Codes Summary – April 2015
(as at 22 April 2015)

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 27 March 2015.
The next Panel meeting will take place on 24 April 2015.

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.

CMP222 (User Commitment for Non-Generation Users) seeks to introduce enduring user commitment arrangements for sites where there is an offtake of electricity from the transmission system (excluding generation site supplies), specifically interconnectors, distribution network Grid Supply Points (GSPs) and directly connected loads. These arrangements should not seek to indemnify sunk costs, but to provide an incentive on users to signal their intentions early and hence allow Transmission Owners (TOs) to avoid inefficient investment. It is also intended that they be proportionate to the number and materiality of the users involved. CMP222 was presented to the CUSC Modifications Panel on 27 September and the CUSC Modifications Panel agreed that CMP222 should proceed to a Workgroup. CMP222 was granted two extensions to its original timetable. The Panel accepted the CMP222 Workgroup Report and directed that it should proceed to Code Administrator Consultation for a period of 4 weeks. The Panel voted against the Applicable CUSC Objectives for CMP222 and voted by majority 5 out of 9 that WACM1 better facilitates the Applicable CUSC Objectives and therefore should be implemented. The Final CUSC Modification Report was sent to the Authority in June 2014. The Authority approved CMP222 on 21 October 2014 and was implemented on 1 April 2015.

CMP223 (Arrangements for Relevant Distributed Generators under the Enduring Generation User Commitment) seeks to address an unintended consequence of the application of CMP192 and related terms under Section 15 of the CUSC. As a consequence of the rules, distribution connected generators deemed to have an impact on the transmission network are faced with undue discrimination in the way that liability and security terms and conditions are set and how the sums are calculated and passed on. CMP223 was presented to the CUSC Modifications Panel on 27 September and the CUSC Modifications Panel agreed that CMP223 should proceed to a Workgroup. CMP223 has been granted three extensions to its original timetable. The Workgroup was presented at the CUSC Panel meeting on 25 April 2014 and it was agreed that CMP223 should proceed to Code Administrator consultation for a period of 4 weeks. The CUSC Panel agreed to a one week extension to the Code Administrator Consultation to account for an omission from the draft Legal text. The CUSC Panel voted by

majority that CMP223 WACM3 better facilitates the Applicable CUSC Objectives and so should be implemented. The Final Modification Report was sent to the Authority in July 2014. The Authority requested that CMP223 be revised and resubmitted. The CUSC Panel agreed on 31st October 2014 to re-form the Workgroup on CMP223 to provide additional information within a revised report. The CMP223 Workgroup reviewed the draft legal text and the Workgroup Report was presented to the CUSC Panel on 27 March 2015. The Panel agreed that the Workgroup had met their Terms of Reference and that CMP223 should proceed to Code Administrator Consultation for a period of 20 Working days.

CMP227 (Reduce the G:D split of TNUoS charges, for example to 15:85) is proposing to change the split of total TNUoS charges between generation and supply from the current 27:73 to a lower share of charges for generators, suggested to be 15:85, which corresponds with the approach modelled under Project TransmiT. However, other splits which reduce the proportion of TNUoS charges paid by generators could also be considered by the Workgroup. CMP227 was presented to the CUSC Modifications Panel on 28 February and the CUSC Modifications Panel agreed that CMP227 should be developed by a Workgroup and set an initial Workgroup timetable of 5 months to report back to the July 2014 Panel meeting. The Workgroup requested a one month extension to the timetable for CMP227 at the CUSC Panel meeting in May, which the CUSC Panel agreed to. The CUSC Panel granted another one month extension to the CMP227 timetable at the June CUSC Panel meeting. The Workgroup Consultation was sent out for 20 Working days on 27 August 2014. The Workgroup Consultation closed on 24 September 2014 and received 18 responses, the Workgroup plan to report back to the CUSC Panel on 28 November 2014. The CUSC Panel granted a three month extension to the CMP227 timetable at the October CUSC Panel meeting. At the January 2015 CUSC Panel meeting, the Panel agreed to another one month extension to the Workgroup timetable. The Workgroup are currently producing additional analysis and aim to vote in their next meeting. The Panel, on 27 March 2015, accepted a two month extension to the Workgroup process for CMP227.

CMP234 (Incorporation of Biddable Indexation of OFTO revenues in TNUoS) seeks to change the indexation of local Offshore Transmission Network Use of System tariffs to match the rate applied to each Offshore Transmission Owner's (OFTOs) revenue under their licence instead of Retail Price Index (RPI). CMP234 was presented to the CUSC Modifications Panel on 29 August 2014 and the CUSC Panel unanimously determined that CMP234 meets the Self-Governance criteria and should progress directly to Code Administrator Consultation for a period of 3 weeks. CMP234 Code Administrator Consultation closed on 24 September 2014 and received 3 responses. The CUSC Panel Determination vote took place on 31 October 2014 and the CUSC Panel voted unanimously that CMP234 better facilitates Applicable CUSC Objective (a), (b) and (c) and therefore should be implemented. A 15 day appeals window commenced on 31 October 2014 and closed on 21 November 2014. CMP234 was implemented on 1 April 2015.

CMP235 / CMP236 Introduction of a new Relevant Interruption Type' and 'Clarification of when Disconnection Compensation payments can be expected under a Relevant Interruption seeks to amend the description of an Interruption to add this type of Emergency De-energisation by a User as a Relevant Interruption. CMP236 seeks to clarify that where station supplies are disconnected solely by National Grid plant or apparatus and the effect of this is to lose the generating units' output, that this is a Relevant Interruption and that under the CUSC, Interruption payments can include these stations. In September 2014, these two Modifications were amalgamated. CMP235 and CMP236 were presented to the CUSC Modifications Panel on 26 September 2014 and the Panel agreed that CMP237 should be amalgamated and developed by a Workgroup. The Panel 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 CMP235/6 timetable at the November 2014 CUSC Panel meeting and the Workgroup will now report back to the CUSC Panel on the 27 February 2015. The Workgroup Consultation closed on 23 January 2015 and received six responses. A one month extension was agreed by the CUSC Panel via e-mail in February 2015 and the Workgroup Report was presented to the CUSC Panel on 27 March 2015. The Panel agreed that the Workgroup had met their Terms of Reference and

agreed that CMP235/236 should proceed to Code Administrator Consultation for a period of 20 Working days.

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 closes on 23 April 2015.

CMP238 Application of Statement of Works Process when a Modification application is made was raised by National Grid Electricity Transmission plc and seeks to change the CUSC so that when a Distribution Network Operator (DNO) receives a distribution connection application and the DNO knows this will impact the Transmission System, the DNO may directly submit a Modification Application without engaging in the Statement of Works process. CMP238 was presented to the CUSC Modifications Panel on 31 October 2014 and the Panel unanimously agreed that CMP238 should not be considered as Self-Governance and should proceed directly to Code Administrator Consultation. The CUSC Panel agreed to one month extension for the Code Administrator Consultation. A Panel recommendation vote will take place on 30 January 2015. The Code Administrator Consultation closed on 11 December 2014 and received seven responses. The Panel voted unanimously that CMP238 should be implemented as it better facilitates Applicable CUSC Objectives (a) and (b). The Final Modification Report was sent to the Authority in February 2015. CMP238 was approved by the Authority on 12 March 2015 and was implemented on 26 March 2015.

CMP239 Grandfathering Arrangements for the Small Generator Discount was raised by Fred.Olsen Renewables and seeks to implement 'grandfathering' arrangements in the CUSC from the expiry of Licence Condition C13 on 31 March 2016. CMP239 was presented to the CUSC Modifications Panel on 31 October 2014 and the Panel agreed that CMP239 should be developed by a Workgroup and set up an initial Workgroup timetable of 6 months to report back to the April 2015 CUSC Panel meeting. CMP239 Workgroup consultation closed on 4 March 2015 and twelve responses were received. The Workgroup met on 13 March 2015 and voted on the Original proposal and three WACMs. The Workgroup Report will be presented to the CUSC Panel at the April 2015 meeting.

CMP241 TNUoS Demand Charges during the Implementation of P272 was raised by National Grid Electricity Transmission and seeks to treat Profile Classes 5-8 which move to being Half-Hourly settled after 1 April 2015 as Non Half-Hourly for the 2015/16 Charging Year for the purposes of TNUoS charging to avoid liabilities being higher than originally forecast. There was a special CUSC Panel meeting on 25 February 2015 to discuss CMP241. The CUSC Panel's view was that this Modification should be treated as urgent. CMP241 has been authorised by the Authority to be treated as urgent and will therefore follow the urgent timetable as outlined in CMP241 Summary timetable. The Code Administrator Consultation closed on 17 March 2015 and received five responses. The CMP241 Final CUSC Modification Report was issued to the Authority on 25 March 2015. The Authority approved CMP241 on 30 March 2015 and it was implemented on 1 April 2015.

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.

Grid Code

The most recent meeting of the **Grid Code Review Panel** was held on 18 March 2015.
The next GCRP will take place on 20 May 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 has been drafted and the last meeting was held on 17 April 2015 to review the comments.

GC0038 Electricity Balancing System Group (EBSG) The scope of this group is limited to that of the Electricity Balancing System, and the Balancing Mechanism and Ancillary Services data and instructions that it will support. The group considered the changes requested by the industry in response to National Grid's consultations and also any changes that are offered as part of the standard vendor system. The group established two subgroups EBSIT (focusing on IT issues) and EBSMSM (focussing on Multi Shaft modelling). The EBSG was given an update to the EBS Multi Shaft Modelling (MSM) Subgroup. The main action of this subgroup is to work up a "straw man" configuration modelling proposal and bring this back to EBSG and GCRP in due course. A regularly updated EBS Project Plan is now presented at each EBSG meeting, giving an overview of events and milestones. This supported discussion around release dates for EBS and how these would consider release dates for Elexon. The EBSG have presented two Grid Code issue papers to the Janaury GCRP. Reactive and Frequency Report Fax Form Information and New and Revised Balancing Code Parameters and Instructions. GC0068, the New and Revised Unit data industry consultation was published on 4 November 2013 and closed on 3 December 2013. Responses were broadly supportive with a suggestion to split implementation of GC0068 to enable earlier delivery of the fax form changes (which are not contingent on EBS go-live). This split implementation was supported by EBSG and was progressed in the Final Report to Authority which was approved on 3 March 2014. GC0068 was implemented in two stages: The 1 July 2014 for changes to Reactive Power and Frequency Response Fax Forms in BC2; following this, the remaining changes to the Grid Code and Data Validation, Consistency and Defaulting Rules relating to the Balancing Code data, parameters and instructions were implemented in line with the go-live date of EBS. The last EBSG was held on 6 March 2014 where it was agreed that the EBS MSM subgroup would be revisited to consider future possibilities and changes. An update was provided to the GCRP in November 2014 and an Issue Paper is being drafted for the reconvening of Multi Shaft Modelling which is due to be presented in March 2015, with a view to closing GC0038. Those previously involved in the MSM sub-group have agreed to reconvene the group.

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 next workgroup meeting will take place on 22 April 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 19 March 2015 and meetings have been scheduled every month up until 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 21 November 2014 and the next meeting is taking place on 24 April 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. The latest Workgroup meeting is taking place on 27 April 2015.

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. A final meeting to discuss the legal text is planned for 29 April 2015 after which the Industry Consultation will be drafted and published. It is envisaged that the Report to the Authority will be sent in May 2015.

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.

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.

SQSS

The most recent meeting of the **SQSS Panel** was held on 1 April 2015. The next SQSS Panel will take place on 3 June 2015.

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.

GSR010: Review of Onshore Entry Criteria This aims to revise the requirements for new onshore generation with different levels of connection security based upon the generation capacity and load factor. Following an inconclusive industry consultation, a position note with suggested approaches has been produced. This guidance note was approved at the April 2015 NETS SQSS Review Panel and formally replaces any official submission to the Authority to request a change to the NETS SQSS. GSR010 is therefore now considered as concluded and closed.

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 on 18 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. This modification is ongoing and the working group presented their initial conclusions with respect to local connections at the October 2014 NETS SQSS Review Panel. Further information with respect to wider infrastructure requirements is expected to follow in due course.

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 2014 NETS SQSS Review Panel it was unanimously agreed that this modification is ready to be circulated for industry consultation. GSR014 was formally released for industry consultation week commencing 13 October 2014 for a period of 25 working days. The industry consultation closed on Friday 14 November 2014 and five responses were received. These are currently being analysed and the Modification Report drafted. It is hoped that this shall be formally submitted to the Authority imminently.

GSR015 Normal Infeed Loss Risk: This proposes to reword the definitions of infeed loss risks to avoid increased costs being incurred to procure additional frequency response until additional risks arise. This modification was submitted to the Authority for a decision on 10 March 2014. The Authority subsequently responded that they believe the proposed NETS SQSS wording caused a loss of necessary detail. These issues have since been addressed and this modification was resubmitted to the Authority for a decision on 13 August 2014. This modification was approved by the Authority on 3 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 June 2015 NETS SQSS Review Panel.

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. The first working group meeting occurred on 21 July 2014 and the working group is now tasked with providing proposals to discuss at subsequent meetings. It should be noted that at the request of the Grid Code Review Panel (GCRP) this NETS SQSS working group has absorbed some actions and members from a previous Grid Code workgroup.

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 working group has been established that aims to present their initial conclusions at the June 2015 NETS SQSS Review Panel.

GSR020: Modification of Clause 7.8.1.1 to Allow Single Transformer Offshore Substations of Capacity Greater Than 90MW: This is a modification proposal presented by Siemens at the December 2014 NETS SQSS Review Panel. It was considered that this is worthy of further analysis and thought and that a working group should therefore be established. This aims to incorporate as many offshore developers as possible. Working-Group Terms of Reference (WG ToR) have subsequently received NETS SQSS Review Panel approval and an invitation has been circulated to the industry for working-group members. It is hoped that the first working-group meeting will be held in late May 2015.

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 shall be circulated for industry consultation in June 2015.

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.

AMALGAMATED ELECTRICITY CODES MODIFICATION REPORT
As at 22 April 2015

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