Codes Summary – January 2016
(as at 20 January 2016)

This document provides a summary as to latest developments concerning the various other Industry Codes. Further detailed information can be found at:

http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/

CUSC

The most recent meeting of the **CUSC Modification Panel** was held on 18 December 2016 and a Special Panel meeting took place on 18 January 2016. The next Panel meeting will take place on 29 January 2016.

CMP213 (Project TransmiT TNUoS Developments). CMP213 was raised by National Grid as a result of the direction to NGET by the Authority following their Significant Code Review on electricity transmission charging arrangements. CMP213 is made up of three main elements: Network Capacity Sharing, Inclusion of HVDC in the charging calculation, and Inclusion of islands links into the charging methodology. The Panel agreed for CMP213 to progress to a Workgroup through the standard route and to report back to the December 2012 CUSC Panel as it was felt that a minimum of 6 months would be required for the Workgroup phase. At the CUSC Panel meeting on the 25 January it was agreed for the CMP213 to receive a one month extension for the Workgroup Report to be presented to a Special CUSC Panel meeting in April 2013. CMP213 was submitted to the Authority for decision on 14 June 2013. The Authority issued an update letter on 14 March 2014 explaining that a decision on CMP213 will be delayed due to substantial analysis provided in response to the previous consultation. The Authority has issued another consultation. The Authority approved the "WACM2" proposal on 11 July 2014 for implementation on 01 April 2016.

CMP237 Response Energy Payment for Low Fuel Cost Generation seeks to take into account the different financing approaches of generators with low or negative energy costs for those that receive additional financial incentives, by settling the Response Energy Payment at £0/MWh. CMP237 was presented to the CUSC Modifications Panel on 26 September 2014 and the Panel agreed that CMP237 should be developed by a Workgroup and set up an initial Workgroup timetable of 4 months to report back to the January 2015 CUSC Panel meeting. The CUSC Panel granted a month extension to the CMP237 timetable at the November CUSC Panel meeting, the Workgroup will now report back to the CUSC Panel on the 27 February 2015. The Workgroup Consultation closed on 21 February 2015 and received five responses and a CUSC Workgroup Alternative Request. A three month extension was agreed via email in February 2015. The Workgroup will now report back to the CUSC Panel on 29 May 2015. The Workgroup have issued a second Workgroup Consultation which closed on 23 April 2015. The second Workgroup Consultation closed on 23 April and received five responses and an alternative request. On 29 May 2015, the CUSC Panel agreed that the Workgroup had met its Terms of Reference and accepted the Workgroup Report. CMP237 Code Administrator Consultation closed on 24 June and received five responses. The Panel voted by majority that the Original option best facilitated the Applicable CUSC Objectives and therefore should be implemented. The Final Modification Report was sent to the Authority on 14 August 2015. Ofgem are awaiting the CMP243 Final Modification Report before making a decision on CMP237.

CMP242 Charging arrangements for interlinked offshore transmission solutions connecting to a single onshore substation aims to ensure that both circuits linking offshore platforms connecting to a common onshore substation and additional capacity that can be utilised on export cables to shore by offshore generation as a result are appropriately charged. The CUSC Panel unanimously agreed that CMP242 should be developed by a Workgroup and set an initial Workgroup timetable of six months, to report back to the September 2015 Panel meeting. The CMP242 Workgroup consultation closed on 31 July 2015. Three responses were received.

A one month extension was agreed by the Panel, by email, in September 2015. The Panel accepted the Workgroup Report at the October 2015 CUSC Panel meeting and agreed that CMP242 could progress to Code Administrator Consultation. The Code Administrator Consultation was published on 5 November 2015 and closed on 26 November 2015 with two responses received. At the December 2015 Panel meeting, the Panel voted on CMP242 and agreed that all options better facilitated the Applicable CUSC Objectives when compared with the Baseline. When comparing each of the options, it was agreed by majority that WACM1 was the best option and therefore should be implemented. The Final CUSC Modification Report was sent to the Authority on 6 January 2016.

CMP243 A fixed Response Energy Payment option for all generating technologies aims to allow all generators, regardless of technology type, the option of choosing whether their Response Energy Payment (REP) is based on the current methodology or a fixed value suggested at £0/MWh. CMP243 was presented to the CUSC Panel meeting on 29 May 2015 and the Panel unanimously agreed that it should be developed by a Workgroup and set an initial Workgroup timetable of four months, to report back to the September 2015 Panel meeting. A two month extension was agreed at the August Panel meeting on 28 August 2015 and a further one month extension at the October 2015 CUSC Panel meeting. The Workgroup Consultation was published on 3 November 2015 and closed on 24 November 2015 with three responses received. At the November Panel meeting, a one month extension was granted. The Workgroup now plan to report back to the CUSC Panel on 27 January 2016.

CMP244 Set final TNUoS tariffs at least 15 months ahead of each charging year seeks to increase the length of the notice period for TNUoS tariffs (currently 2 months) to a suggested period of 15 months. CMP244 was presented at the CUSC Panel meeting on 29 May 2015 and the Panel unanimously agreed that CMP244 should be developed by a Workgroup and set an initial Workgroup timetable of six months, to report back to the November 2015 Panel meeting. A one month extension was agreed at the September Panel meeting on 25 September 2015. The Workgroup Consultation closed on 19 November and nineteen responses were received.
At the November Panel meeting, a one month extension was granted. At the December 2015 Panel meeting a further one month extension to the timetable was granted. The Workgroup will now report back to the Panel in February 2016.

CMP248 Enabling capital contributions for transmission connection assets during commercial operation aims to enable users that have existing arrangements to pay annual charges for transmission connection assets the opportunity to make capital contributions against the transmission connection assets. CMP238 was presented to the CUSC Panel on 31 July 2015. The CUSC Panel agreed by majority that CMP248 should be considered as Self-Governance and should be developed by a Workgroup. The Workgroup will aim to report back to the CUSC Modifications Panel in November 2015. The CMP248 Workgroup Consultation opened on 30 September 2015 for a period of 15 working days and 5 responses were received. The Workgroup report was submitted to the CUSC Panel in November. The Panel accepted the report and allowed CMP248 to progress to Code Administrator Consultation. The Code Administrator Consultation was published on 2 December 2015.

CMP249 Clarification of Other Charges (CUSC 14.4) – Charging arrangements for customer requested delay and backfeed aims to include the principles underpinning the CEC before TEC policy within Section 14 of the CUSC, state the methodology for calculation an clarify in which situations this will be applied. CMP249 was presented to the CUSC Panel on 31 July 2015. The Panel agreed that CMP249 should not be considered as Self-Governance and should be developed by a Workgroup. The Workgroup will aim to report back to the CUSC Modifications Panel in November 2015. A one month extension was agreed at the September Panel meeting on 25 September 2015. At the November 2015 CUSC Panel, a two month extension to the timetable was granted. The Workgroup will now report back to the CUSC Panel in February 2016.

CMP250 Stabilising BSUoS with at least a twelve month notice period aims to eliminate BSUoS volatility and unpredictability by proposing to fix the value of BSUoS over the course of a season, with a notice period for fixing this value being at least 12 months ahead of the charging season. CMP250 was presented at the CUSC Panel meeting on 28 August 2015. The Panel unanimously agreed that CMP250 should be developed by a Workgroup and set an initial Workgroup timetable of four months, to report back to the December 2015 Panel meeting. At the November 2015 Panel meeting, a three month extension was granted. The Workgroup now plan to report back to the CUSC Panel on 18 March 2016.

CMP251 Removing the error margin in the cap on total TNUoS recovered by generation and introducing a new charging element to TNUoS to ensure compliance with European Commission Regulation 838/2010 aims to ensure that there is no risk of non-compliance with European Regulation 838/2010 by removing the error margin introduced by CMP224 and by introducing a new charging element to the calculation of TNUoS. CMP251 was presented to the CUSC Panel on 28 August 2015. The Proposer requested that the Modification be treated as urgent. The Panel decided unanimously that CMP251 should not be treated as urgent and should be developed by a Workgroup. The Panel Chair has written to the Authority informing them that the Panel will not be requesting urgency for CMP251. The Workgroup aim to report back to the December 2015 Panel meeting. At the November Panel meeting, a two month extension was granted. The Workgroup now plan to report back to the CUSC Panel on 26 February 2016.

CMP253 Legal text amendments to CUSC to align with CMP235/6 intentions' seeks to address the wording in Section 11 of the CUSC, after the implementation of CMP2355/6, that may result in Interruption payments being refused that should be classed as relevant. CMP253 was presented to the CUSC Panel on 25 September 2015. The CUSC Panel unanimously agreed that CMP253 should be considered as Self-Governance and proceed directly to Code Administrator Consultation. The CMP253 Code Administrator Consultation closed on 23 October and received 2 responses. On 27 November 2015, the Proposer withdrew their support of the modification. The Code Administrator notified parties of this withdrawal and allowed 5 working days for any relevant party to support the modification. CMP253 is now officially withdrawn.

CMP254 Addressing discrepancies in disconnection / de-energisation remedies. CMP254 aims to bring the CUSC in line with the DCUSA in regards to Supplier's rights under their Supply Contract and the Electricity Act 1989 to disconnect an indebted customer. CMP2534 was tabled at the CUSC Modifications Panel meeting on 30 October 2015. The Proposer requested CMP254 to be treated as urgent. The CUSC Panel agreed that CMP254 should be treated as urgent. The Panel Chair sent a letter to the Authority on 30 October detailing the Panel's recommendation that CMP254 should be treated as urgent. Ofgem are yet to make a decision on whether CMP254 should be classed as urgent, however in the meantime, the Workgroup will be progressing to the proposed urgent timetable. Ofgem decided not to grant Urgent status to CMP254 and advised that there should be a full Workgroup Consultation period. The Workgroup issued their consultation on 26 November 2015.

CMP255 Revised definition of the upper limit of Generation Charges in the charging methodology with removal of the reference to the 27% charging cap. CMP255 aims to remove the requirement for the generation allocation of costs to revert to 27% if the limits to generation charges imposed by European Commission Regulations no longer apply. CMP255 was presented at the CUSC Panel meeting on 27 November 2015. The Panel unanimously agreed that CMP255 should be developed by a Workgroup and set an initial Workgroup timetable of four months, to report back to the March 2016 Panel meeting.

CMP256 Potential consequential changes to the CUSC as a result of CMP244. CMP256 proposes that any sections of the CUSC outside of Section 14 are modified to reflect any changes to Section 14 deemed appropriate by the CMP244 Workgroup. CMP256 was presented

at the CUSC Panel meeting on 27th November 2015. The Panel agreed that CMP256 will be progressed alongside CMP244 and that it would be efficient to progress both modifications to Code Administrator Consultation at the same time. The CMP244 Workgroup will also be considering CMP256. The CMP256 Workgroup Consultation was issued for 5 days on 8 December 2015 and received one response. At the December CUSC Panel meeting, the Panel agreed a one month extension to align with the extension requested for CMP244.

CMP257 Enabling the electronic (email) issue of 'offers' to customers. CMP257 seeks to allow for the electronic issue of offers and other formal documents (where agreed) and removes the obligation to provide hard copies of documentation once elected. CMP257 was presented at the CUSC Panel meeting on 27th November 2015. The CUSC Panel unanimously agreed that CMP257 should be developed through the Self-Governance process and would go directly to Code Administrator Consultation. The Code Administrator Consultation was published on 8 December 2015 and closed on 8 January 2016

CMP258 Rewording of the legal text to align the CUSC with the intentions of CMP245/6. CMP258 seeks to amend the current CUSC legal text so that the full intention of previously implemented CMP235/6 can be achieved. CMP258 was presented at the CUSC Panel meeting on 18 December 2015. The CUSC Panel unanimously agreed the modification should be considered as Self-Governance. The Code Administrator Consultation was issued on 5 January 2016.

Grid Code

The most recent meeting of the **Grid Code Review Panel** was held on 25 November 2015. The next GCRP will take place on 20 January 2016.

GC0023 Protection Fault Clearance Times and Back-up Protection. This modification aims to address several issues. The first issue refers to the wording associated with CC.6.2.2.2.2 (a) and CC.6.2.3.1.1 (a) and the need to provide clarification. The second issue relates to the setting of Generator Back-Up Protection associated with HV Connections within CC.6.2.2.2.2 (b). The Industry Consultation was published on 25 August 2015 and closed on 22 September 2015 with a total of five responses received. The Report to the Authority was submitted on 1 December 2015.

GC0028 Constant Terminal Voltage Under CC.6.3.4 of the Grid Code, Generating Units, Power Park Modules, DC Converters and OTSDUW Plant and Apparatus are required to be capable of providing their full reactive capability within the voltage range of ±5% at 400kV, 275kV and 132kV and lower voltages. In addition, CC.6.3.8(a)(i), of the Grid Code requires Generating Units to be installed with a continuously acting automatic excitation control system to provide constant terminal voltage control of the Generating Unit without instability over the entire operating range. A number of Generators have expressed concern over National Grid's interpretation of these requirements relating to operation at constant terminal voltage and sought further clarification. The Workgroup Report was been drafted and the last meeting was held on 17 April 2015 to review the comments. The draft Workgroup Report was presented to the May 2015 GCRP and is currently with the Workgroup for further review. The Industry Consultation was published on 13 July 2015 and closed on 10 August 2015 with a total of two responses received**.** The Report to the Authority was submitted on 25 November 2015. GC0028 was approved on 15 January 2016 and will be implemented on 3 February 2015.

GC0035/GC0079 Frequency Changes during Large Disturbances and their impact on the Total System The Frequency Changes during Large Disturbances and their impact on the Total System Workgroup was established by Grid Code Review Panel (GCRP) at the May 2012 GCRP meeting. The Workgroup was set up to review the expected behaviour of the Total System when subject to frequency changes during large disturbances with particular focus on the rate of change of frequency and to review the findings of the frequency response technical sub-group and assess their implications, take account of relevant international practice and the approach

taken in European code development and evaluate the costs, benefits and risks of any actions necessary to maintain or improve current levels of resilience to frequency changes under future system conditions. The first Workgroup was held on 26 October 2012 published an open letter to the Industry informing interested parties of the likely setting changes and inviting them to an Industry Workshop. The workgroup hosted two industry seminars, one in Scotland on 25 April 2013 and one in London on 8 May 2013. The Workgroup presented their workgroup report to the July GCRP. The Workgroups proposals recommend changing all Rate of Change of Frequency Protection Relays on Generators between 5 and 50MW to $1Hzs^{-1}$ measured over 500ms. In conjunction with the Industry Consultation, the Workgroup hosted two industry seminars to engage with affected parties in September 2013. The Workgroup then investigated sub 5MW generators and inverter type technologies. The Licensees recommendation is that Rate of Change of Frequency (RoCoF) protection settings should be changed at new and existing distributed generators in stations of registered capacity of 5MW and above to 1Hzs-1, using a delay setting of 500ms, with the exception of synchronous generators commissioned before 1 July 2016, where a minimum setting of 0.5Hzs-1 is permissible. The specific criteria to be applied should be stipulated in both the Distribution Code and Engineering Recommendation G59. A second consultation took place during Spring 2014. The Report to the Authority, proposing changes to the Distribution Code and Engineering Recommendation G59, was submitted to Ofgem on 9 May 2014. The Workgroup are now progressing phase 2 of the work which involves looking at generators with registered capacity of less than 5MW. Ofgem published the Phase 1 decision paper on 23 July 2014 and accepted the proposals, pending some minor changes to the legal text. The last workgroup meeting took place on 19 December 2014. The Terms of Reference have been updated and were approved at the GCRP in November 2014 and Phase 2 of the work is now being progressed under GC0079. An industry workshop on ROCOF Protection Settings was held on 20 March 2015 and the latest workgroup meeting took place on 21 December 2015.

GC0048 Joint GCRP/DCRP Workgroup on Application / Implementation of the Requirements for Generators. The Requirements for Generators (RfG) European Network Code is targeted by the European Commission to complete comitology. It will then take precedence over GB law and associated Industry Codes. The establishment of a joint GCRP/DCRP Workgroup was required to progress national application/implementation of RfG including necessary code changes. There are complex structural issues to consider in incorporating RfG into the GB codes. The Workgroup met for the first time in January 2014 and are progressing through their Terms of Reference. The code is not making the anticipated progress with the Commission and there are no planned dates for further meetings of the Cross Border Committee which would discuss the draft code and ultimately vote on it. The last meeting was held on 17 December 2015.

GC0062 Fault Ride Through. The Grid Code sets out the requirements applicable to Generators and DC Convertors to remain connected to the Transmission System for long duration voltage dips (ie longer than 140ms) and resume the export of Active Power as system voltage recovers. The issue is currently being investigated at a series of workshops and workgroup meetings. The Workgroup are progressing through their Terms of Reference. The last meeting was held on 30 October 2015.

GC0074 GCRP Membership Following the 2013 election process for the Grid Code Review Panel (GCRP), a review of representation on the GCRP was proposed to recognise that the make-up of the industry, particularly the generation element, has changed significantly since the GCRP was first established. The aim of the review is to ensure appropriate and equitable representation of different sectors of the industry on the GCRP. Two workshops were held and the Industry Consultation was published on 4 July 2014. At their meeting in July, the GCRP agreed to put GC0074 on hold after the consultation closes whilst GC0086 is progressed, as GCRP Membership will form part of this review.

GC0075 Hybrid Static Compensators Power Park Module developers have been installing Hybrid STATCOM / SVC's, which provide a portion (typically 50% to 75%) of their reactive capability from switched reactors and capacitors. Some of these devices have restrictions preventing repeated switching in a short period which can be seen as inconsistent with the concept of "continuously acting" control which is required by the Grid Code. Interested parties believe clarification is required of the Grid Code requirements on these devices and that it would be beneficial to form a Workgroup to develop proposals for clearer and more appropriate requirements on Hybrid STATCOM / SVC performance. The Workgroup held their inaugural meeting on 15 May 2014 and a number of subsequent workgroups took place with the last one being 27 April 2015. The Industry Consultation was issued on 20 January 2016.

GC0086 Grid Code Open Governance This was raised at the July GCRP and seeks to introduce the principles of Open Governance into the Grid Code that currently exist in the CUSC. This includes, amongst other aspects, the introduction of Self-governance, an Urgency Process, an Independent Chair, and most importantly it allows for parties other than NGET to raise a modification to change the Grid Code. Open Governance in the Grid Code has previously been acknowledged by Ofgem in their Code Governance Review Phase 2 as being beneficial. The GCRP agreed that this issue should progress to a Workgroup and the first meeting is being scheduled for the beginning of September 2014. The first Workgroup meeting was held on 10 September 2014. A number of items on the Terms of Reference were discussed, including who will be able to raise modifications if open governance is introduced, the process for Proposer Ownership and the concept of Workgroup Alternative Modifications. The Code Administrator wrote a number of Straw man proposals for the various elements that make up open governance in order to help the Workgroup progress the issues efficiently and to provide an understanding of all the issues. At the first meeting, the Workgroup agreed with how the straw man proposals had been packaged and agreed it was pragmatic to progress in this manner. The Workgroup last met on 6 November and completed the items listed in the Terms of Reference. The Workgroup Consultation was published on 3 December 2014 and closed on 6 January 2015. The Workgroup met on 13 February 2015 and came to a number of conclusions on the various elements of Open Governance that had been discussed throughout the meetings and had been consulted on in the Workgroup Consultation. The Workgroup held two meetings in April and May to review draft legal text. Following comments from the Workgroup, an updated draft of the text is being prepared, to be included in the industry consultation. The Workgroup hold differing views on the appropriate approach to the legal text, with some support for using CUSC Section 8 as the basis and others favouring a less prescriptive approach. A further workgroup was held on 17 July 2015 to finalise its views on the original proposal, agree the draft legal text, review a proposal for an alternative option and associated draft legal text and consider the draft Industry Consultation document. The Industry Consultation was sent out on 25 September 2015 and closed on 6 November 2015 with 18 responses received.

GC0087 Development of Grid Code Frequency Response provisions. This was raised at the November 2014 GCRP and follows on from GC0022 (Frequency Response). There were extensive discussions on GC0022 over a long period of time and a number of issues remain outstanding. It was proposed at the November GCRP to close GC0022 and to raise GC0087 which explicitly lists the outstanding issues that need addressing via the formation of a new Grid Code Workgroup, and to also ensure that it is clear what the defect is. A workshop took place on 3 March 2015 in order to be clear on the defect and the order in which items should be developed and the second workgroup meeting took place on 10 August 2015. A revised GC0087 scope (including RfG Frequency related work) was presented to the GCRP on 16 September and the Panel agreed to proceed with the revised scope acknowledging that the Workgroup membership will have to be broadened. The last workgroup meeting took place on 18 December 2015.

GC0088 Voltage Unbalance. This was raised at the November GCRP and seeks to revise the existing Grid Code criteria applied to Voltage Unbalance. The Grid Code sets limits for phase unbalance on the transmission networks of 2% in Scotland and 1% in England and Wales. In England and Wales a 2% limit can be applied for periods of "short duration" under Planned

Outage conditions. Unnecessarily restrictive limits can potentially trigger additional investment costs and constraints, but also high limits can lead to restrictions on the distribution networks. It is proposed that a uniform approach based on recommendations by international standards and publications is adopted across the electricity network in Scotland and England and Wales to set the EHV level to 1.5% and lower voltages to 2%. The GCRP felt that it would be useful to hold a workshop on this, prior to forming a Workgroup, in order to understand the issues and enable the appropriate industry experts to agree on whether a Workgroup is required and what they need to develop. A workshop was held on 2 February 2015 and an update was provided to the GCRP in March 2015. The draft Industry Consultation was presented at the May 2015 GCRP which the Panel approved for issue, subject to some amendments. The Industry Consultation was published on 30 July 2015 and closed on 3 September 2015 with a total of three responses received**.** The Report to the Authority was submitted on 20 October 2015. GC0028 was approved on 7 January 2016 and will be implemented on 3 February 2015.

GC0090 HVDC. This has been raised to progress the GB implementation of the HVDC European Network Code. A workgroup has been established and the last meeting took place on 13 January 2016.

GC0091 Joint GCRP/DCRP Workgroup on GB Application of Demand Connection Code. This has been raised to progress the GB implementation of the DCC European Network Code. A workgroup has been established and the last meeting took place on 13 January 2016.

SQSS

The most recent meeting of the **SQSS Panel** was held on 2 December 2015. The next SQSS Panel will take place on 3 February 2016.

GSR008: Regional Variations and Wider Issues This includes a number of proposed amendments such as: adjusted n-1-1 contingency requirements; the use of dynamic ratings; the assumed reactive power output of generation etc. This modification was passed to the Authority for a decision in October 2011. Due to the length of time this has been awaiting a decision from the Authority, they have advised that this may now need to be re-consulted upon. We are actively engaging with the Authority but are still awaiting their final conclusions.

GSR011: Review of Offshore Networks This considers the offshore criteria for larger wind farms such as the Round 3 developments. At the August 2014 NETS SQSS Review Panel it was unanimously agreed that this modification is ready to be submitted to the Authority for a decision. GSR011 was formally submitted to the Authority in August 2014. We are actively engaging with the Authority but are still awaiting their final conclusions.

GSR012: Interconnectors This considers a consistent treatment of interconnectors when planning their local connections and their impact on wider infrastructure requirements. It is anticipated that the working group will present their report at the February 2016 NETS SQSS Review Panel.

GSR014 Offshore Requirements at Onshore Substations: This considers the onshore substation requirements (one or two switch-bays) where offshore cables connect to the onshore network. At the August 2015 NETS SQSS Review Panel it was unanimously agreed that this modification is ready to be submitted to the Authority for a decision. The Modification Report is currently being finalised and shall be submitted to the Authority as soon as possible.

GSR015 Normal Infeed Loss Risk: This proposes to reword the definitions of infeed loss risks and unacceptable frequency conditions to avoid increased costs being incurred to procure additional frequency response until additional risks arise. This modification was approved by the

Authority in December 2014 and the Ofgem Decision Letter is now available on our website. However, for these changes to take effect Ofgem will need to modify the electricity transmission licenses so that they refer to the new version of the NETS SQSS. Since GSR015 is not considered to be time-critical this has not yet been done. Ofgem will do this at an appropriate stage in the future.

GSR016 Application of Scaling Factors and the Inclusion of Embedded Wind in NETS SQSS Chapter 4 Studies: This aims to determine more realistic dispatch levels for generation, including embedded generation, in local and wider system capability studies. The working group presented its initial conclusions to the NETS SQSS Review Panel in June 2014. The working group aims to bring their final report and an initial industry consultation document to the NETS SQSS Review Panel soon. The NETS SQSS Review Panel is coming under increased pressure to conclude this modification. As a consequence this may now be wrapped up with a new piece of work concerning the Security and Economy Planned Transfer Conditions as detailed below.

GSR017 Treatment of Switch Faults in Operational Timescales: This is reviewing the risk of switch faults and determining the extent to which switch faults should be secured against given the changing mix of generation and reductions in system strength. The working group continues to liaise with National Grid's Market Operation function over the appropriate NETS SQSS text revision.

GSR018 Sub-Synchronous Oscillations (SSO): The NETS SQSS Review Panel agreed to progress work to develop and clarify the transmission licensees' responsibilities with respect to sub-synchronous oscillation issues. A working group report was approved at the December 2015 NETS SQSS Review Panel. This shall now be presented to the Grid Code Review Panel, and subject to their approval, released for industry consultation.

GSR019 Review of Chapter 7 Double Busbar Requirements: It has been suggested that current interpretation of the NETS SQSS mandates the use of a double busbar (or equivalent) arrangement for the first onshore substation for offshore transmission system connections. However, a Cost Benefit Analysis (CBA) performed by DONG Energy aims to demonstrate that this requirement is not the most economic and efficient solution for all offshore wind-farm connections. It has therefore been proposed that this interpretation within the NETS SQSS for the need to have double busbar substation arrangements is addressed and subject to NETS SQSS Review Panel assessment, this deterministic requirement be removed if no net benefit can be demonstrated for this configuration of switchgear when considering the specific characteristics of offshore generation connections. A workgroup has been established that aims to present their initial conclusions to the NETS SQSS Review Panel soon.

GSR021: NETS SQSS Criteria for 220kV Transmission Assets: Traditionally, 220kV has not been a standard operating voltage on the GB onshore transmission system. However, the Kintyre-Hunterston subsea link currently under construction and due to be commissioned in 2015 will be the first 220kV installation on the GB network. Further 220kV installations are expected to follow, with a number of OFTOs preferring AC connections. The NETS SQSS currently does not specify planning or operational criteria for onshore transmission system assets operated at 220kV. This modification proposal therefore intends to review the current version of the NETS SQSS and proposes to include 220kV in the planning and operational criteria of the onshore transmission system. This modification proposal was initially raised at the February 2015 NETS SQSS Review Panel with the intention of going straight out to industry consultation. To facilitate this, the NETS SQSS Review Panel requested a detailed impact assessment be conducted. This was presented to the April 2015 NETS SQSS Review Panel. This was subsequently released for industry consultation on 21 September 2015 for a period of 20 working days closing on 16 October 2015. One response that was fully supportive of the proposals was received. The modification report has subsequently received NETS SQSS Review Panel approval at the

December 2015 meeting. This was submitted to the Authority for a decision on 23 December 2015. We are awaiting their response.

Other:

Lack of Reactive Compensation Redundancy in Offshore Transmission Networks: This is a potentially forthcoming modification proposal with respect to the lack of reactive compensation redundancy in offshore transmission networks. Due to modern offshore power park modules moving further away from the shore and having longer AC connections, there is a greater risk that having only a single bank of shunt reactive compensation might cause operational limitations, especially if this shunt compensation is out of service. This issue continues to be further investigated by the Offshore Network Development Team within Network Strategy, as part of a connection request, and a modification proposal may be raised in the near future.

Design of Main Interconnected Transmission System (MITS): It is proposed to review the assumptions used to set power system transfer conditions for design of the MITS. These conditions are covered in Chapter 4 of the NETS SQSS and are referred to as the "Security Planned Transfer Condition" and the "Economy Planned Transfer Condition". For the 2015 Future Energy Scenarios (FES), lower levels of thermal generation capacity in later years cause the "Security Planned Transfer Condition" to break down. Additionally, it is agreed that the scaling of different types of generation and external system connections in the application of the "Economy Planned Transfer Condition" should be reviewed. Reviewing the two conditions will ensure that their use continues to identify accurately the future need for transmission infrastructure reinforcement. TO representatives will further scope out this work before a wider workgroup is established.

AMALGAMATED ELECTRICITY CODES MODIFICATION REPORT

As at 18 January 2016

This document contains the Modification Registers for the CUSC, STC, Charging, Grid Code and SQSS and is correct as of the above date.

The most up to date versions may be found at the following websites:

STC: **http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/STC/Modifications/**
CUSC: **http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/CUSC/Modifications/**
TCMF: **http://www2.nationalgrid.com/UK/Industry-information/System-charges/Electricity-transmission-Charges/**
Grid Code: **http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/Grid-code/Modifications/**
SQSS: **http://www2.nationalgrid.com/UK/Industry-information/Electricity-codes/SQSS/Modifications/**

BSC Amendments can be found on the following website:

www.elexon.co.uk/changeimplementation/ModificationProcess/ModificationReports/default.aspx