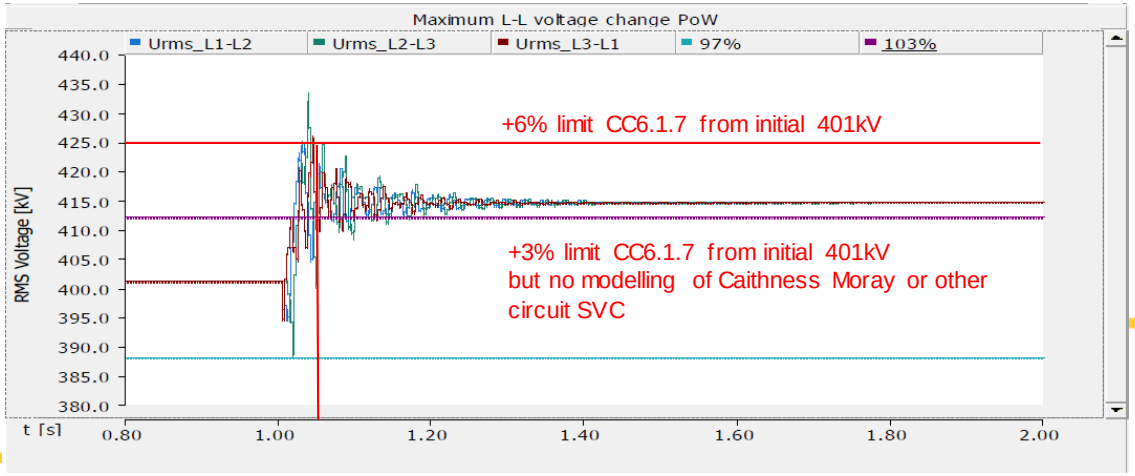
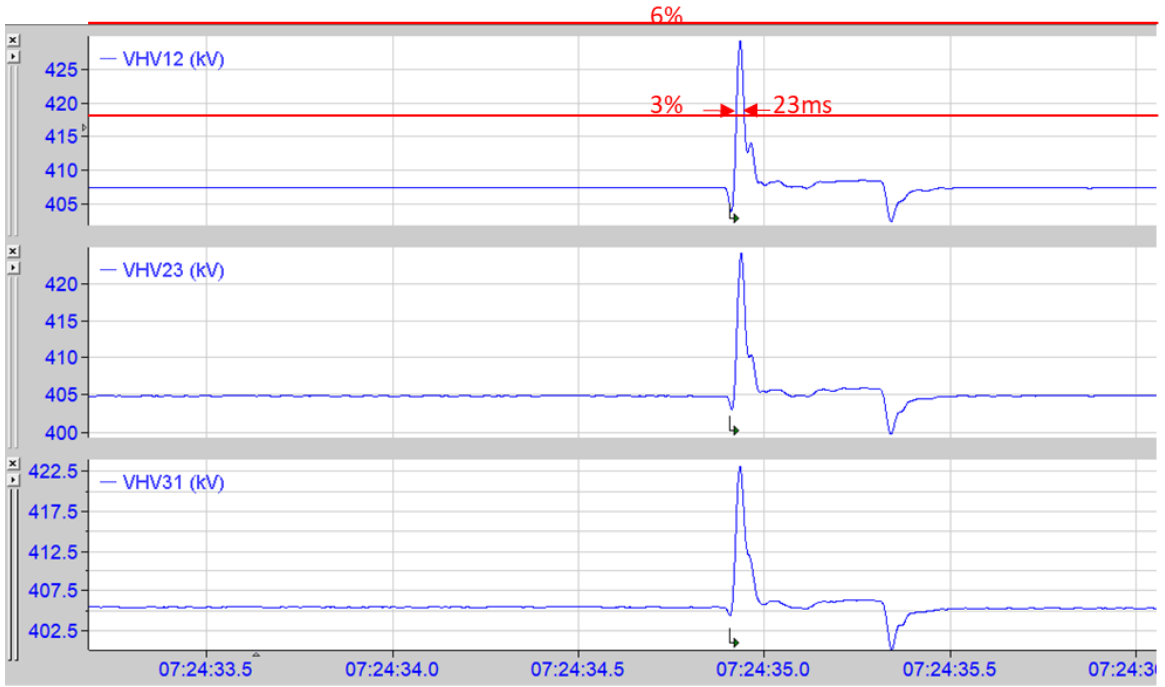


Figure CC.6.1.7 (3) — Voltage characteristic for very infrequent events



Circuit Energisation Versus CC6.1.7

- The previous slide showed above 6% CC6.1.7 for a short period but CC6.1.7 has no allowance for automatic action.
- Looking at the trace from an **actual** energisation (meeting CC 6.1.7 limits in this case as the fault levels were sufficiently high) one can see the mitigating effect that the OFTO's own SVCs and Onshore TOs voltage control equipment have on the voltage rise.
- Here the instantaneous step is 5.43% but it is only above 3% for about 23ms. And within about 40ms the voltage trace is very close to the original switching level.
- One can predict that for lower fault level cases then the spike would exceed 6% but that it would only be for circa 20ms before dynamic response from dynamic voltage control returned volts to near original levels.



Circuit Energisation Versus SQSS

- SQSS step change allowance for infrequent operational switching is +6% onshore at an interface with a User.
- At the substation TCP have encountered this issue there will be no User connected post OFTO transfer and the step change limit wouldn't apply.
- Should a User connect in future, Step Change is defined as after the transient time phase.
- Against SQSS lower fault level cases, are expected to be compliant due to the argument in the previous slide.
- GSR0025 is anticipated to implement in SQSS (Go-live April 2021) some alignment with P2/8 and CC6.1.7 but not no change on the allowable step change is proposed.

Table 6.5 Voltage Step Change Limits in Planning and Operational Timescales

Type of Event	Voltage Fall	Voltage Rise
(a) At substations supplying *User Systems* at any voltage		
1. Following *operational switching* at intervals of less than 10 minutes	In accordance with Figure 6.1	
2. Following *operational switching* at intervals of more than 10 minutes, 3. except for *infrequent operational switching* events as described below	-3%	+3%
4. Following *infrequent operational switching* ***(Notes 8, 9)***	-6%	+6%
5. In planning timescales, following a *fault outage of a double circuit supergrid* overhead line ***(Note 10)***	-6%	+6%

Voltage Step Change	The difference in voltage between that immediately before a *secured event* or operational switching and that at the end of the *transient time phase* after the event.

Transient Time Phase	The time within which fault clearance or initial system switching, the transient decay and recovery, auto switching schemes, *generator* inter-tripping, and fast, automatic responses of controls such as *generator* AVR and SVC take place. Load response may be assumed to have taken place. Typically 0 to 5 seconds after an initiating event.

Summary of Anomalies Between Codes and Operational Practice Elsewhere

- NGESO wish to implement an enduring operational restriction for energizing the offshore transmission system against CC6.1.7.
- CC6.1.7 is linked through to OFTOs via STC section D which is **design** part of the STC.
- Section D Part One, clause 2.2.6 of the STC specifies *"in planning and developing its Transmission System, each Transmission Owner (which includes Offshore Transmission Owners) shall ensure that its Transmission System complies with……."*
- CC6.1.7 defines this as applying at a PCC i.e. where "either Demands or Loads are, or may be, connected." At sites where there is no other User at present a CC6.1.7 operational restriction could potentially be implemented **now** in anticipation of a User connecting!
- The long standing definition of step change in the SQSS has been **after the transient period** (5 seconds**)** and historically has always been the measure by which step change was managed operationally. The intent of allowing for this time is clearly stated in the SQSS i.e. automatic fast action from generators, SVCs etc.

Date of next meeting

Special STC Panel – TBC

Wednesday 27 January 2021

Modification Submission date – 12 January 2021

Panel Papers Day – 19 January 2021

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Close

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