07 April 2017

Trading and Settlement Code – Part B

CONTENTS

NOTE:

The SEM Trading and Settlement Code consists of three parts A, B and C.

This is Part B of the SEM Trading and Settlement Code (Part B of the Code). This Part B of the Code consists of these Chapters A to G, the Part B Glossary, the Part B Appendices A to O and the Part B Agreed Procedures as listed in Part B Appendix D.

This Part B governs the trading and settlement arrangements for the Balancing Market and the settlement arrangements for the Capacity Market in respect of all Imbalance Settlement Periods which occur after the Cutover Time (as defined in Part C of the SEM Trading and Settlement Code), including the Imbalance Settlement Period which commences at the Cutover Time.

All references to "the Code" in this Part B of the Code, unless otherwise specified or implied by the context shall be deemed to be references to Part B of the Code. All references to any component of the Code (Glossary, Appendix and Agreed Procedure), unless otherwise specified or implied by the context, shall be deemed to be a reference to that component in this Part B of the Code.

A. INTRODUCTION AND INTERPRETATION

A.1   INTRODUCTION

A.1.1.1   The single electricity market was initially developed by the Commission for Energy Regulation and the Northern Ireland Authority for Utility Regulation pursuant to a Memorandum of Understanding dated 23 August 2004, the subsequent All-Island Energy Market Development Framework agreed in November 2004 between Noel Dempsey TD, then Minister for Communications, Marine and Natural Resources in Ireland and Barry Gardiner MP, then Minister with responsibility for Enterprise, Trade and Investment in Northern Ireland, and the Memorandum of Understanding between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of Ireland of December 2006. This Code was initially developed as part of the process of establishing the single electricity market and to constitute the trading arrangements and Trading and Settlement Code for the single electricity market in Northern Ireland pursuant to section 23 of the Northern Ireland (Miscellaneous Provisions) Act 2006 and the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007, and in Ireland pursuant to section 9BA(1) of the Electricity Regulation Act 1999 (Ireland) and as designated pursuant to regulations made under section 9BA(2)(a) of the Electricity Regulation Act 1999 (Ireland).

A.1.1.2   The single electricity market has been further developed in order to allow for the efficient application of the European Union rules for cross-border trade in electricity contained within or adopted pursuant to the Electricity Market Regulation (EC) 714/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the network for cross-border exchanges in electricity as amended from time to time and as supplemented by:

(a)   network codes established under Article 6 of that Regulation; and

(b)   guidelines adopted under Article 18 of that Regulation.

A.1.1.3   This Code has, accordingly been further developed to reflect the requirements in paragraph A.1.1.2 above and constitutes the trading arrangements for the Balancing Market and the settlement arrangements for the Capacity Market and the Trading and Settlement Code in Northern Ireland pursuant to section 23 of the Northern Ireland (Miscellaneous Provisions) Act 2006 and the Electricity (Single Wholesale Market) (Northern Ireland) Order 2007, and in Ireland pursuant to section 9BA(1) of the Electricity Regulation Act 1999 (Ireland) and as designated pursuant to regulations made under section 9BA(2)(a) of the Electricity Regulation Act 1999 (Ireland).

A.1.1.4   It is a condition of the Market Operator Licences that the Market Operator shall enter into and at all times administer and maintain in force this Code which:

(a)   sets out the terms of the trading and settlement arrangements for the sale and purchase of wholesale electricity in the Balancing Market;

(b)   in conjunction with the Capacity Market Code, sets out the settlement arrangements for the Capacity Market;

(c)   is designed to facilitate the achievement of the objectives set out in section A.2 below; and

(d)   contains modification procedures which provide that any modifications to the Code (but not necessarily, to the Agreed Procedures) must be subject to the

prior approval of the Regulatory Authorities and which enable the Regulatory Authorities to propose modifications to the Code.

A.1.1.5 This section A.1 is for information only and, without prejudice to the rights, duties and obligations set out in the Licences and legislation referred to therein, is not intended of itself and should not be construed so as to create legally binding obligations as between or impose rights and duties on the Parties.

A.2 CODE SCOPE AND OBJECTIVES

A.2.1.1 This Code forms part of the legal and regulatory framework that governs the Single Electricity Market. This Code governs the trading and settlement arrangements for the Balancing Market and the settlement arrangements for the Capacity Market.

A.2.1.2 The SEM comprises a number of separate but interacting facilitated trading arrangements that include:

(a) a Capacity Market;

(b) day-ahead and intraday markets; and

(c) a Balancing Market in accordance with this Code.

A.2.1.3 The successful operation of the SEM relies on the effective interaction and co-ordination between the trading arrangements referred to in paragraph A.2.1.2.

A.2.1.4 The aim of this Code is to facilitate the achievement of the following objectives:

(a) to facilitate the efficient discharge by the Market Operator of the obligations imposed upon it by its Market Operator Licences;

(b) to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner;

(c) to facilitate the participation of electricity undertakings engaged in the generation, supply or sale of electricity in the trading arrangements under the Single Electricity Market;

(d) to promote competition in the Single Electricity Market;

(e) to provide transparency in the operation of the Single Electricity Market;

(f) to ensure no undue discrimination between persons who are parties to the Code; and

(g) to promote the short-term and long-term interests of consumers of electricity on the island of Ireland with respect to price, quality, reliability, and security of supply of electricity.

A.2.1.5 This section A.2 is for information only and, without prejudice to the rights, duties and obligations set out in the Licences and legislation referred to therein, is not intended of itself and should not be construed so as to create legally binding obligations as between or impose rights and duties on the Parties, provided that the Modifications Committee shall be required to have regard to the Code Objectives in accordance with section B.17 and any Dispute Resolution Board shall be required to have regard to those objectives in accordance with paragraph B.19.5.

A.3   APPENDICES AND AGREED PROCEDURES

A.3.1.1   The Appendices and the Agreed Procedures, as may be amended or modified from time to time, shall be construed as and form part of this Code and shall be subject to the terms of this Code. The Agreed Procedures set out the detail of procedures to be followed by Parties in performing obligations and functions under this Code.

A.3.1.2   Appendix D "List of Agreed Procedures" describes and sets out the scope of each of the Agreed Procedures.

A.4   INTERPRETATION

A.4.1   **General Interpretation**

A.4.1.1   In this Code, the following interpretations shall apply unless the context requires otherwise:

(a)   the table of contents, and any index and headings in this Code, are for ease of reference only and do not form part of the contents of this Code and do not and shall not affect its interpretation;

(b)   words in the singular shall include the plural and vice versa and the masculine gender shall include the feminine and neuter;

(c)   the word "including" and its variations are to be construed without limitation, and a reference to a range of paragraphs (eg, A.4.1.1(a) – (n)) includes both paragraphs referred to, as well as all those between;

(d)   any reference to any legislation, primary or secondary, in this Code includes any statutory interpretation, amendment, modification, replacement, re-enactment or consolidation of any such legislation and any regulations or orders made thereunder and any general reference to any legislation includes any regulations or orders made thereunder;

(e)   any references to Parts, Chapters, sections, paragraphs, Appendices and Agreed Procedures are references to Parts, Chapters, sections, paragraphs, Appendices and Agreed Procedures of this Code as amended or modified from time to time in accordance with the provisions of this Code;

(f)   any reference to another agreement, code or document, or any licence, deed or other instrument is to be construed as a reference to that other agreement, code or document, deed, licence or other instrument as lawfully amended, modified, supplemented, substituted, assigned or novated from time to time;

(g)   any reference to a day is to be construed as a reference to a calendar day except where provided otherwise, and any reference to a year is to be construed as a reference to a period of 12 months;

(h)   any reference to a time is to be construed as a reference to the time prevailing in Belfast;

(i)   where any obligation is imposed on any Party pursuant to this Code and is expressed to require performance within a specified time limit that obligation shall, where appropriate, continue to be binding and enforceable after that time limit if the Party fails to perform that obligation within that time limit (but without prejudice to all rights and remedies available against that person by reason of that person's failure to perform that obligation within the time limit);

(j)   capitalised words and phrases, acronyms, abbreviations, subscripts and variables have the meaning given to them in the Glossary (which includes a section dealing with definitions, a list of subscripts and a list of variables and parameters);

(k)   where a specified number of days is expressed to elapse or expire from or after the giving of a notice or the issue or making available of a document before an action may be taken or by which an action is required to be taken then, unless explicitly stated otherwise, the day on which the notice is given or issued or the document is made available shall not be counted in the reckoning of the period;

(l)   a reference to a "person" includes any individual, partnership, firm, company, corporation (statutory or otherwise), joint venture, trust, association, organisation or other entity, whether or not having separate legal personality;

(m)   a reference to a Participant shall be construed as a reference to the relevant Party in its capacity as the person registered in respect of the relevant Units. Any obligation expressed to be on a Party shall, where appropriate, be construed as an obligation on that Party in respect of each of its Participants;

(n)   a reference to a Participant's Units, means the Units registered in respect of that Participant under this Code;

(o)   where this Code requires data to be published by the Market Operator, it shall be made publicly available (which, for the avoidance of doubt means available to all members of the public and not only to Parties) in a format that readily lends itself to processing by standard computer and analysis tools, through an easily accessible public interface and the terms "publish", "publication" and "published" shall be construed accordingly;

(p)   where this Code requires the Market Operator to publish information and no timeline is specified for such publication, it shall be required to publish such information as soon as is reasonably practicable;

(q)   differences of language between provisions may be explicable by reference to changes of drafting practice and do not necessarily imply a difference of meaning;

(r)   where this Code contemplates that the Market Operator will prescribe or publish the form of a notice or determine the format for a document or other information to be submitted to the Market Operator, and the Capacity Market Code contemplates the System Operators prescribing or publishing the form of a similar notice or determining the format of a similar document or item of information, the Market Operator may:

   (i)   prescribe or publish the same form or determine the same format for the purposes of this Code; or

   (ii)   in conjunction with the System Operators, prescribe or publish a common form or determine a common format that applies under both this Code and the Capacity Market Code; and

(s)   where no timeframe for performance is specified in respect of any obligation to be performed by a Party, then such obligation shall be performed within a reasonable time.

A.4.1.2   Where any provision of this Code contemplates that the Regulatory Authorities shall provide, determine or approve certain values which are required for the performance of calculations under the Code and which apply for a specific period, and on expiry of such period no replacement values have been determined by the Regulatory Authorities, or the Regulatory Authorities have not communicated their determination to the Market Operator, then the values applicable immediately prior to the expiry of the relevant period shall continue to apply until the Regulatory Authorities have provided, determined or approved new values and this has been communicated to the Market Operator in accordance with the Code.

A.4.2   **Calculations**

A.4.2.1   In this Code, the following interpretations shall apply unless the context requires otherwise:

(a)   all values that relate to power (MW) or energy (MWh) being input into the SEM are positive values;

(b)   all values that relate to power (MW) or energy (MWh) being taken from the SEM are negative values;

(c)   all values for power (MW) or energy (MWh) that relate to imports into the SEM in relation to an Interconnector, Interconnector Residual Capacity Unit or Interconnector Error Unit shall be treated for the purposes of the calculations set out in this Code as having positive values;

(d)   all values for power (MW) or energy (MWh) that relate to exports from the SEM in relation to an Interconnector, Interconnector Residual Capacity Unit or an Interconnector Error Unit shall be treated for the purposes of the calculations set out in this Code as having negative or zero values;

(e)   all values that relate to amounts (in € or £) due to a Participant or in respect of a Unit from the Market Operator are to be treated for the purposes of the calculations set out in this Code as having positive values;

(f)   all values that relate to amounts (in € or £) due from a Participant or in respect of a Unit to the Market Operator are to be treated for the purposes of the calculations set out in this Code as having negative values;

(g)   all values for power (MW), Ramp Rates (MW/min) or energy (MWh) and which are not Loss-Adjusted in relation to an Interconnector, Interconnector Residual Capacity Unit or Interconnector Error Unit shall be those applicable at the Interconnector Data Submission Point;

(h)   Prices and Bid Offer Prices are expressed as either positive or negative numbers;

(i)   Accepted Bid Quantities are expressed as negative values;

(j)   Accepted Offer Quantities are expressed as positive values;

(k)   the value zero shall be treated as a positive whole number;

in the event of any conflict between algebraic formulae and English language text in Chapters E (Imbalance Pricing), F (Calculation of Payments and Charges) and G (Financial and Settlement), the algebraic formula shall apply, save in the case of manifest error in the algebraic formula.

B. LEGAL AND GOVERNANCE

B.1 PURPOSE

B.1.1.1 This Chapter B sets out provisions relating to the governance and administration of the Code.

B.2 GOVERNING LAW AND JURISDICTION

B.2.1.1 This Code and any disputes arising under, out of, or in relation to the Code shall be interpreted, construed and governed in accordance with the laws of Northern Ireland.

B.2.1.2 Subject to the provisions relating to the Dispute Resolution Process, the Parties hereby submit to the exclusive jurisdiction of the Courts of Ireland and the Courts of Northern Ireland for all disputes arising under, out of, or in relation to the Code.

B.3 TERM

B.3.1.1 The Code shall commence on the Commencement Date and shall have no fixed duration.

B.4 PRIORITY

B.4.1.1 In the event of any conflict between any Party's obligation pursuant to any Legal Requirements and the Code, such conflict shall be resolved according to the following order of priority:

(a) requirements under Applicable Laws;

(b) any applicable requirement, direction, determination, decision, instruction or rule of any Competent Authority;

(c) the applicable Licence;

(d) the Grid Code applicable to the relevant Unit concerned;

(e) the Metering Code applicable to the relevant Unit concerned;

(f) the Capacity Market Code;

(g) this Code (subject to paragraphs B.4.1.5 and B.4.1.7 below).

B.4.1.2 If and for so long as a Party complies with the relevant Legal Requirements set out in paragraphs B.4.1.1(a) to B.4.1.1(f), it shall be relieved of its obligations under the Code in accordance with section B.22 to the extent that and for so long as the performance of such obligations is in conflict with any of the relevant Legal Requirements taking priority over the Code, provided that:

(a) such conflict does not arise as a result of a failure of the relevant Party to procure, comply with or maintain any consent, permission, licence or Licence in accordance with paragraph B.14.1.5(b); and

(b) a Party claiming to be relieved of its obligations under the Code in reliance on this paragraph B.4.1.2 complies promptly with all applicable requirements of section B.22 and with the procedural and substantive requirements of this Code in relation to any resulting Modification Proposal or Dispute.

B.4.1.3   A Party shall only be relieved of its obligations pursuant to paragraph B.4.1.2 for so long as and to the extent that resolution of the conflict is not within the reasonable control of the relevant Party.

B.4.1.4   Until such time as such conflict is resolved through the Modifications Process or otherwise, the applicable obligations under the Legal Requirements set out in paragraphs B.4.1.1(a) to B.4.1.1(f) shall prevail over the provisions of the Code for each Party or Unit in relation to which they are in conflict.

B.4.1.5   Notwithstanding paragraphs B.4.1.1 and B.4.1.2, where a term or expression is given a particular meaning in the Glossary and is also defined for the purposes of any of the instruments higher in the order of priority set out in paragraph B.4.1.1, then in this Code it shall have the meaning given in the Glossary.

B.4.1.6   It is not intended that there be any inconsistency or conflict between any provision of any of the Chapters, sections, Appendices or Agreed Procedures of the Code. However, in the event of any inconsistency or conflict, such inconsistency or conflict shall be resolved in the following order of priority:

(a)   Part C of the Code (Transitional Arrangements);

(b)   Chapter H;

(c)   Chapters A, B, C, D, E, F, G and the Glossary;

(d)   Appendices; and

(e)   Agreed Procedures.

B.4.1.7   The provisions of paragraph B.4.1.6 shall be subject to any express provision to the contrary in the Code.

B.5   PARTIES AND ACCESSION PROCESS

B.5.1.1   A person may only become a Party to the Code in accordance with the terms of the Code and the Framework Agreement.

B.5.1.2   Any person that is at the relevant time an adhering party to the Framework Agreement shall be a Party to the Code.

B.5.1.3   In order to become a Party, a person must complete and sign an application form in accordance with Agreed Procedure 1 "Registration" and send it to the Market Operator. The application form specifies all conditions which the person must meet to become a Party, which include that the person shall:

(a)   pay the Accession Fee; and

(b)   when provided, execute the Accession Deed to adhere to the Framework Agreement and the Code.

B.5.1.4   The Accession Fee shall be non-refundable.

B.5.1.5   Where the Market Operator receives an application, it may, in accordance with Agreed Procedure 1 "Registration", if it considers that further information or clarification is required in order to complete the application, send a notice to the person submitting the application identifying the further information or clarification required.

B.5.1.6   If the Market Operator does not receive the further information or clarification required in accordance with Agreed Procedure 1 "Registration", the person sending the

application form shall be deemed to have withdrawn the application. The person may request additional time to provide any clarification or additional information and the Market Operator shall not unreasonably withhold consent to any such request.

B.5.1.7   On receipt of a completed application form and any clarification or further information requested by the Market Operator and provided that the Applicant fulfils the conditions for accession specified in the application form, the Market Operator shall within 10 Working Days of final receipt of all required information provide the Applicant with an Accession Deed. The Applicant must submit an executed Accession Deed within 20 Working Days of receipt. An Applicant may request additional time to submit an executed Accession Deed and the Market Operator shall not unreasonably withhold consent to any such request, provided that the date of receipt of the executed Accession Deed shall be earlier than the effective date specified in the Accession Deed.

B.5.1.8   Following receipt by the Market Operator of an executed Accession Deed in accordance with paragraph B.5.1.7, the Applicant shall become a Party on the date specified in the Accession Deed unless the Market Operator and the Applicant agree on a different date separately in writing.

B.5.1.9   The Market Operator shall publish the fact and date of the accession of each new Party to the Code.

B.6   OBLIGATIONS WITH RESPECT TO DE MINIMIS THRESHOLD

B.6.1   Concept

B.6.1.1   The De Minimis Threshold for the purposes of the Code and mandatory participation in the Balancing Market shall be a Maximum Export Capacity of 10MW.

B.6.2   Obligation to Register

B.6.2.1   A Party shall register every Generator which it owns or legally controls, which has Maximum Export Capacity greater than or equal to the De Minimis Threshold and which is covered by a single Connection Agreement, as a Generator Unit under the Code. If a Party is permitted, pursuant to the consent of the Regulatory Authorities, to appoint an Intermediary in respect of a Generator, it shall satisfy the requirements of this paragraph for that Generator if it procures the registration of the Generator as a Generator Unit by the relevant Intermediary in accordance with the Code.

B.6.2.2   A Party which has been authorised by the Unit Owner, under a Form of Authority and with the consent of the Regulatory Authorities, to act as Intermediary in respect of any Generator which has Maximum Export Capacity greater than or equal to the De Minimis Threshold and which is covered by a single Connection Agreement, shall register such Generator as a Generator Unit in accordance with the Code.

B.6.2.3   A Party shall register every Generator which it owns or legally controls which is not covered by a Connection Agreement but which is located on a Contiguous Site, having an overall Maximum Export Capacity greater than or equal to the De Minimis Threshold, as a Generator Unit under the Code. If a Party is permitted, pursuant to the consent of the Regulatory Authorities, to appoint an Intermediary in respect of a Generator to which this paragraph applies, it shall satisfy the requirements of this paragraph for that Generator if it procures the registration of the Generator as a Generator Unit by the relevant Intermediary in accordance with the Code.

B.6.2.4   A Party which has been authorised by the Unit Owner, under a Form of Authority and in accordance with the consent of the Regulatory Authorities, to act as Intermediary in respect of any Generator which is not covered by a Connection Agreement but which is located on a Contiguous Site, having an overall Maximum Export Capacity greater than or equal to the De Minimis Threshold shall register such Generator as a Generator Unit in accordance with the Code.

B.6.2.5   A Party may register any Generator which it owns or legally controls and which is covered by a single Connection Agreement, or is located on a Contiguous Site which does not have a Connection Agreement, which has a Maximum Export Capacity less than the De Minimis Threshold, as a Generator Unit under the Code. If a Party is permitted, pursuant to the consent of the Regulatory Authorities, to appoint an Intermediary in respect of a Generator to which this paragraph applies, it may procure registration of the Generator as a Generator Unit by the relevant Intermediary in accordance with the Code.

B.6.2.6   A Party which has been authorised by the Unit Owner, under a Form of Authority and in accordance with the consent of the Regulatory Authorities, to act as Intermediary in respect of any Generator which is covered by a single Connection Agreement, or is located on a Contiguous Site which does not have a Connection Agreement, which has Maximum Export Capacity less than the De Minimis Threshold shall register such Generator as a Generator Unit in accordance with the Code.

B.6.2.7   Paragraphs B.6.2.1 and B.6.2.3 do not require a Demand Side Unit to be registered.

B.6.2.8   A Party shall register every Aggregated Generator which it owns or legally controls which has Maximum Export Capacity greater than or equal to the De Minimis Threshold as an Aggregated Generator Unit under the Code. If a Party is permitted, pursuant to the consent of the Regulatory Authorities, to appoint an Intermediary in respect of an Aggregated Generator, it shall satisfy the requirements of this paragraph for that Aggregated Generator if it procures the registration of the Aggregated Generator as an Aggregated Generator Unit by the relevant Intermediary in accordance with the Code.

B.6.2.9   A Party which has been authorised by the Unit Owner, under a Form of Authority and with the consent of the Regulatory Authorities, to act as Intermediary in respect of any Aggregated Generator which has Maximum Export Capacity greater than or equal to the De Minimis Threshold, shall register such Aggregated Generator as an Aggregated Generator Unit in accordance with the Code.

B.6.2.10 A Party may register any Aggregated Generator which it owns or legally controls, which has a Maximum Export Capacity less than the De Minimis Threshold, as an Aggregated Generator Unit under the Code. If a Party is permitted, pursuant to the consent of the Regulatory Authorities, to appoint an Intermediary in respect of a Generator to which this paragraph applies, it may procure registration of the Aggregated Generator as an Aggregated Generator Unit by the relevant Intermediary in accordance with the Code.

B.6.2.11 A Party which has been authorised by the Unit Owner, under a Form of Authority and with the consent of the Regulatory Authorities, to act as Intermediary in respect of any Aggregated Generator which has Maximum Export Capacity less than the De Minimis Threshold, shall register such Aggregated Generator as an Aggregated Generator Unit in accordance with the Code.

B.7   PARTICIPATION AND REGISTRATION OF UNITS

B.7.1   Registration

B.7.1.1   In order for a Party to participate in any of the trading arrangements under this Code, it must register a Unit in accordance with the registration procedures provided for in sections B.7 to B.11. For the avoidance of doubt, registration in accordance with this procedure only fulfills registration requirements for rights and obligations covered under this Code.

B.7.1.2   On or prior to its first application to register a Unit, a Party (or Applicant, as applicable) shall complete and return a First Participation Information Notice.

B.7.1.3   An Applicant may submit an application to register Units prior to becoming a Party provided that registration of Units shall not take effect until the Applicant has become a Party.

B.7.1.4   In addition to the requirements set out in paragraph B.7.2, a Party (or Applicant as applicable) shall complete such documentation as may be required by the Market Operator in respect of any requirement to register a charge on any SEM bank account (including, in relation to SEM Collateral Reserve Accounts, any applicable Account Security Requirements as set out in paragraphs G.1.5.1, G.1.5.2, G.1.5.3, G.9.1.1, G.9.1.3, G.12.1.3 and G.12.1.6 of this Code and in Agreed Procedure 1 "Registration" and Agreed Procedure 17 "Banking and Participant Payments").

B.7.1.5   On registration of a Unit by a Party, the Party shall become the Participant in respect of that Unit.

B.7.2   Participation Notices

B.7.2.1   A Party (or Applicant, as applicable) shall apply to register any Units by completing a Participation Notice in respect of the Unit which shall include the following information:

(a)   whether the Unit concerned is a Generator Unit or a Supplier Unit;

(b)   if the Unit is a Generator Unit, details of the Trading Site to which that Unit shall be registered, where applicable;

(c)   the Currency Zone of the Unit;

(d)   the SEM NEMO or SEM NEMOs through which the Participant (or Applicant, as applicable) intends participating for day-ahead and intraday trades;

(e)   whether the Unit concerned is registered under the Capacity Market Code or is intended to be registered under that code;

(f)   whether it is intended that the Unit concerned will be traded on the day-ahead and intraday markets by the Agent of Last Resort;

(g)   the proposed Effective Date, being the Trading Day from the start of which the Party intends that trading in respect of that Unit in the Balancing Market shall commence;

(h)   the Communication Channels which the Participant designates pursuant to paragraph C.2.1.2;

(i)   evidence of compliance with or details of new metering requirements as applicable;

(j)   evidence that the necessary Operational Readiness Confirmation is in place and is valid and effective where the Party wishes to register the Generator Unit as Dispatchable and/or Controllable;

(k)   evidence that all necessary Connection Agreements are in place, valid and effective;

(l)   evidence that all necessary Use of System Agreements are in place, valid and effective;

(m)   in the case of a relevant Generator Unit, where no Trading Site Supplier Unit exists or is proposed, the details of the Supplier Unit that it is intended shall act as the Associated Supplier Unit;

(n)   initial Default Data in respect of each Generator Unit, that may be used by the Market Operator in relation to that Unit; and

(o)   such other Registration Data as is required by the Market Operator pursuant to Appendix H "Data Requirements for Registration" and Agreed Procedure 1 "Registration",

and, to the extent the Party (or Applicant, as applicable) has not already provided it to the Market Operator, the following information in relation to the Participant to which the Unit is to be registered:

(p)   the name, address and contact details (including email and facsimile) of the Participant;

(q)   the billing address of the Participant;

(r)   full details of the bank account to which amounts payable by the Market Operator to that Participant shall be paid;

(s)   evidence that the Party (or on registration by an Intermediary, the appointing Party) holds a valid Licence (including an authorisation or exemption) to generate or supply electricity in the relevant Jurisdiction(s) (as appropriate) and details of all other Licences (including authorisations or exemptions relevant to the SEM);

(t)   Participant VAT details for all relevant Jurisdictions; and

(u)   any other participation roles which the Party (or Applicant as applicable) has or intends to have and the Effective Date from which it has or intends to have such capacity.

B.7.2.2   A Party (or Applicant, as applicable) shall, in a Participation Notice in respect of a Generator Unit, specify if the Unit is:

(a)   a Wind Power Unit;

(b)   an Energy Limited Generator Unit;

(c)   a Pumped Storage Unit;

(d)   a Battery Storage Unit;

(e)   a Demand Side Unit;

(f)   an Aggregated Generator Unit;

(g)   a Trading Unit;

(h)   an Assetless Unit; or

(i)   a Dual Rated Generator Unit.

B.7.2.3   A Party (or Applicant, as applicable) shall also, in a Participation Notice in respect of a Generator Unit, specify if the Unit is or is intended to be a Capacity Market Unit or a part of a Capacity Market Unit (and, in the latter case, which Capacity Market Unit).

B.7.2.4   A Party (or Applicant, as applicable) shall also, in a Participation Notice in respect of a Generator Unit, specify if the Unit is either or both of the following:

(a)   Dispatchable;

(b)   Controllable.

B.7.2.5   A Party (or Applicant, as applicable) shall also, in a Participation Notice in respect of a Generator Unit, specify if the Unit has Priority Dispatch.

B.7.2.6   A Generator Unit may only be specified as an Energy Limited Generator Unit if it is:

(a)   connected to a hydro turbine which is driven either by the controlled flow of water from a reservoir or by the flow of a river; and

(b)   subject to a physical upper limit on the amount of energy that can be generated in a Trading Day.

B.7.2.7   A Pumped Storage Unit or a Battery Storage Unit may only be registered as a Generator Unit and not a Supplier Unit.

B.7.2.8   A Generator Unit may only be specified as a Dual Rated Generator Unit if the Regulatory Authorities have given their written consent for the registration of the relevant Generator Unit by the Party (or Applicant) concerned as a Dual Rated Generator Unit.

B.7.2.9   A Demand Side Unit may only be registered as a Generator Unit if the Regulatory Authorities have given their written consent for the registration of the relevant Generator Unit by the Party (or Applicant) concerned as a Demand Side Unit and the criteria in section B.9.5 are satisfied.

B.7.2.10   A group of Generators may only be registered as an Aggregated Generator Unit if all of the following criteria are satisfied:

(a)   the Regulatory Authorities have given their written consent for the registration of the relevant Generator Unit by the Party (or Applicant) concerned as an Aggregated Generator Unit;

(b)   the group comprises an Aggregated Generating Unit within the meaning of the applicable Grid Code;

(c)   the Aggregated Generator Unit does not include any Generator located on a Generation Site with Non-Firm Access;

(d)   all Generators comprising the Aggregated Generator Unit are located on Generation Sites within the same Currency Zone;

(e)   all Generators comprising the Aggregated Generator Unit are not registered as, or part of, any other Generator Unit;

(f)   all Generators comprising the Aggregated Generator Unit and the relevant Party (or Applicant) are compliant with the relevant provisions of the Grid Code;

(g)   all Generators comprising the Aggregated Generator Unit are explicitly identified in the Generator Aggregator System Operator Agreement;

(h)   the Party (or Applicant) concerned provides evidence to the Market Operator that it owns or legally controls all Generators that comprise the Aggregated Generator Unit; and

(i)   all Generators comprising the Aggregated Generator Unit have Interval Metering to meter Generation of those Generators, installed by the Relevant Meter Operator responsible for installing, commissioning and maintaining such meters.

B.7.2.11   The Regulatory Authority concerned may, as a condition of its consent to the registration of a Demand Side Unit or an Aggregated Generator Unit, require the relevant Party (or Applicant as applicable) to enter into a form of licence or other agreement with the Regulatory Authority with the objective of ensuring that the registrant of the Unit concerned shall be subject to all of the relevant obligations faced by other Generator Units operating in the SEM.

B.7.3   Accession and Participation Fees

B.7.3.1   The Market Operator shall publish details of the Accession and Participation Fees expressed both in euro and in pounds sterling with those in pounds sterling being converted into euro using the Annual Capacity Charge Exchange Rate.

B.7.3.2   A Party (or an Applicant as applicable) shall pay the required Participation Fees upon submission of the Participation Notice to the Market Operator. The Market Operator shall specify the components of the Participation Fee that will apply in respect of each Participation Notice.

B.7.3.3   If a Participation Notice is withdrawn or rejected, the Market Operator shall refund those components of the Participation Fee for which it has not incurred any costs.

B.7.4   Generator Unit Participation Fees

B.7.4.1   A Party (or Applicant as applicable) shall pay Participation Fees for the registration of each Generator Unit.

B.7.5   Supplier Unit Participation Fees

B.7.5.1   A Party (or Applicant as applicable) shall pay Participation Fees in respect of the registration of each Supplier Unit.

B.7.6   Additional Rules for Participant Registration

B.7.6.1   Where a Party (or an Applicant, as applicable) applies to register Units in more than one Currency Zone, it shall register as a separate Participant for Units in each Currency Zone.

B.7.6.2   A Party (or an Applicant, as applicable) shall not register as more than one Participant save as provided for in paragraph B.7.6.1 or as permitted with the prior written consent of the Regulatory Authorities. Any such consent must be submitted with the relevant Participation Notice.

B.7.6.3   Where the Market Operator receives a Participation Notice from a Party (or an Applicant, as applicable) it shall where applicable, within 10 Working Days of receiving the Participation Notice, send a notice to the Party (or an Applicant, as

applicable) if it considers that further information or clarification is required in order to complete the Participation Notice identifying the further information or clarification required.

B.7.6.4   If the Market Operator does not receive the clarification or the further information required from the Party (or the Applicant, as applicable) within 20 Working Days of having been informed by the Market Operator of the need for such clarification or additional information, the Party (or the Applicant, as applicable) shall be deemed to have withdrawn the Participation Notice and the Market Operator shall refund the Participation Fees. An Applicant may request additional time to submit any clarification or additional information and the Market Operator shall not unreasonably withhold consent to any such request.

B.7.6.5   On receipt of a Participation Notice, the Participation Fees and any further information or clarification requested by the Market Operator from a Party (or an Applicant, as applicable) within the timelines provided for in paragraph B.7.6.4, the Market Operator shall within 5 Working Days send a notice to the Party (or the Applicant, as applicable) informing the Party (or the Applicant, as applicable) of any conditions for registration of each Unit which was the subject of the Participation Notice from the following list as applicable:

(a)   the amount of Credit Cover required to be posted by the proposed Participant prior to the Effective Date in respect of each such Unit calculated with effect from the Effective Date and any applicable Account Security Requirement (including, without limitation, the Deed of Charge and Account Security) to be put in place by the Participant prior to the Effective Date;

(b)   any qualification requirements pursuant to Agreed Procedure 3 "Communication Channel Qualification" for the Participant's designated Communication Channels;

(c)   the requirement for the satisfactory provision of the Registration Data set out in Appendix H "Data Requirements for Registration" and Agreed Procedure 1 "Registration" (if not already provided); and

(d)   the requirement that the relevant facilities are Connected to the Distribution System and/or Transmission System and the relevant Distribution System Operator or System Operator has given its approval for the relevant facilities to do so.

B.7.6.6   The Market Operator, if necessary, may by notice to the relevant Participant, revise such initial Required Credit Cover up to 8 Working Days prior to the Effective Date.

B.7.6.7   Notwithstanding paragraph G.16.3.2, the initial Required Credit Cover shall not take into account any Settlement Reallocation Agreement unless this has been lodged with the Market Operator at least 9 Working Days prior to the Effective Date.

B.7.6.8   If a Party (or Applicant as applicable) fails to satisfy any of the conditions for participation specified by the Market Operator under paragraph B.7.6.5 within 20 Working Days (or such shorter period as specified by the Market Operator) of being notified of such conditions by the Market Operator, its Participation Notice shall be deemed to be withdrawn and the Market Operator shall refund the relevant portion of the Participation Fees. A Party (or Applicant as applicable) may request additional time to satisfy any of the conditions under paragraph B.7.6.5 and the Market Operator shall not unreasonably withhold consent to any such request.

B.7.6.9 The Market Operator shall share Registration Data received from a Party with the System Operators in accordance with Appendix J "Data Transactions from Market Operator to System Operator" and shall be entitled to share Registration Data received from a Party with the Meter Data Providers for the purpose of processing registration and facilitating participation in respect of the relevant Units. All Parties shall co-operate with and provide such assistance as the Market Operator may reasonably request for these purposes.

B.7.6.10 If the Unit to be registered is a Generator Unit (excluding Interconnector Residual Capacity Units and Interconnector Error Units), the Meter Data Provider shall undertake Meter Data validation for that Generator Unit in accordance with the relevant Metering Code, and shall notify the Market Operator of:

(a) the Meter Data Export Date; and

(b) the Meter Validation Date.

B.7.6.11 Notwithstanding any date specified by the Party (or Applicant as applicable) in its Participation Notice, registration of Units shall not become effective until such time as the Market Operator specifies in a Commencement Notice in accordance with paragraph B.7.6.12 or such later date provided for under paragraph B.7.6.14.

B.7.6.12 Where the Party (or Applicant, as applicable) concerned:

(a) has supplied all information required and satisfied all such conditions as notified to the Party (or Applicant, as applicable) pursuant to paragraph B.7.6.5;

(b) has paid the Participation Fees; and

(c) is not otherwise in breach of the Code or the Framework Agreement,

then the Market Operator shall issue a Commencement Notice to the Participant and a copy to each System Operator and relevant External Data Provider as soon as reasonably practicable and at least 4 Working Days prior to the Unit's Effective Date. The Commencement Notice shall specify the Effective Date, being the Trading Day from the start of which, registration of the Units concerned shall be effective, provided that the Required Credit Cover has been posted and that any applicable Account Security Requirements (including, for the avoidance of doubt, the Deed of Charge and Account Security) have been put in place 10 Working Days prior to the Effective Date.

B.7.6.13 For each Generator Unit where a Meter Data Export Date has been determined in accordance with paragraph B.7.6.10, the Market Operator shall set the Effective Date for a Generator Unit to the Meter Data Export Date, or to the nearest possible date after the Meter Data Export Date, subject to the agreement of the Party (or Applicant as applicable), the relevant System Operator and Meter Data Provider, and shall issue a Notice of Effective Date to the relevant Party (or Applicant).

B.7.6.14 Where a Party (or Applicant, as applicable) has not put in place the initial Required Credit Cover and/or any applicable Account Security Requirements (including, for the avoidance of doubt, the Deed of Charge and Account Security) 10 Working Days before the Effective Date specified in a Commencement Notice, the Effective Date shall be deferred to commence at the start of the first Trading Day agreed by the relevant Party (or Applicant as applicable), the Market Operator and the relevant System Operator and Meter Data Provider, to be achievable by reasonable endeavours, provided that such Trading Day is within twelve months of the initial effective date specified in the relevant Commencement Notice. Otherwise the

Participation Notice shall be deemed to have been withdrawn and none of the Participation Fee shall be refunded.

B.7.6.15 Units shall be deemed registered for the purposes of participation under this Code from the start of the Effective Date.

B.7.6.16 A Participant shall commence trading in respect of a Unit at the start of the relevant Effective Date. For that purpose, a Party (or Applicant, as applicable) shall, following submission of its Participation Notice and prior to the Effective Date, submit such data in respect of trading for the Effective Date and any subsequent date as may be required in accordance with the Code.

B.7.6.17 The Market Operator shall publish the Effective Date and the fact of the registration of each new Participant and the registration of each new Unit to a Participant.

B.7.6.18 The Market Operator shall maintain and publish a current list of Parties, Participants and each of their Units.

B.7.6.19 After initial registration of a Unit, the Participant shall be responsible for maintaining the registration data. Parties and Participants shall notify the Market Operator if any of the registration details submitted to the Market Operator change, including, where applicable, in accordance with Agreed Procedure 4 "Transaction Submission and Validation".

B.7.6.20 If a System Operator considers that the registration details of a Unit are incomplete, incorrect or misleading, having regard to the provisions of the Code, then it shall notify the Market Operator.

B.7.6.21 If the Market Operator considers that the registration details of a Unit are incomplete, incorrect or misleading, having regard to the provisions of the Code, then it shall notify the Participant who has registered the Unit. The Participant shall apply to change the relevant details under paragraph B.7.6.19.

B.7.7 **Transmission Loss Adjustment Factors**

B.7.7.1 On the registration of any new Generator Unit (other than a Demand Side Unit), the relevant System Operator shall provide to the Market Operator, in accordance with Appendix K "Other Market Data Transactions" and subject to the prior approval of the Regulatory Authorities, a set of Combined Loss Adjustment Factors for that Generator Unit for each Imbalance Settlement Period from the start of the Effective Date to the end of the Year.

B.7.7.2 On the registration of any new Generator Unit (other than a Demand Side Unit) that is Distribution Connected, the relevant Distribution System Operator shall provide the relevant System Operator with a set of Distribution Loss Adjustment Factors for that Generator Unit for each Imbalance Settlement Period from the start of the Effective Date to the end of the Year.

B.7.7.3 For each Generator Unit (other than a Demand Side Unit) that is Transmission Connected, the Distribution Loss Adjustment Factor used in the calculation of the Combined Loss Adjustment Factor for each Imbalance Settlement Period shall be set to 1 by the relevant System Operator.

B.7.7.4 For each Generator Unit (other than a Demand Side Unit) that is Distribution Connected, the relevant System Operator shall set the Distribution Loss Adjustment Factor, used in the calculation of the Combined Loss Adjustment Factor equal to 1 for

all Imbalance Settlement Periods where the Distribution System Operator provides the Metered Generation data.

B.7.7.5   For each Generator Unit (other than a Demand Side Unit) that is Distribution Connected, the relevant System Operator shall set the Distribution Loss Adjustment Factor used in the calculation of the Combined Loss Adjustment Factor equal to the corresponding value provided by the Distribution System Operator, for all Imbalance Settlement Periods where the System Operator, in its role as Meter Data Provider, provides the Metered Generation data.

B.7.7.6   On the registration of any new Distribution Connected Generator Unit (other than a Demand Side Unit), the relevant System Operator shall provide the Market Operator with a set of Combined Loss Adjustment Factors in accordance with Appendix K "Other Market Data Transactions" for that Generator Unit for each Imbalance Settlement Period from the start of the Effective Date to the end of the Year.

B.7.7.7   In the event of a change of Meter Data Provider for a Generator Unit that is Distribution Connected, the relevant System Operator shall recalculate and provide the Market Operator with a revised set of Combined Loss Adjustment Factors for that Generator Unit for each Imbalance Settlement Period from the date at which the new Meter Data Provider becomes effective to the end of the Year.

B.8   SEM NEMOS AND SHIPPING AGENTS

B.8.1   SEM NEMOs

B.8.1.1   Participation by Units registered in the SEM in the day-ahead and intraday markets must be through a NEMO that:

(a)   has been designated by the Regulatory Authorities in accordance with Article 4 of the EU Guideline on Capacity Allocation and Congestion Management; or

(b)   has been designated by the regulatory authority of another EU Member State and is permitted to offer such trading services in Ireland and Northern Ireland under Article 4 of the EU Guideline on Capacity Allocation and Congestion Management,

and in either case is a Party to this Code (each a "**SEM NEMO**").

B.8.1.2   A SEM NEMO shall:

(a)   accede to and remain a party to the Framework Agreement and thereby become and remain a Party to this Code;

(b)   comply with the requirements of this Code;

(c)   fulfil the role of a Scheduling Agent as defined in the EU Guideline on Electricity Transmission System Operation and perform the tasks as set out in Article 111 of that Guideline and section F2.2;

(d)   register an Assetless Unit with the Market Operator for the purposes of the calculation of payments and charges relating to quantities determined under paragraph F.5.2.10;

(e)   register an Assetless Unit with the Market Operator to account for imports to and exports from the SEM NEMO's Market Area; and

(f)   comply with the requirements of Chapter G (Financial and Settlement) with respect to Credit Cover Requirements and other financial settlement obligations.

B.8.1.3   A Participant shall notify the Market Operator of any change with respect to the SEM NEMO(s) through which it intends to participate in a day-ahead or intraday market in respect of a Unit prior to the change taking effect.

B.8.1.4   Where:

(a)   a SEM NEMO delegates to any person ("**Delegate**") any of its tasks under the EU Guideline on Capacity Allocation and Congestion Management; and

(b)   one or more of the SEM NEMO's obligations under paragraphs B.8.1.2(c) to (f) relates to the task which has been delegated ("**Related Obligation**"),

then:

(c)   the SEM NEMO shall procure that the Delegate accedes to the Framework Agreement and thereby becomes a Party to this Code;

(d)   the Delegate shall perform the Related Obligation; and

(e)   the SEM NEMO is relieved of the Related Obligation to the extent that the Delegate performs it.

B.8.2   **Scheduling Agent of a Shipping Agent**

B.8.2.1   A Party shall be appointed to perform the role of the Scheduling Agent of the Shipping Agent in respect of each Interconnector in accordance with the requirements of the EU Guideline on Electricity Transmission System Operation.

B.8.2.2   The Scheduling Agent of the Shipping Agent in respect of each Interconnector shall submit the information contemplated by paragraph F.2.2.7 in accordance with that paragraph.

B.8.2.3   The Shipping Agent in respect of an Interconnector shall register an Assetless Unit in respect of that Interconnector to facilitate the notification of cross border positions on the Interconnector.

B.9   REGISTRATION OF TRADING SITE

B.9.1   **General**

B.9.1.1   Any Party (or Applicant, as applicable) registering a Generator Unit shall register such Generator Unit as part of a Trading Site except as expressly provided for in paragraph B.9.1.3.

B.9.1.2   Each Trading Site shall include at least one Generator Unit and may include a single Trading Site Supplier Unit which must contain all of the Demand for the Trading Site and only the Demand within the same Trading Site. Except as provided for in section B.9.2, each Trading Site shall include all Generator Units on the Generation Site.

B.9.1.3   The following kinds of Generator Unit shall not be registered as part of a Trading Site:

(a)   a Pumped Storage Unit or Battery Storage Unit;

(b)   an Aggregated Generator Unit, where the Trading Site contains a Trading Site Supplier Unit;

(c)   an Assetless Unit.

B.9.1.4   All Units within a registered Trading Site must be registered to the same Participant.

B.9.1.5   If a Party (or Applicant as applicable) registering a Trading Site does not register a Trading Site Supplier Unit to that Trading Site, then on the first registration of a Generator Unit to that Trading Site, the Party (or Applicant as applicable) registering the Generator Unit shall notify the Market Operator of the identity of the Participant that shall register an Associated Supplier Unit to the Trading Site. The Participant shall register the Associated Supplier Unit in accordance with Agreed Procedure 1 "Registration".

B.9.1.6   An Associated Supplier Unit may be registered to a different Participant than the Participant registering the other Units in the Trading Site.

B.9.1.7   An Associated Supplier Unit may contain Demand outside of the Trading Site.

B.9.1.8   No Supplier Unit can be both:

(a)   an Associated Supplier Unit; and

(b)   a Trading Site Supplier Unit.

B.9.1.9   For each Aggregated Generator Unit, a Party (or Applicant as applicable) shall register an Associated Supplier Unit to the Trading Site in accordance with paragraph B.9.1.6.

B.9.2   Differences Between Trading Sites and Generation Sites

B.9.2.1   Where there is more than one Meter Point Registration Number or more than one Generator Unit at a Generation Site, the Generation Site may be registered as more than one Trading Site, each such Trading Site having either one Trading Site Supplier Unit registered by the same Participant which registers the Generator Unit, or one Associated Supplier Unit recorded to the Trading Site.

B.9.2.2   Where there is more than one Meter Point Registration Number at a Generation Site, the Generation Site may be registered as a single Trading Site which excludes one or more of the Meter Point Registration Numbers from that Trading Site's Trading Site Supplier Unit or recorded Associated Supplier Unit as appropriate, so long as those excluded Meter Point Registration Numbers do not represent Export Points and the excluded Meter Point Registration Numbers are included in another Supplier Unit or Supplier Units.

B.9.2.3   Where there is only one Meter Point Registration Number and more than one Generator Unit at a Generation Site, and the Generation Site is, as permitted under paragraph B.9.2.1, registered as more than one Trading Site, the Meter Point Registration Number will be attributable to only one such Trading Site, by the Trading Site Supplier Unit or the Associated Supplier Unit for that Trading Site and including the Demand related to the Generation Site Meter Point Registration Number. Each other Trading Site Supplier Unit and Associated Supplier Unit registered or recorded to a Trading Site within the same Generation Site shall contain no Demand related to that Trading Site.

B.9.3   Generator Unit with Non-Firm Access

B.9.3.1   A Generator Unit has Non-Firm Access where it operates under a Connection Agreement which provides for a Firm Access Quantity which is less than the

Maximum Export Capacity of the relevant site. As part of the registration process for such Generator Units, the Firm Access Quantity of Trading Site, s, for each Trading Day, t, ($qFAQ_{st}$) shall be validated by the relevant System Operator and recorded in accordance with Appendix H "Data Requirements for Registration". No Demand Side Unit or Dual Rated Generator Unit shall be deemed to have Non-Firm Access. A Participant shall advise the Market Operator of any changes to the Firm Access Quantity of the Trading Site and this change shall be validated by the relevant System Operator.

B.9.3.2　Where a Generation Site is, as permitted under paragraph B.9.2.1, registered as more than one Trading site, and the Generation Site under the Connection Agreement has Non-Firm Access, the relevant Participant shall record a value of Firm Access Quantity for each such Trading Site in such a way that the Firm Access Quantities recorded for all such Trading Sites together sum to the Firm Access Quantity set out in the Connection Agreement of the Generation Site.

B.9.4　Autoproducer Sites

B.9.4.1　The Units which form part of an Autoproducer Site are eligible to be registered as part of a Trading Site in accordance with this section B.9.

B.9.4.2　If all of the Generator Units which form part of an Autoproducer Site are not Controllable and not Dispatchable, those Generator Units may be registered as a single Generator Unit as part of a Trading Site with an Associated Supplier Unit.

B.9.4.3　Unless all of the Generator Units which form part of an Autoproducer Site are not Controllable and not Dispatchable, each Autoproducer Site must have separate metering for its import energy quantity and export energy quantity. A Party must register Generator Units and Supplier Units separately for the purposes of a Trading Site.

B.9.4.4　A Participant registering Generator Units which form part of an Autoproducer Site may also register a separate Trading Unit to facilitate participation in the day-ahead and intraday markets as a single Unit.

B.9.5　Demand Side Units and Demand Sites

B.9.5.1　Subject to paragraph B.9.5.3, a Party may register a Demand Side Unit associated with a Demand Site or Demand Sites.

B.9.5.2　Subject to the terms of the Grid Code, a single Demand Side Unit may be associated with a number of Demand Sites provided that those Demand Sites are within the same Currency Zone and that each Demand Site contributes no greater than 10MW to the Demand Side Unit MW Capacity. The combined Demand Side Unit shall for all purposes under the Code be treated as a single Demand Side Unit.

B.9.5.3　Any Demand Site associated with a Demand Side Unit must meet and continue to meet all of the following criteria:

(a)　the Demand Site shall house a final customer or consumer;

(b)　the Demand Site shall have the technical and operational capability to deliver Demand Reduction in response to Dispatch Instructions from the relevant System Operator in accordance with the relevant Grid Code or Distribution Code;

(c)   the Demand Site shall have appropriate equipment to permit real-time monitoring of delivery by the relevant System Operator; and

(d)   the Demand Site shall have a Maximum Import Capacity and shall not have a Maximum Export Capacity greater than the De Minimis Threshold.

B.9.5.4   For each Demand Side Unit, a Party (or Applicant as applicable) shall register as part of a single Trading Site in accordance with this section B.9:

(a)   the Demand Side Unit;

(b)   a single Supplier Unit which is a Trading Site Supplier Unit; and

(c)   no other Unit.

B.10   REGISTRATION OF AN INTERCONNECTOR AND INTERCONNECTOR UNITS

B.10.1   Registration

B.10.1.1   The Party (or an Applicant, as applicable) that owns or legally controls under contract or at law an Interconnector, may register the Interconnector in accordance with the procedure for registration of Units (as if references to Units were references to an Interconnector) subject to the additional requirements set out below. The Party registering the Interconnector shall be treated as the Interconnector Owner for the purposes of the Code.

B.10.1.2   There shall be an Interconnector Administrator for each Interconnector, who may be either the Interconnector Owner or another Party nominated by the Interconnector Owner.

B.10.1.3   The rights and obligations of the Interconnector Administrator under this Code are rights and obligations of the Interconnector Owner. Where an Interconnector Owner appoints another person as the Interconnector Administrator:

(a)   the Interconnector Owner shall ensure that the Interconnector Administrator carries out its functions under this Code; and

(b)   the acts and omissions of the Interconnector Administrator in that capacity are taken to be those of the Interconnector Owner.

B.10.1.4   On registration of an Interconnector, the Interconnector Administrator in respect of the relevant Interconnector, shall register in that capacity in accordance with the procedure for the registration of Units (as if references to Units were references to the Interconnector) subject to paragraph B.10.1.6.

B.10.1.5   The Interconnector Owner applying to register an Interconnector shall provide the Interconnector Registration Data in its Participation Notice.

B.10.1.6   Notwithstanding paragraph B.7.2.1, the Interconnector Registration Data for an Interconnector shall comprise:

(a)   the Aggregate Import Capacity;

(b)   the Aggregate Export Capacity;

(c)   the Aggregate Interconnector Ramp Rate, which must be a number greater than zero;

(d)   the Minimum Interconnector Import Level;

(e)   the Minimum Interconnector Export Level;

(f)   the identity of the person nominated to register as Interconnector Administrator;

(g)   the identity of the person nominated to register as Participant in respect of the Interconnector Error Unit associated with the Interconnector;

(h)   the proposed date from which it is intended that the Interconnector be registered, which date shall be no earlier than 20 Working Days from the date the Participation Notice is sent to the Market Operator;

(i)   whether the Interconnector concerned is registered under the Capacity Market Code or is intended to be registered under that code;

(j)   evidence of compliance with metering requirements;

(k)   evidence that all necessary Connection Agreements are in place, valid and effective;

(l)   evidence that all necessary Use of System Agreements are in place, valid and effective;

(m)   such other Registration Data as are required by the Market Operator pursuant to Appendix H "Data Requirements for Registration" and Agreed Procedure 1 "Registration"; and

(n)   whether or not the Interconnector is capable of being dispatched at zero and this shall be submitted only through a Type 1 Channel,

and, to the extent the Interconnector Owner has not already provided it to the Market Operator, the following information in relation to the Participant to which the Unit is to be registered:

(o)   the name, address and contact details (including email and facsimile) of the Party (or Applicant, as applicable) to which the Interconnector is to be registered;

(p)   evidence that the Party holds a valid Licence as applicable (including an authorisation or exemption) for the activities that it is proposing to undertake in respect of the Interconnector; and

(q)   the identity of any other Party which is an Affiliate of that Party.

B.10.1.7   A Party (or Applicant, as applicable) shall also, in a Participation Notice in respect of an Interconnector, specify if the Interconnector is or is intended to be a Capacity Market Unit.

B.10.1.8   After initial registration by the Interconnector Owner, the Interconnector Owner shall be responsible for maintaining the Interconnector Registration Data. The Interconnector Owner may in addition procure that the Interconnector Administrator may maintain those elements of Interconnector Registration Data which are defined as Interconnector Technical Data, and the Market Operator shall facilitate this.

B.10.1.9   A Party (or an Applicant, as applicable) who is nominated to register as Interconnector Administrator as part of the Interconnector Registration Data may register as Interconnector Administrator in accordance with the procedure for registration of Units (as if references to Units were references to the Interconnector Administrator), subject to the requirements set out in this paragraph. Notwithstanding

anything in paragraph B.7.2.1, the information to be provided by a Party (or an Applicant, as applicable) applying to register as Interconnector Administrator shall comprise:

(a)   the Interconnector to which the Participation Notice relates;

(b)   the name, address and contact details (including email and facsimile) of the Party (or Applicant, as applicable);

(c)   the proposed date on which the Party (or Applicant, as applicable) intends to commence acting as Interconnector Administrator, which date shall be no earlier than 20 Working Days from the date the Participation Notice is sent to the Market Operator;

(d)   the Communication Channels which the Participant designates pursuant to paragraph C.2.1.2 for use in respect of the Interconnector; and

(e)   such other Registration Data as are required by the Market Operator pursuant to Appendix H "Data Requirements for Registration" and Agreed Procedure 1 "Registration".

B.10.1.10 No Party shall use an Interconnector to import energy to the Jurisdictions or export energy from the Jurisdictions unless and until the Market Operator has published a notification, in accordance with Appendix E "Data Publication", that:

(a)   the Interconnector is registered;

(b)   an Interconnector Administrator is registered in respect of the relevant Interconnector; and

(c)   the Participant in respect of the Interconnector Error Unit associated with the relevant Interconnector is registered.

B.10.1.11 No Party, other than the relevant Interconnector Owner, shall be entitled to voluntarily deregister an Interconnector.

B.10.1.12 In relation to any Interconnector, the Interconnector Owner shall provide the Market Operator with notice of its intention to withdraw or terminate the appointment of the Interconnector Administrator and such withdrawal or termination shall not take effect unless and until another Party has been appointed by the Interconnector Owner to register as Interconnector Administrator and has so registered pursuant to paragraph B.10.1.14, or the Interconnector Owner has Deregistered the Interconnector in accordance with the Code.

B.10.1.13 Notwithstanding paragraph B.12.1.3, in relation to any Interconnector, the Interconnector Administrator shall be required to give the Market Operator 60 days' notice of its intention to Deregister as Interconnector Administrator and such Deregistration shall not take effect unless and until another Party has been appointed by the Interconnector Owner to register as Interconnector Administrator and has so registered in accordance with paragraph B.10.1.14, or the Interconnector Owner has Deregistered the Interconnector in accordance with the Code.

B.10.1.14 Once the Market Operator has received a notice from an Interconnector Owner or an Interconnector Administrator in accordance with paragraph B.10.1.12 or B.10.1.13, the Market Operator shall accept a Participation Notice from a Party (or Applicant, as applicable) which has been authorised by the Market Operator to act as the new Interconnector Administrator and Deregistration of the existing Interconnector Administrator shall not take effect until registration of the new Interconnector

Administrator is complete and effective in accordance with section B.7 subject to paragraph B.10.1.9.

B.10.1.15 Where the Interconnector Administrator is, in relation to the Interconnector, Suspended or Terminated under the Code or otherwise ceases to participate in respect of the Interconnector and the Interconnector Administrator is not the System Operator for the Jurisdiction in which the Interconnector is connected, then the System Operator for the Jurisdiction in which the relevant Interconnector is connected shall temporarily assume the responsibilities of the Interconnector Administrator under the Code for a maximum of 2 months from the date of such Suspension, Termination or cessation (in this section referred to as "**the Interconnector Administrator Grace Period**") or such longer period agreed by the relevant System Operator and the previous Interconnector Administrator shall co-operate with the System Operator's requirements in this regard.

B.10.1.16 If the Interconnector Administrator has not resumed participating in accordance with the Code and a new Interconnector Administrator is not registered during the Interconnector Administrator Grace Period (if any), the Market Operator shall Suspend the Participant in respect of the Interconnector from the expiry of the Interconnector Administrator Grace Period or if none, from the date of such Suspension, Deregistration, Termination or cessation of the Interconnector Administrator and shall issue an appropriate Suspension Order. No Party shall use the Interconnector to import energy to the SEM, or export energy from the SEM, until such time as a new Interconnector Administrator is registered.

B.10.2 **Interconnector Residual Capacity Unit and SO Interconnector Trades**

B.10.2.1 A System Operator shall be entitled under the terms of the Code to make SO Interconnector Trades.

B.10.2.2 For each Interconnector, there shall be an Interconnector Residual Capacity Unit to reflect in Settlement SO Interconnector Trades made by the System Operator for the Jurisdiction in which the Interconnector is connected.

B.10.2.3 For each Interconnector, the System Operator for the Jurisdiction in which the Interconnector is connected shall register the Interconnector Residual Capacity Unit in accordance with the procedure for registration of Units set out in section B.7, subject to the paragraphs below.

B.10.2.4 Notwithstanding anything in paragraph B.7.2.1, the information to be provided in a Participation Notice by a Party (or Applicant, as applicable) applying to register the Interconnector Residual Capacity Unit shall comprise:

(a)   the Interconnector to which the Participation Notice relates;

(b)   the Currency Zone of the Unit;

(c)   the proposed date on which the Party (or Applicant, as applicable) intends to commence acting as Participant in respect of the Interconnector Residual Capacity Unit, which date shall be no earlier than 20 Working Days from the date the Participation Notice is sent to the Market Operator;

(d)   the Communication Channels which the Participant designates pursuant to paragraph C.2.1.2; and

(e) such other Registration Data as are required by the Market Operator pursuant to Appendix H "Data Requirements for Registration" and Agreed Procedure 1 "Registration",

and, to the extent the Party (or Applicant, as applicable) has not already provided it to the Market Operator, the following information in relation to the Participant to which the Unit is to be registered:

(f) the name, address and contact details (including email and facsimile) of the Participant to which the Unit is to be registered;

(g) the billing address of the Participant;

(h) VAT details for all relevant Jurisdictions; and

(i) full details of the bank account to which amounts payable by the Market Operator to that Participant shall be paid.

B.10.2.5 An Interconnector Residual Capacity Unit may not form part of any Trading Site.

B.10.2.6 An Interconnector Residual Capacity Unit shall not have a Maximum Export Capacity.

B.10.2.7 A System Operator shall not conduct any SO Interconnector Trades in respect of an Imbalance Settlement Period before it calculates the Final Physical Notification Quantity ($qFPN_{Iy}(t)$) of the Interconnector for the relevant Imbalance Settlement Period.

B.10.3 **Interconnector Error Unit**

B.10.3.1 For each Interconnector, there shall be an Interconnector Error Unit. The Interconnector Owner through submission of appropriate Interconnector Registration Data, shall procure that the Interconnector Error Unit is registered to the relevant Interconnector Administrator in accordance with the procedure for registration of Units set out in section B.7, subject to the requirements in the paragraphs below.

B.10.3.2 Notwithstanding anything in paragraph B.7.2.1, the information to be provided in a Participation Notice by a Party (or Applicant, as applicable) applying to register an Interconnector Error Unit shall comprise:

(a) the Interconnector to which the Participation Notice relates;

(b) the Currency Zone of the Unit;

(c) the proposed date on which the Party (or Applicant, as applicable) intends to commence acting as Participant in respect of the Interconnector Error Unit, which date shall be no earlier than 20 Working Days from the date the Participation Notice is sent to the Market Operator;

(d) the Communication Channels which the Participant designates pursuant to paragraph C.2.1.2; and

(e) such other Registration Data as are required by the Market Operator pursuant to Appendix H "Data Requirements for Registration" and Agreed Procedure 1 "Registration",

and, to the extent it has not already provided to the Market Operator the following information in relation to the Participant to which the Unit is to be registered:

(f) the name, address and contact details (including email and facsimile) of the Participant to which the Unit is to be registered;

(g)   the billing address of the Participant;

(h)   VAT details for all relevant Jurisdictions; and

(i)   full details of the bank account to which amounts payable by the Market Operator to that Participant shall be paid.

B.10.3.3   In relation to any Interconnector, the Interconnector Owner shall provide the Market Operator with notice of its intention to withdraw or terminate the appointment of the Participant in respect of the Interconnector Error Unit and such withdrawal or termination shall not take effect unless and until another Party has been appointed by the Interconnector Owner to register the Interconnector Error Unit and has so registered in accordance with this section B.10.3, or the Interconnector Owner has Deregistered the Interconnector in accordance with the Code.

B.10.3.4   Notwithstanding section B.12, in relation to any Interconnector, the Participant in respect of the Interconnector Error Unit shall be required to give the Market Operator 60 days' notice of its intention to Deregister the Interconnector Error Unit and such Deregistration shall not take effect unless and until another Party has been appointed by the Interconnector Owner to register the Interconnector Error Unit and has so registered pursuant to this paragraph B.10.3, or the Interconnector Owner has Deregistered the Interconnector in accordance with the Code.

B.10.3.5   Once the Market Operator has received notice from an Interconnector Owner or an Interconnector Administrator in accordance with paragraph B.10.3.3 or B.10.3.4, the Market Operator shall accept a Participation Notice from a Party (or Applicant, as applicable) who has been authorised by the Market Operator to act as the new Participant in respect of the Interconnector Error Unit and Deregistration of the Interconnector Error Unit from the existing Participant shall not take effect until registration of the Interconnector Error Unit to the new Participant is complete and effective in accordance with section B.7 subject to paragraphs B.10.3.2 and B.10.3.6.

B.10.3.6   An Interconnector Error Unit may not form part of any Trading Site.

B.10.3.7   An Interconnector Error Unit shall not have a Maximum Export Capacity.

B.10.3.8   Where the Participant in respect of an Interconnector Error Unit is Suspended or Deregistered (in relation to the Interconnector Error Unit) or Terminated under the Code or otherwise ceases to participate in respect of the Interconnector Error Unit and the Participant in respect of the Interconnector Error Unit is not the System Operator for the Jurisdiction in which the relevant Interconnector is located, then the System Operator for the Currency Zone in which that Unit is registered shall temporarily assume the responsibilities of the Participant in respect of the Interconnector Error Unit for a maximum of 2 months from the date of such Suspension, Deregistration, Termination or cessation (the "Interconnector Error Unit Grace Period") and the previous Participant in respect of the Interconnector Error Unit shall co-operate with the System Operator's requirements in this regard.

B.10.3.9   If the Participant in respect of the Interconnector Error Unit has not resumed participating in accordance with the Code and a new Participant in respect of the Interconnector Error Unit is not registered during the Interconnector Error Unit Grace Period (if any) and the Interconnector Administrator declines or is unable to be the Participant in respect of the Interconnector Error Unit, the Market Operator shall Suspend the Interconnector as and from the expiry of the Interconnector Error Unit Grace Period, or if none, from the date of such suspension, Deregistration,

Termination or cessation of the Participant in respect of the Interconnector Error Unit, and shall issue an appropriate Suspension Order. No Party shall use the Interconnector to import energy to the Jurisdictions, or export energy from the Jurisdictions until such time as a new Participant is registered in respect of the Interconnector Error Unit.

B.11 INTERMEDIARIES

B.11.1.1 A Party (or an Applicant, as applicable) may, as an Intermediary, register a Generator, which is owned or controlled by a third party (the Unit Owner), as a Generator Unit under the Code in accordance with this section B.11.

B.11.1.2 The Intermediary must be a Party to the Code provided that an Applicant may submit an application to register Units as an Intermediary prior to becoming a Party except that registration of Generator Units shall not take effect until the Applicant has become a Party. For the purposes of the appointment of an Intermediary under the Code, the person appointing the Intermediary is not required to be a Party to the Code.

B.11.1.3 An Intermediary may register any Generator Units in accordance with the registration procedure in section B.7 provided that:

(a)   the Regulatory Authorities have consented to the registration of the relevant Generator Units by the Intermediary; and

(b)   the Intermediary has submitted a Form of Authority to the Market Operator, executed by the Intermediary and the Unit Owner.

B.11.1.4 The Intermediary shall, for the purposes of the Code, be the Participant for any Generator Units registered in respect of the Intermediary in accordance with the Code unless and until its authority under the Form of Authority has expired or been revoked.

B.11.1.5 The Form of Authority shall provide for a time period for which the Intermediary may participate in respect of the relevant Generator Units. Such a time period shall not exceed the time period given in the Regulatory Authorities' consent pursuant to paragraph B.11.1.3(a).

B.11.1.6 The Market Operator shall Deregister any Generator Units registered to an Intermediary automatically on expiry of the Intermediary's authority under the Form of Authority.

B.11.1.7 An Intermediary shall, in respect of any Generator Units registered to it as Intermediary, notify the Market Operator as soon as reasonably practicable on receipt of notice from the Unit Owner of its intention to revoke the Intermediary's authority, that its authority is being revoked and the effective date or proposed effective date of such revocation.

B.11.1.8 If the Market Operator receives notice from the Intermediary that the Intermediary's authority to act in respect of any Unit has been or will be revoked in accordance with applicable Legal Requirements, or otherwise, on a particular date, the Market Operator shall Deregister the relevant Units on the date of revocation of the Intermediary's authority, or where notice is received following any such revocation, shall immediately on receipt of such notice, Deregister the relevant Generator Units with effect from the next Trading Day.

B.11.1.9 During the 60 day period immediately prior to the expiry of an Intermediary's authority in respect of any Unit under the Form of Authority, or, where the Market Operator has been notified in advance of the proposed revocation of an Intermediary's authority in respect of any Generator Unit in accordance with paragraph B.11.1.8, then at any time following such notification, the Market Operator shall accept a Participation Notice for the registration of the relevant Unit to a new Participant prior to Deregistration of the Units from the Intermediary, provided that any new registration shall be subject to the provisions of section B.7 and shall not have an Effective Date prior to the Deregistration of the Units from the Intermediary.

B.12 DEREGISTRATION OF UNITS

B.12.1.1 A Party may apply at any time to Deregister any Units registered in its name, that are not the Interconnector Residual Capacity Unit, Interconnector Error Unit or any Unit registered in accordance with section B.8, pursuant to this paragraph and Agreed Procedure 1 "Registration". A Party shall notify the Market Operator and the Regulatory Authorities of its intention to deregister any Units at least 60 days in advance of its intended date of Deregistration, using the appropriate form for Deregistration set out in Agreed Procedure 18 "Suspension and Termination".

B.12.1.2 Where the Party applying for Deregistration complies with the procedures set out in Agreed Procedure 18 "Suspension and Termination", the Market Operator shall issue a Deregistration Consent Order, permitting the Deregistration of the relevant Units provided that:

(a)   all amounts due and payable by the relevant Party pursuant to the Code in respect of the relevant Unit(s) and participation in the SEM up to and including the date of termination have been paid in full;

(b)   the Market Operator is satisfied that the Party has no continuing obligations under the Capacity Market Code in respect of the Unit;

(c)   in the case of Deregistration of Supplier Unit(s), the provisions of the applicable Metering Code have been complied with; and

(d)   in the case of Deregistration of Generator Unit(s), any relevant provisions of the applicable Grid Code have been complied with.

B.12.1.3 The Market Operator shall specify in each Deregistration Consent Order the Credit Cover which the relevant Party is required, in accordance with paragraphs G.9.1.12(d) and G.9.1.12(e), to maintain in respect of any Units being Deregistered pursuant to the Deregistration Consent Order.

B.12.1.4 Where the Market Operator has received a notice that a Participant wishes to Deregister a Unit in accordance with paragraph B.12.1.1, the Market Operator shall, during the notice period provided for in that paragraph, accept a Participation Notice from a Party (or Applicant, as applicable) to become the new Participant in respect of that Unit and any such new registration shall be subject to the requirements of sections B.7 to B.9.

B.12.1.5 The Market Operator shall Deregister any Generator Unit that is an Aggregated Generator Unit where that Unit comprises less than two Generators.

B.13   MARKET OPERATOR

B.13.1.1   The Market Operator shall not unduly discriminate between any Parties in any capacity under the Code in exercising its rights and powers and performing its functions and obligations.

B.13.1.2   Save as provided for by law, Licence condition or under a Market Code:

(a)   no undertaking(s) licensed to be the Market Operator may participate in the Balancing Market as a Participant (including as an Intermediary); and

(b)   the Market Operator shall not be the counterparty or act as principal in any sale and purchase of electricity in any market in which the Market Operator has been appointed as market operator, including the Balancing Market.

B.13.1.3   The Market Operator may not assign any of its obligations, functions or powers under this Code to any person. The Market Operator may not, without the prior written consent of the Regulatory Authorities, enter into any agreement to subcontract or delegate any of its obligations, functions or powers under this Code where:

(a)   the relevant agreement, if it relates to the supply of goods or services, has a cumulative or aggregate value equal to or exceeding the then current threshold under Article 15 of the Utilities Directive applicable to contracts for supplies and services; or

(b)   the relevant agreement, if it relates to the performance of works, has a cumulative or aggregate value equal to or exceeding the then current threshold under Article 15 of the Utilities Directive applicable to contracts for works; or

(c)   the obligations, functions or powers in question are of material relevance to the role of the Market Operator and/or the proper functioning of the arrangements under this Code.

B.13.1.4   The Regulatory Authorities shall be entitled to direct a Modification to the Code to change the definition of Market Operator at any time and no other person shall be entitled to request such a Modification. The definition of Market Operator under this Code may not be amended save in accordance with this paragraph.

B.13.1.5   If at any time there is more than one person licensed to act as Market Operator, each of the persons licensed to act as Market Operator shall be jointly and severally liable in performing the role of licensed Market Operator under this Code.

B.13.1.6   Without prejudice to the obligations of Parties to comply with the Code, if at any time there is more than one person licensed to act as Market Operator then where any other Party owes an obligation or liability to the Market Operator, if that Party discharges that obligation or liability to either person comprising the Market Operator, then the Party shall be deemed to have discharged the obligation or liability to all persons comprising the Market Operator.

B.13.1.7   The Market Operator is authorised by all Parties to exercise and perform the rights, obligations and functions granted to it under the Code to the extent required under, and in accordance with, the Code.

B.13.1.8   The Market Operator shall make available to the Regulatory Authorities details of its disaster recovery plan to the extent that it relates to its functions and obligations

under the Code and it shall, to that extent, maintain and develop such disaster recovery plan.

B.14 OBLIGATIONS ON PARTIES

B.14.1.1 Each Party shall comply with the Code and the Framework Agreement in exercising its rights and powers and performing its functions and obligations under the Code.

B.14.1.2 Without prejudice to the generality of paragraph B.14.1.1, no Party shall, either directly or indirectly, on its own or in conjunction with any other Party or person, obstruct the proper functioning of the SEM in accordance with the Code.

B.14.1.3 Each Party agrees that the Market Operator shall have the right, as agent and trustee for and on behalf of each Party, to sue any other Party to recover any Shortfall or Unsecured Bad Debt under the Code.

B.14.1.4 Where the performance of any obligation arising under or in relation to this Code requires the prior approval or action by the Regulatory Authorities, such obligation shall be subject to such prior approval or action by the Regulatory Authorities.

B.14.1.5 Without prejudice to any other provision of the Code or the Framework Agreement, each Party:

(a) shall perform all its rights, functions and obligations under the Code with the degree of care and to the standard expected of a Prudent Industry Operator and in accordance with Prudent Electric Utility Practice;

(b) shall at all times comply with and maintain, and shall at all times procure compliance with and maintenance of, all consents, permissions, licences and Licences (and the conditions attaching to any exemptions) required to be obtained and maintained to participate in the SEM or to be a Party to the Code for each capacity in which it acts as a Party or Participant under the Code;

(c) shall pay all fees, levies, charges and other payments arising under the Code as they become due;

(d) shall ensure that, save as expressly permitted otherwise, any information or data it is required to submit to the Market Operator, Market Auditor or any other person, or to maintain, as required by virtue of being a Party or Participant, shall, to the best of its knowledge and belief, be true, valid, correct, complete and accurate at the time it is given and, save as expressly provided otherwise, while it is maintained and, where appropriate, it shall keep the Market Operator informed in a timely way of any mistakes or omissions in, and corrections or updates to any information or data which it has submitted to the Market Operator, the Market Auditor or any other person under the Code;

(e) shall ensure that any information or data it is required to submit to the Market Operator, Market Auditor or any person as required by virtue of being a Party or Participant will be submitted in a timely manner to enable the Market Operator, Market Auditor or such other person to perform their obligations and functions arising pursuant to the Code; and

(f) shall co-operate with and provide all reasonable assistance to the Market Operator on request for the purposes of the Market Operator performing its functions and obligations under the Code.

B.15 BALANCING MARKET OPERATIONS TIMETABLE

B.15.1.1 The Market Operator shall produce, maintain and publish a Balancing Market Operations Timetable under which the Balancing Market will operate in accordance with this Code and the Grid Code.

B.15.1.2 The Balancing Market Operations Timetable produced by the Market Operator under paragraph B.15.1.1 shall reflect required actions and publication of data and information, as specified under this Code and the Grid Code, including but not limited to the following:

(a) submission by Participants to the Market Operator or System Operator of Commercial Offer Data and Technical Offer Data including Default Data;

(b) submission by Participants to the Market Operator and System Operator of Physical Notifications;

(c) submission by Participants and/or publication by the Market Operator or System Operator of Availability, Demand and wind forecast data;

(d) publication by the Market Operator or System Operator of scheduling and dispatch outcomes;

(e) publication by the Market Operator of Imbalance Settlement Prices;

(f) timing of initial and final Settlement Statements and Settlement Documents;

(g) timing of Timetabled Settlement Reruns;

(h) timing for payments in accordance with Settlement Documents; and

(i) timing for Market Operator to issue Required Credit Cover Reports, and for Participants to post additional Credit Cover.

B.15.1.3 The Market Operator shall use its reasonable endeavours to maintain and publish updates to the Balancing Market Operations Timetable as required for consistency with any relevant Modification.

B.15.1.4 In the event of any inconsistency between the Balancing Market Operations Timetable and any provision of the Code or Grid Code, the provision of the Code or Grid Code will prevail.

B.16 MARKET AUDIT, CONSULTATION AND INFORMATION SHARING

B.16.1 Market Audit

B.16.1.1 The Regulatory Authorities will appoint a person or firm as Market Auditor every three years for a three year term, such appointment to take effect from the date specified by the Regulatory Authorities.

B.16.1.2 Where the appointment is terminated or the Market Auditor resigns before the expiry of the three year term, the Regulatory Authorities may appoint a person or firm to fulfil the role of Market Auditor on a temporary basis pending the appointment by the Regulatory Authorities of a person or firm as Market Auditor for a three year term. The three year term of the person or firm next so appointed as Market Auditor shall commence from their date of appointment.

B.16.1.3 The Market Auditor shall conduct an audit of the Code, its operation and implementation and the operations, trading arrangements, procedures and processes under the Code at least once a Year.

B.16.1.4 The annual period covered by the audit shall be 1 January to 31 December unless the terms of reference specify a different period.

B.16.1.5 The Regulatory Authorities shall consult with Parties on the terms of reference for the audit following the publication of the Audit Report for the previous year or audit period.

B.16.1.6 The Regulatory Authorities shall specify annually the precise terms of reference for the audit following the consultation process under paragraph B.16.1.5 and in sufficient time to enable the Market Auditor to complete the work in a timely manner and shall publish the terms of reference before the commencement of the audit activities.

B.16.1.7 The Market Auditor shall be of good repute with the appropriate experience to enable it to carry out the audit with the appropriate level of expertise, care, skill and diligence.

B.16.1.8 The Market Auditor, pursuant to these provisions and such terms of reference as the Regulatory Authorities shall specify, shall:

(a) report to the Regulatory Authorities at such reasonable intervals as the Regulatory Authorities shall specify in the terms of reference during the course of the audit;

(b) deliver its Audit Report to the Regulatory Authorities in draft form prior to it being finalised;

(c) deliver its Audit Report in final form to the Regulatory Authorities within 4 weeks of delivering its draft audit; and

(d) meet with the Regulatory Authorities at the request of the Regulatory Authorities at any time during the Market Auditor's engagement. The Regulatory Authorities will, in any event, require the Market Auditor to attend a meeting with it within 6 weeks of its delivery of the Audit Report in final form. Nominated representatives of the Market Operator and the Modifications Committee shall be entitled to attend such meeting.

B.16.1.9 Each Party shall provide without charge to the Market Auditor in a timely manner such information as is reasonably required by the Market Auditor to enable the Market Auditor to comply with its functions and obligations and terms of reference for the purposes of conducting the audit and preparing and finalising the Audit Report. This is subject to any obligations of confidentiality which the relevant Party claims are owed to any third parties which prevent disclosure of the information required. In such circumstances, the relevant Party shall be obliged to explain the nature of the obligations of confidentiality, the information to which they apply and to demonstrate to the satisfaction of the Regulatory Authorities that it has used its best endeavours to obtain a clearance from the third party to whom the obligation of confidentiality is owed to release the information required to the Market Auditor.

B.16.1.10 The Market Auditor shall be entitled to make recommendations in its Audit Report. The Regulatory Authorities may direct implementation of any recommendation of the Market Auditor and shall consult with the Market Operator and the Modifications Committee before so doing. Any recommendation which the Regulatory Authorities direct to implement by way of an amendment of the Code shall be deemed to be an approved Modification Proposal and shall be published accordingly by the Market Operator.

B.16.1.11 The Market Operator shall arrange for the publication of the Audit Report in final form in accordance with the provisions of the Code upon its delivery in accordance with paragraph B.16.1.8(c) subject to any confidentiality obligations under section B.29.

B.16.1.12 Each Party shall keep complete, accurate and up to date records whilst a Party to the Code and, where applicable, of its participation in the SEM for a minimum period of 3 years from the date of creation of such records.

B.16.1.13 The fees and costs of the Market Auditor shall be paid by the Market Operator.

B.16.2 Information Sharing

B.16.2.1 The Market Operator shall report to the Regulatory Authorities in writing on a monthly basis or at such other intervals as the Regulatory Authorities may reasonably request and in such manner and to such an extent as reasonably specified by the Regulatory Authorities. The Market Operator shall publish such reports. The reports shall set out in reasonable detail information about:

(a) the performance by the Market Operator of its rights, powers, functions and obligations under the Code; and

(b) factual information relating to the exercise of rights and the carrying out of functions by Parties under the Code.

B.16.2.2 Subject to Applicable Laws, each Party shall allow the Regulatory Authorities, on reasonable notice and at reasonable times, access to inspect and copy any records relating to the Party's obligations and functions under the Code and, where applicable, its participation in the SEM.

B.16.2.3 Subject to any confidentiality provisions under section B.29, where information is provided by any Party to the Market Auditor or the Market Operator pursuant to the Code, the Market Auditor and the Market Operator shall have the right, without charge, to use, make available, copy, adapt and deal with such data or other information for the purposes of exercising their rights and performing their powers, functions and obligations under the Code (and, in the case of the Market Auditor, its terms of reference) but for no other reason.

B.17 MODIFICATIONS

B.17.1 Objectives

B.17.1.1 Modifications shall be processed in accordance with this section B.17 and Agreed Procedure 12 "Modifications Committee Operation".

B.17.1.2 The objective of the Modifications Committee is to progress Modification Proposals with a view to better facilitating the achievement by the Code of the Code Objectives.

B.17.2 Functions of the Modifications Committee

B.17.2.1 The functions of the Modifications Committee are to:

(a) facilitate the Modifications Process by:

(i) co-ordinating the resources of Parties to facilitate the development and processing of a Modification Proposal;

(ii) assessing Modification Proposals and the impact of any Modification Proposals having regard to the Code Objectives;

> (iii) further developing Modification Proposals which are not rejected as being spurious;
>
> (iv) working up the detail of Modification Proposals;
>
> (v) consulting on Modification Proposals as required;
>
> (vi) compiling reports and making recommendations on Modification Proposals to the Regulatory Authorities;
>
> (vii) making any appropriate changes to Agreed Procedures; and

(b) provide views to the Market Operator in relation to plans for the pursuit of any Unsecured Bad Debt in accordance with paragraph G.2.7.9.

B.17.3 Constitution of the Modifications Committee and Voting Rules

B.17.3.1 The Modifications Committee shall consist of:

(a) one member appointed by the Commission and one member appointed by UREGNI;

(b) no more than 17 further members appointed as follows, such persons to include at all times:

> (i) at least three members nominated by or elected in respect of Generation Participants;
>
> (ii) at least three members nominated by or elected in respect of Supply Participants;
>
> (iii) one member appointed by the Market Operator;
>
> (iv) one member appointed by each of the System Operators;
>
> (v) one member appointed by each of the Meter Data Providers (to the extent not already represented);
>
> (vi) a member nominated by or elected in respect of Demand Side Participants; and
>
> (vii) a member nominated by or elected in respect of Assetless Participants.

B.17.3.2 A member elected or appointed to represent a particular type of party shall represent the interests of the type of party it is elected or appointed to represent.

B.17.3.3 Unless directed otherwise by the Regulatory Authorities and subject to paragraphs B.17.3.1(b) and B.17.3.5, there shall at all times be an equal number of persons nominated by or elected in respect of Generation Participants and persons nominated by or elected in respect of Supply Participants on the Modifications Committee.

B.17.3.4 If the Regulatory Authorities determine at any time that any particular type of party is not adequately represented on the Modifications Committee, the Regulatory Authorities may seek nominations from relevant persons and appoint a person from such nominations, or otherwise to represent that type of person. Such a person shall be a voting member of the Modifications Committee and shall be appointed for an initial term of two years. A member appointed in accordance with this paragraph shall not be deemed to be a representative of Generation Participants, Supply Participants, Demand Side Participants or Assetless Participants (as the case may be) for the purposes of paragraph B.17.3.1 or B.17.3.5.

B.17.3.5 The Regulatory Authorities may from time to time stipulate the minimum or maximum representation for Supply Participants, Generation Participants, Demand Side Participants or Assetless Participants.

B.17.3.6 Save as expressly provided otherwise, only members appointed or elected to represent Nominating Participants shall be entitled to vote at any Committee Meeting and those members shall have one vote each.

B.17.3.7 Save as expressly provided in paragraph B.17.21.1, those members who are appointed by, and to represent, the Commission, UREGNI, System Operators, Meter Data Providers and the Market Operator shall not have any vote.

B.17.3.8 The Market Operator shall make available to the Modifications Committee a fulltime Secretariat. None of the Secretariat's personnel shall be a member of the Modifications Committee.

B.17.3.9 The Market Operator shall be responsible for the performance by the Secretariat of its functions necessary for the proper functioning of the Modifications Process under the Code.

B.17.3.10 Agreed Procedure 12 "Modifications Committee Operation" sets out the rules for the Quorum of the Modifications Committee and the voting rules. No decision or recommendation of the Modifications Committee can be reached without a Quorum. Voting will be by simple majority, with the chairperson casting the deciding vote in the event of a tied vote.

B.17.4 **Chairperson**

B.17.4.1 The Modifications Committee shall have a chairperson and vice-chairperson who shall be elected from the voting members of the Modifications Committee by the voting members of the Modifications Committee. In the event of a tie for the election of the chairperson or vice-chairperson, a subsequent ballot or ballots shall take place until a chairperson and vice-chairperson are elected.

B.17.4.2 The term of appointment for the chairperson and the vice-chairperson shall be one year.

B.17.4.3 In the event that the chairperson cannot attend a meeting or chair a meeting for its entirety for any reason, the vice-chairperson shall take his or her place as the chairperson of the meeting.

B.17.4.4 In the event that the chairperson retires, resigns or is removed from the Modifications Committee, or otherwise becomes unavailable to act as chairperson of the Modifications Committee, the vice-chairperson shall take his or her place for the remainder of the term for which that person was appointed chairperson and a new vice-chairperson shall be elected from the voting members of the Modifications Committee by the voting members of the Modifications Committee.

B.17.4.5 The chairperson will chair meetings of the Modifications Committee and seek to ensure the efficient organisation and conduct of the functions of the Modifications Committee pursuant to the Code.

B.17.5 **Nomination of Participant Members**

B.17.5.1 Each Nominating Participant may put forward one nominee and an alternate for that nominee for appointment to the Modifications Committee at such times as may be notified by the then existing Modifications Committee.

B.17.6 Nominations of Other Members

B.17.6.1 The Commission, the UREGNI, the Market Operator, each of the System Operators and each of the Meter Data Providers shall each nominate one member and one alternate member for appointment to the Modifications Committee at such times as the then existing Modifications Committee may notify.

B.17.7 Appointment of Subsequent Members

B.17.7.1 On the termination of the appointment or the removal of any member of the Modifications Committee who is a nominee of any of the Market Operator, either System Operator or any Meter Data Provider, that person shall be replaced by a nominee of the relevant Party, who shall be automatically appointed to the Modifications Committee.

B.17.7.2 The Commission and the UREGNI shall be entitled to replace any member nominated by the Commission or the UREGNI (as representatives of the Commission and the UREGNI) at any time by giving notice to the Secretariat and with effect from the date specified in such notice.

B.17.7.3 At least 8 weeks prior to the expiry of any person's membership of the Modifications Committee, the existing Modifications Committee shall:

(a) where that person is a member appointed by the Commission, UREGNI, the Market Operator, a System Operator or a Meter Data Provider, notify the relevant party that is required to appoint a new member and new alternate member;

(b) where that person is a member appointed in respect of Generation Participants, Supply Participants, Demand Side Participants or Assetless Participants, request the Secretariat to arrange an election in accordance with paragraph B.17.7.4; and

(c) where that person is a member appointed by the Regulatory Authorities in accordance with paragraph B.17.3.4, inform the Regulatory Authorities of the pending expiry of the member's term.

B.17.7.4 Prior to the expiry of membership of any Nominating Participant member, or where a member is removed, resigns or retires from the Modifications Committee and the Modification Committee agrees that an election is required, the Secretariat shall arrange a Nominating Participant Election to fill that vacancy in accordance with such of the following steps as are necessary:

(a) relevant Nominating Participants shall be requested to propose new nominees and alternates for election;

(b) each Nominating Participant shall be entitled to vote to elect members from the Participant nominees in accordance with paragraphs B.17.7.5 to B.17.7.10;

(c) Nominating Supply Participants shall be entitled to vote to elect a member from the persons nominated by them;

(d) Nominating Generation Participants shall be entitled to vote to elect a member from the persons nominated by them;

(e) Nominating Demand Side Participants shall be entitled to vote to elect a member from the persons nominated by them;

(f)   Nominating Assetless Participants shall be entitled to vote to elect a member from the persons nominated by them

(g)   the number of nominees with the most votes from Supply Participants but not exceeding five nominees in number, shall be appointed to the Modifications Committee to replace any retiring, terminated or removed Supply Participant member;

(h)   the number of nominees with the most votes from Generation Participants, but not exceeding five nominees in number, shall be appointed to replace any retiring, terminated or removed Generation Participant member;

(i)   the number of nominees with the most votes from Demand Side Participants, but not exceeding one nominee in number, shall be appointed to replace any retiring, terminated or removed Demand Side Participant member;

(j)   the number of nominees with the most votes from Assetless Participants, but not exceeding one nominee in number, shall be appointed to replace any retiring, terminated or removed Assetless Participant member;

(k)   the constitution of the Modifications Committee shall, unless agreed otherwise by the Regulatory Authorities, continue to comply with section B.17.3; and

(l)   each member shall be appointed for a maximum term of two years, provided that, where an ad-hoc election has taken place to fill a vacancy, because a member has been removed, resigned or retired from the committee, the newly elected member shall be appointed in principle for a maximum term of two years, and this term will expire in accordance with the annual election date which is closest to the term expiry date.

B.17.7.5   Nominating Participant Elections shall take place, where practicable, not later than 4 weeks prior to the date of expiry of the membership of any one or more of the elected nominee(s) to replace such persons on the Modifications Committee.

B.17.7.6   In the event that a nominee of any Nominating Participant is elected, the person put forward as an alternate to that nominee shall automatically be deemed to be that person's alternate member.

B.17.7.7   The Modifications Committee may at any time stipulate that an outgoing member who is a nominee of Generation Participants, Supply Participants, Demand Side Participants or Assetless Participant must be replaced in any election with a nominee of Generation Participants, Supply Participants Demand Side Participants or Assetless Participant respectively in order to preserve the requisite constitution of the Modifications Committee in accordance with paragraph B.17.3.1 or as may be stipulated from time to time by the Regulatory Authorities pursuant to paragraph B.17.3.3 or B.17.3.5.

B.17.7.8   Members who have previously served on the Modifications Committee may be re-appointed or re-elected to the Modifications Committee provided that they have not at any time been removed from the Modifications Committee or otherwise ceased to be eligible in accordance with paragraph B.17.8.1.

B.17.7.9   If for any reason these procedures do not result in a sufficient number of Nominating Participant members, the Regulatory Authorities may appoint additional members.

B.17.7.10 Without prejudice to paragraph B.17.7.9, membership of the Modifications Committee shall automatically terminate at the end of a member's term unless such termination

would leave the Modifications Committee with fewer than 11 members, in which case the term of membership may be extended until a replacement member is appointed or elected to the Modifications Committee.

B.17.8 **Resignation and Removal of Members of the Modifications Committee**

B.17.8.1 Any member may be removed during his or her term by the majority decision of the Modifications Committee (subject to veto by the Regulatory Authorities) if that person:

(a) ceases to be in a position to represent those Supply Participants, Generation Participants, Demand Side Participants or Assetless Participants from which the member was nominated;

(b) becomes incapable of performing the functions of a member of the Modifications Committee;

(c) has been, or is, in the reasonable opinion of the majority of the other members of the Modifications Committee, engaged in conduct which is inconsistent with or detrimental to being a member of the Modifications Committee; or

(d) fails to discharge the obligations of a member of the Modifications Committee.

B.17.8.2 A member may resign by giving at least two weeks' notice, prior to the next scheduled Modifications Committee meeting, in writing to the Secretariat which shall convey the notice to the Modifications Committee.

B.17.9 **Alternate Members of the Modifications Committee**

B.17.9.1 An alternate member shall be appointed to the Modifications Committee only as provided for in the Code.

B.17.9.2 Should a member be removed, resign or retire from the Modifications Committee, the Modifications Committee may initiate relevant nominations and elections to replace the member in accordance with paragraphs B.17.7.4 to B.17.7.10. Meanwhile, the alternate member shall take the place of that member on the Modifications Committee for no longer than the remainder of that member's term.

B.17.9.3 In the circumstances set out in paragraph B.17.9.2, a new alternate member shall be appointed by the person who nominated the removed, resigning or retiring member.

B.17.9.4 If any member is unable to attend a Committee Meeting of the Modifications Committee, the alternate member shall be entitled to take the place of that member in that meeting and to vote at that Committee Meeting. Any change of alternate members shall be notified in writing to the Secretariat and to the Committee at least three Working Days in advance of the Committee Meeting. Such notification shall be issued by the relevant member.

B.17.10 **Meetings of the Modifications Committee**

B.17.10.1 The Modifications Committee shall have a Meeting at least once every 2 months.

B.17.10.2 The Modifications Committee, acting through the Secretariat, shall set the date of each Meeting and, where possible, shall publish such date at least two weeks in advance.

B.17.10.3 Any person may attend Meetings of the Modifications Committee in an observatory capacity where that person has informed the Secretariat to the Modifications Committee in advance and the Secretariat has confirmed that person's attendance in

accordance with Agreed Procedure 12 "Modifications Committee Operation". Where space is limited, and with the agreement of the chairperson of the Modifications Committee, attendance of non-members may be limited on a first come first served basis.

B.17.11   Costs of the Modifications Committee

B.17.11.1 The costs of the Secretariat, Meetings and all other costs of the Modifications Committee shall be included as costs and expenses of the Market Operator for the purposes of the Code.

B.17.11.2 Members of the Modifications Committee shall not be entitled to remuneration or expenses.

B.17.12   Proposal of Modifications to the Code

B.17.12.1 Modification Proposals to the Code can be proposed by any person including the Market Operator and the Regulatory Authorities. Any Modification Proposal shall be submitted to the Secretariat.

B.17.12.2 The Proposer or the Secretariat acting on behalf of the Proposer may, upon the agreement of the Modifications Committee, withdraw a Modification Proposal at any stage prior to the Modification Proposal receiving a Final Modification Recommendation by vote of the Modifications Committee.

B.17.12.3 Any Proposer shall ensure that their proposal is clear and substantiated with appropriate detail, including how it furthers the Code Objectives, to enable it to be considered by the Modifications Committee.

B.17.12.4 Each Modification Proposal submitted to the Secretariat shall include draft text of the relevant provision of the Code as amended by the Modification Proposal except where its omission can be substantiated in accordance with paragraph B.17.12.3.

B.17.13   Modification Recommendation Report Timeline

B.17.13.1 Save as expressly provided otherwise, the Modifications Committee shall produce a Final Recommendation Report in respect of each Modification Proposal.

B.17.13.2 The Final Recommendation Report shall be submitted to the Regulatory Authorities within 8 months of receipt of a Modification Proposal, or 6 months in the case of a RA Modification Proposal, unless such period is extended with the consent of the Regulatory Authorities.

B.17.14   Procedure for Developing Proposals

B.17.14.1 The Secretariat shall, as soon as practicable after receipt of a Modification Proposal, publish the relevant Modification Proposal.

B.17.14.2 A Modification Proposal shall be considered by the Modifications Committee at the next appropriate Meeting in accordance with Agreed Procedure 12 "Modifications Committee Operation".

B.17.14.3 The Proposer or its representative shall be entitled to present the Modification Proposal at the Committee Meeting at which it is to be initially considered.

B.17.14.4 At the Committee Meeting where it first considers a Modification Proposal, the Modifications Committee shall first determine whether the Modification Proposal is spurious in accordance with paragraph B.17.15.

B.17.14.5 At the Committee Meeting where it first considers a Modification Proposal, the Modifications Committee may decide that the Secretariat should prepare the procedure and timetable to be followed in making a recommendation in respect of such Modification Proposals.

B.17.14.6 The Modifications Committee may establish a Working Group to develop the detail of a Modification Proposal. At the conclusion of the Working Group a recommendation shall be provided to the Modifications Committee.

B.17.14.7 The Modifications Committee may decide to modify or combine Modification Proposals. Modified or combined Modification Proposals shall reference the original Modification Proposals.

B.17.14.8 The Modifications Committee may specifically invite appropriate persons, such as Participants, the Market Operator, the System Operators, industry groups, customer representatives or other persons to express their opinions on any Modification Proposal, including providing an impact analysis, in the manner provided for in Agreed Procedure 12 "Modifications Committee Operation".

B.17.14.9 Parties invited to assist the Modifications Committee under paragraph B.17.14.8 will make available reasonable resources to respond to such request by the Modifications Committee.

B.17.14.10 The Modifications Committee may hold a public consultation in relation to a Modification Proposal. Where there is a public consultation, a minimum consultation period of 10 Working Days from the date of publication of the relevant consultation paper shall be provided.

B.17.14.11 In working up the detail of a Modification Proposal, the Modifications Committee shall have due regard to comments and submissions received during the consultation process.

B.17.14.12 The Modifications Committee may contract consultants, experts or advisers at reasonable cost to advise the Modifications Committee regarding any Modification Proposal, including the preparation of an impact analysis report. Any reasonable costs incurred by the Modifications Committee in connection with this shall form part of the costs of the Secretariat.

B.17.15 **Spurious Proposals**

B.17.15.1 A Modification Proposal shall be deemed to be spurious if, inter alia, it is clearly contrary to the Code Objectives or does not further the Code Objectives. If the Modifications Committee reasonably considers a Modification Proposal to be spurious, it shall reject the Modification Proposal.

B.17.15.2 Any decision of the Modifications Committee under paragraph B.17.15.1 to reject a Modification Proposal must set out the reasons for the decision in writing and provide them to the person making the Modification Proposal and the Regulatory Authorities.

B.17.15.3 The Regulatory Authorities may veto any decision of the Modifications Committee that a proposal is spurious and in such event, the relevant Modification Proposal must be processed by the Modifications Committee in accordance with the Code.

B.17.16 **Urgent Modifications**

B.17.16.1 A Proposer may mark a Modification Proposal as "Urgent". A Proposer submitting a Modification Proposal marked "Urgent" shall submit the Modification Proposal to the Secretariat and to the Regulatory Authorities.

B.17.16.2 The Secretariat shall, as soon as possible on receipt of a Modification Proposal which is marked "Urgent", contact the Regulatory Authorities which shall determine whether or not it shall be treated as Urgent.

B.17.16.3 A Modification Proposal shall be determined to be Urgent by the Regulatory Authorities where, in their opinion:

(a) if not made, it can reasonably be anticipated that the event or circumstance with which the Modification Proposal is concerned would imminently:

(i) threaten or prejudice safety, security or reliability of supply of electricity; or

(ii) unduly interfere with, disrupt or threaten the operation of the SEM; or

(b) the Modification with which the Modification Proposal is concerned is required to correct:

(i) a material error or inconsistency in the Code;

(ii) a material inconsistency between the Code and another Market Code; or

(iii) a conflict between the provisions of the Code and one or more Legal Requirements.

B.17.16.4 If the Regulatory Authorities determine that a Modification Proposal is Urgent under paragraph B.17.16.3, the Modifications Committee shall convene an emergency Committee Meeting.

B.17.16.5 If the Secretariat or the Modifications Committee considers that any of the criteria in paragraph B.17.16.3 apply in respect of any Modification Proposal that has not been marked "Urgent" by the Proposer, the Secretariat shall promptly submit the Modification Proposal to the Regulatory Authorities for consideration in accordance with paragraph B.17.16.3 and B.17.16.4.

B.17.16.6 In the event that a Modification Proposal is deemed to be Urgent by the Regulatory Authorities under paragraph B.17.16.3, the Modifications Committee shall propose the procedure and timetable to be followed in making a recommendation in respect of the Urgent Modification which may fast-track the normal processes provided for in this Code. The Regulatory Authorities shall have the right to veto or direct amendments to the procedure and timetable proposed by the Modifications Committee within 2 Working Days of any such proposal by the Modifications Committee.

B.17.17 **Alternative Proposals**

B.17.17.1 If any person does not agree with a Modification Proposal to the Code, it may propose an alternative Modification Proposal, which if received in sufficient time to be considered within the Modifications Committee's plans for progressing the initial original Modification Proposal may be considered in conjunction with, or in substitution for, the initial Modification Proposal.

B.17.18 **Final Modification Recommendation and Report**

B.17.18.1 The Modifications Committee shall make the determination on the specific changes to the Code for the Final Modification Recommendation by majority vote of voting members of the Modifications Committee. The Modifications Committee shall send the Final Modification Recommendation as part of the Final Recommendation Report in relation to the Modification Proposal to the Regulatory Authorities as soon as practicable after the determination of the Modifications Committee.

B.17.18.2 The Modifications Committee shall recommend to the Regulatory Authorities the adoption of such Modification Proposals as it concludes will better facilitate achievement of the Code Objectives.

B.17.18.3 The Final Modification Recommendation of the Modifications Committee shall be part of the Final Recommendation Report which shall include:

(a) the determination of the Modifications Committee on whether or not the Modification Proposal should be adopted;

(b) the reasons for such determination;

(c) where the Modifications Committee is in favour of the proposal, a draft of the text of the proposed Modification;

(d) the original draft of the Modification Proposal;

(e) any dissenting opinions of members of the Modifications Committee;

(f) a copy of the Market Operator's opinion and each System Operator's opinion on the Modification;

(g) the views of any respondents submitted during the consultation process (including any views of persons invited to give opinions or consultants, experts or advisors contracted to provide advice pursuant to paragraphs B.17.14.8 and B.17.14.12 respectively);

(h) an assessment of the impact of the Modification Proposal including in relation to the Code, any Legal Requirements, any other codes relating to the operation of the SEM or which may impact on, or be affected by, the operation of the SEM (including any NEMO Rules, the Grid Codes and the Metering Codes) or any other relevant matter;

(i) an assessment, where the Modifications Committee deems appropriate, of any alternative Modification Proposal proposed by any person;

(j) a draft of the specific changes that it is proposed would be necessary to make to the Code if the Modification Proposal would be accepted;

(k) proposed timescales for implementation; and

(l) a cost/resource requirements assessment.

B.17.19 **No Recommendation or Decision by Modifications Committee**

B.17.19.1 In the event that the Modifications Committee is unable to make a determination in respect of a Modification Proposal within the timeframes set out in paragraph B.17.13.2 the matter shall be referred to the Regulatory Authorities. This referral shall detail the proposal and the information referred to in paragraphs B.17.18.3 (with the exception of sub-paragraphs (a), (b), (k) and (l)). In such event, the Regulatory

Authorities shall either make a binding decision in accordance with paragraph B.17.20.2, or shall extend the applicable time-limit for the Modifications Committee under paragraph B.17.13.2.

B.17.19.2 In the event that the Modifications Committee does not issue a determination in respect of a Modification Proposal within the timeframes set out in paragraph B.17.13.2 and does not refer the matter to the Regulatory Authorities under paragraph B.17.19.2, the Regulatory Authorities shall either make a binding decision in accordance with paragraph B.17.20.2, or shall extend the applicable time-limit for the Modifications Committee under paragraph B.17.13.2.

B.17.20 **Decision of the Regulatory Authorities**

B.17.20.1 Following receipt of a Final Recommendation Report from the Modifications Committee, the Regulatory Authorities shall decide whether to:

(a) direct a Modification in accordance or otherwise with the Final Modification Recommendation of the Modifications Committee;

(b) reject the Final Modification Recommendation of the Modifications Committee; or

(c) direct the Modifications Committee that further work is required in respect of the Modification Proposal concerned in the Final Recommendation Report, extending the applicable time-limit for the Modifications Committee under paragraph B.17.13.2, if necessary.

B.17.20.2 In the circumstances set out in paragraphs B.17.19.1or B.17.19.2, the Regulatory Authorities shall decide whether to direct a Modification in accordance with the Modification Proposal or any alternative Modification Proposal or otherwise or reject the Modification Proposal.

B.17.20.3 The Regulatory Authorities shall make their decision under paragraph B.17.20.1 or B.17.20.2 in relation to a Modification Proposal as soon as reasonably practicable following receipt of the Final Recommendation Report or for the purposes of paragraph B.17.19.

B.17.20.4 If approved by the Regulatory Authorities, the Modification shall become effective two Working Days after the date of the decision of the Regulatory Authorities or such other date as may be specified by the Regulatory Authorities in its decision.

B.17.20.5 Once any Modification has been made, the Market Operator will be required to implement the change, including making the necessary changes to systems and processes with effect from the date provided for pursuant to paragraph B.17.20.4. The Market Operator shall publish the decision of the Regulatory Authorities promptly on its receipt.

B.17.21 **Modifications of Agreed Procedures**

B.17.21.1 For the purposes of this section:

(a) all of the members of the Modifications Committee referred to in paragraph B.17.3.1(b) or appointed by the Regulatory Authorities in accordance with paragraph B.17.3.4 shall be entitled to vote and those members shall have one vote each; and

(b)   a "unanimous decision" is made by the Modifications Committee when the decision is supported by all members referred to in paragraph B.17.3.1(b) or appointed by the Regulatory Authorities in accordance with paragraph B.17.3.4.

B.17.21.2 If at a Committee Meeting, the Modifications Committee adopts an Agreed Procedure Modification Proposal by unanimous decision (including the text of the relevant Agreed Procedure Modification), the Modifications Committee shall notify the Regulatory Authorities and publish the notice.

B.17.21.3 The Regulatory Authorities shall have a right to veto any Agreed Procedure Modification Proposal adopted under paragraph B.17.21.2 within 2 Working Days of the date of the publication of the relevant notification to the Regulatory Authorities.

B.17.21.4 Unless the Regulatory Authorities veto an Agreed Procedure Modification Proposal adopted under paragraph B.17.21.2 in accordance with paragraph B.17.21.3, the Modification shall be made to the relevant Agreed Procedure in the form determined by the Modifications Committee, with effect on and from the date specified by the Modifications Committee (which date may not be earlier than the date 3 Working Days after the publication of the notification to the Regulatory Authorities).

B.17.21.5 If the Modifications Committee does not make a determination in relation to an Agreed Procedure Modification Proposal in accordance with paragraph B.17.21.2 at the relevant Committee Meeting, the Secretariat shall refer the Agreed Procedure Modification Proposal to the Regulatory Authorities for determination and the Regulatory Authorities shall:

(a)   direct a Modification in accordance or otherwise with the Agreed Procedure Modification Proposal; or

(b)   reject the Agreed Procedure Modification Proposal; or

(c)   direct the Modifications Committee that further work is required in respect of the Agreed Procedure Modification Proposal.

B.17.21.6 The Regulatory Authorities shall make a decision in relation to an Agreed Procedure Modification Proposal as soon as reasonably practicable after receipt.

B.17.21.7 Any Modification of Agreed Procedures shall be published by the Market Operator within 2 Working Days after approval by the Modifications Committee or the Regulatory Authorities as the case may be.

B.17.21.8 Any proposal to introduce a new Agreed Procedure, or a modification to an existing Agreed Procedure which has the object or effect of changing the scope of that Agreed Procedure from that set out in Appendix D "List of Agreed Procedures" shall not be an Agreed Procedure Modification Proposal but shall constitute a Modification Proposal and be dealt with accordingly pursuant to paragraphs B.17.14 to B.17.20.

B.17.22   **Information about the Modifications Process**

B.17.22.1 The Market Operator shall publish information relating to the Modifications Process and the status of each Modification Proposal and Agreed Procedure Modification Proposal subject to the confidentiality provisions set out in section B.29.

B.17.22.2 The Market Operator shall provide for a website location or other similar means of publication to be available to the Secretariat and the Modifications Committee for the Modifications Process.

B.17.22.3 The Market Operator shall publish notices submitted to it by the Modifications Committee as soon as practicable after receipt of such notices and in any event within 5 Working Days after receipt of such notices.

B.17.22.4 The Modifications Committee shall submit a quarterly report to the Regulatory Authorities including the progress and status of Modification Proposals. These reports shall be published by the Market Operator as soon as reasonably practicable after receipt.

B.17.22.5 The Market Operator shall publish the determination of the Regulatory Authorities in relation to a Modification Proposal within 2 Working Days after such decision has been made and submitted to the Market Operator and, where a Modification Proposal has been accepted, such publication shall include the text of the Modification.

B.17.23 **Intellectual Property Issues Associated With Modification Proposals**

B.17.23.1 Each Party submitting a Modification Proposal shall be deemed to have granted an irrevocable worldwide royalty-free licence to any Intellectual Property Rights or other rights to, and to have waived any moral rights in, the content, form or other aspect of the Modification Proposal and such licence and waiver shall be a precondition to the valid submission of a Modification Proposal.

B.17.23.2 Each Proposer who is not a Party shall be required to grant an irrevocable worldwide royalty-free licence to any Intellectual Property Rights or other rights to and waive any moral rights in the content, form or other aspect of the Modification Proposal and such licence and waiver shall be a precondition to the acceptance of a Modification Proposal.

B.17.23.3 A form for Modification Proposals shall be made available on the Modifications Website provided for the Modifications Committee and such form shall include an irrevocable worldwide royalty-free licence of Intellectual Property Rights, and waiver of moral rights in respect of the content, format or other aspects of the proposal.

B.17.24 **No Retrospective Effect**

B.17.24.1 For the avoidance of doubt, a Modification shall have effect as and from the date specified by the Regulatory Authorities or, where applicable, the Modifications Committee and in no event shall that date be earlier than the date on which the Modification is approved by the Regulatory Authorities, or, where applicable, the Modifications Committee. Under no circumstances shall Modifications have retrospective effect.

B.18   DEFAULT, SUSPENSION AND TERMINATION

B.18.1 **Concepts**

B.18.1.1 The following sections on default, suspension and termination shall apply in respect of Default by any Party other than the Market Operator.

B.18.1.2 Agreed Procedure 18 "Suspension and Termination" sets out the detailed processes for dealing with default, suspension and termination.

B.18.2 **Default**

B.18.2.1 A Party shall be in Default where it is in material breach of any provision of the Code or the Framework Agreement.

B.18.2.2 A Party shall notify the Market Operator as soon as reasonably practicable upon becoming aware of any circumstance that will give rise to a Default or of any of the events listed in paragraph B.18.3.1 or B.18.3.2, and upon the occurrence of a Default.

B.18.2.3 On becoming aware of a Default in relation to a Party, whether through a notification under paragraph B.18.2.2 or otherwise, the Market Operator shall issue to the Defaulting Party a Default Notice specifying the Default.

B.18.2.4 The Market Operator shall specify in a Default Notice:

(a) the nature of the Default;

(b) if the Default is capable of remedy, the time from the date of the Default Notice within which the Defaulting Party is required to remedy the Default; and

(c) any other action which the Market Operator may reasonably require the Defaulting Party to take in respect of the Default.

B.18.2.5 The Defaulting Party must comply with the Default Notice.

B.18.3 **Suspension**

B.18.3.1 The Market Operator may, with the prior written approval of the Regulatory Authorities, issue a Suspension Order in respect of all or any of a Party's Units where:

(a) it becomes unlawful for the Party to comply with any of its obligations under the Code;

(b) it becomes unlawful for the Party's Credit Cover Provider to comply with any of its Credit Cover obligations;

(c) a Legal Requirement necessary to enable the Party or its Credit Cover Provider to fulfil its obligations and functions under the Code is amended or revoked in whole or in part so as to prevent the Party or its Credit Cover Provider from fulfilling its obligations and functions under the Code;

(d) the Party or its Credit Cover Provider suspends or ceases to carry on its business, or any part of its business which is relevant to its activities under the Code;

(e) the Party's Credit Cover Provider ceases to be eligible for the purposes of the Code to be able to provide the Credit Cover and the Party has not acquired a new Credit Cover Provider within the period required under paragraph G.9.1.6;

(f) the Party enters into or takes any action to enter into an arrangement or composition with its creditors (except in the case of a solvent and bona fide reconstruction or amalgamation);

(g) the Party's Credit Cover Provider enters into or takes any action to enter into an arrangement or composition with its creditors (except in the case of a solvent and bona fide reconstruction or amalgamation);

(h) a receiver, manager, receiver and manager, administrative receiver, examiner or administrator is appointed in respect of the Party or its Credit Cover Provider or any of their respective assets, or a petition is presented for the appointment of an examiner or administrator, or a petition is presented or an order is made or a resolution is passed for the dissolution of, winding up of or appointment of a liquidator to the Party or its Credit Cover Provider, or a liquidator, trustee in bankruptcy or other similar person is appointed in respect

of the Party or its Credit Cover Provider, or any steps are taken to do any of the foregoing or any event analogous to any of the foregoing happens in any jurisdiction;

(i)   the Party or its Credit Cover Provider is dissolved or struck off;

(j)   the Party or its Credit Cover Provider is unable to pay its debts for the purposes of section 570 of the Companies Act, 2014 (Ireland), Article 103 (1) or (2) of the Insolvency Order (Northern Ireland) 1989, or Section 123 (1) or (2) of the Insolvency Act 1986 (Great Britain) (as applicable) or if any voluntary arrangement is proposed in relation under Article 14 of the Insolvency Order (Northern Ireland) 1989, or section 1 of the Insolvency Act 1986 (Great Britain)(as applicable), or for the purpose of any similar or analogous legislation under the laws of any jurisdiction. For the purposes of this sub-paragraph:

    (i)   section 570 of the Companies Act, 2014 shall have effect as if "€100,000" (or such higher figure as the Market Operator may specify from time to time) was substituted for the monetary amounts currently specified in or for the purposes of that section; and

    (ii)   article 103 of the Insolvency Order (Northern Ireland) and section 123 of the Insolvency Act, 1986 (Great Britain) shall have effect as if "£60,000" (or such higher figure as the Market Operator may specify from time to time) was substituted for the monetary amount currently specified in or for the purposes of that Article or section;

(k)   the Party which is required to be licensed in respect of any or all of its roles under the Code has its Licence revoked in whole or in part or amended, so as to prevent the Party from fulfilling its obligations and functions under the Code;

(l)   the Party has committed 3 Defaults within a period of 20 Working Days;

(m)   the Party has committed a Default and has failed for a period of 20 consecutive days, or such longer period as may be set out in the relevant Default Notice, to comply with the terms of such Default Notice;

(n)   the Party has failed to comply with any applicable Account Security Requirements (including, for the avoidance of the doubt, the Deed of Charge and Account Security) in relation to the provision of cash collateral as set out in paragraphs G.1.5.1, G.1.5.2 and G.1.5.3 of this Code and in Agreed Procedure 1 "Registration", Agreed Procedure 9 "Management of Credit Cover and Credit Default" and Agreed Procedure 17 "Banking and Participant Payments"; or

(o)   the Party has been suspended under the Capacity Market Code or under any NEMO Rules.

B.18.3.2   In the event that:

(a)   a Credit Call is made and a Participant's Credit Cover Provider fails to meet the demand within the timeframe provided for under this Code; or

(b)   a Participant fails at any time to provide the Required Credit Cover as required under this Code,

then, notwithstanding paragraph B.18.3.1 and subject to paragraphs B.18.3.3, B.18.4.3 and B.18.4.4, the Market Operator shall at the same time as or following the

issue of the Default Notice to the Defaulting Party in respect of such Default, issue a Suspension Order in respect of all of the relevant Participant's Units.

B.18.3.3   A Suspension Order shall not be issued under paragraph B.18.3.2 solely by reason of the failure of the relevant Participant to have its Credit Cover in place under paragraph B.18.3.2(b) during the period permitted for replenishment of Credit Cover under paragraph G.12.1.3 or G.12.1.5 or during the period permitted to acquire a new Credit Cover Provider under paragraph G.9.1.6.

B.18.3.4   In the event that the Market Operator issues a Suspension Order in accordance with paragraph B.18.3.2 in respect of a Participant in respect of its Supplier Units in Northern Ireland, the Market Operator shall, at the same time as issuing the Suspension Order, issue a Statutory Demand to the Participant in respect of the amount by which the Participant's Credit Cover Provider failed to meet the Credit Call or the amount by which the Participant's Posted Credit Cover falls short of the Required Credit Cover, or the sum of the two amounts, as appropriate.

B.18.3.5   In the circumstances set out in paragraph B.18.3.2(b), the Participant's failure to provide the Required Credit Cover shall be treated as indebtedness for the purposes of the Insolvency (Northern Ireland) Order 1989 and the Market Operator is authorised to issue a Statutory Demand to the relevant Participant on behalf of all Parties concerned. A Statutory Demand issued in accordance with paragraph B.18.3.4 for a failure of a Participant to provide the Required Credit Cover in accordance with paragraph B.18.3.2(b) shall be satisfied upon the relevant Participant putting in place the Required Credit Cover.

B.18.3.6   Where the Market Operator issues a Suspension Order, the Market Operator shall at the same time send a copy of the Suspension Order to the Regulatory Authorities, the System Operators and the relevant Distribution System Operators in accordance with Agreed Procedure 18 "Suspension and Termination" and shall publish the Suspension Order.

B.18.3.7   Where the Market Operator has issued a Suspension Order to a Participant in respect of its Units pursuant to paragraph B.18.3.2, then the Market Operator shall not be required to issue a further Suspension Order in respect of any subsequent Default by that Participant of the kind described in paragraph B.18.3.2(a) or B.18.3.2(b) arising during the currency of that Suspension Order. Notwithstanding the foregoing, the Market Operator shall not lift the Suspension Order under paragraph B.18.4.7 unless and until each Default by the Participant of the kind described in paragraphs B.18.3.2(a) and B.18.3.2(b) has been remedied.

B.18.4   **Timing of Suspension**

B.18.4.1   The Supplier Suspension Delay Period and the Generator Suspension Delay Period in relation to each Jurisdiction shall be determined from time to time by the Regulatory Authorities and notified to the Market Operator. A determination by the Regulatory Authorities in relation to the duration of the Generator Suspension Delay Period or the Supplier Suspension Delay Period for a Jurisdiction, which amends an existing determination in this regard, shall not have effect until the expiry of a period of 10 Working Days following the amending determination, or such longer period as may be specified by the Regulatory Authorities, and, in any event, shall not affect any then current Suspension Order.

B.18.4.2 On receipt of any determination by Regulatory Authorities pursuant to paragraph B.18.4.1, the Market Operator shall publish the determination, indicating the date from which it shall take effect.

B.18.4.3 The date and time at which suspension under a Suspension Order takes effect (as specified in the order under paragraph B.18.5.1) may not be earlier than the date of the expiry of the applicable Supplier Suspension Delay Period in respect of any Supplier Unit included in the Suspension Order and no earlier than the expiry of the applicable Generator Suspension Delay Period in respect of any Generator Unit included in the Suspension Order.

B.18.4.4 In respect of each Supplier Unit, suspension under a Suspension Order issued under section B.18.3 shall not take effect:

(a)   until the applicable Supplier Suspension Delay Period has expired; and

(b)   unless and until the relevant Regulatory Authority has directed that all demand represented by that Supplier Unit shall be met by a Supplier of Last Resort or until all relevant Meter Point Registration Numbers represented by the Supplier Unit to be suspended have been moved to other Supplier Units so that the Supplier Unit to be suspended no longer represents any Demand.

B.18.4.5 During the period before suspension under a Suspension Order comes into effect in respect of a particular Unit, the Regulatory Authorities may instruct the Market Operator to issue a notice or notices amending or lifting the Suspension Order in respect of that Unit or any or all of the Units concerned.

B.18.4.6 Suspension under a Suspension Order issued under section B.18.3 shall have effect at the time specified in the order, save as expressly provided under paragraph B.18.4.3 or B.18.4.4.

B.18.4.7 The Market Operator shall lift the Suspension Order if the relevant Party remedies the matter or matters giving rise to the Suspension Order, or the circumstances giving rise to the Suspension Order no longer apply and no other Suspension Order has been issued to the Party's Participant in respect of the relevant Units.

B.18.4.8 The Market Operator may amend or lift a Suspension Order by written notice to the relevant Party.

B.18.4.9 Where any Suspension Order is amended or lifted by the Market Operator, the Market Operator shall notify this to the Regulatory Authorities, the System Operators and the relevant Distribution System Operators (where appropriate) in accordance with Agreed Procedure 18 "Suspension and Termination" and shall publish a notice that the Suspension Order has been amended or lifted (as the case may be).

B.18.5 **Effect of Suspension Order**

B.18.5.1 Where the Market Operator issues a Suspension Order, the Suspension Order shall specify the Units to which the Suspension Order shall apply, the date and time from which the suspension will take effect and the terms of the suspension.

B.18.5.2 When suspension under a Suspension Order takes effect, the Units to which the Suspension Order applies shall be suspended from participation under this Code to the extent and subject to such restrictions as the Market Operator specifies in the Order, until such time as the Market Operator publishes a notice stating that:

(a)   the Suspension Order has either been lifted or will be lifted (specifying the date and time); or

(b)   the participation of the relevant Party under this Code has been Terminated, or the relevant Units have been Deregistered, in each case in accordance with the Code.

B.18.5.3   The participation of Suspended Units under this Code may continue or resume if and to the extent permitted by the terms of the Suspension Order, but only in accordance with such restrictions as are specified in the Suspension Order.

B.18.5.4   For the avoidance of doubt:

(a)   a Participant shall remain liable for all debts and obligations accrued while a Suspension Order is in place; and

(b)   a Suspension Order shall not affect the continuing obligation of any Party whose Units have been suspended to maintain the Required Credit Cover in respect of all of its Units.

B.18.5.5   Without prejudice to the generality of paragraphs B.18.5.2 to B.18.5.4, a Suspension Order may suspend or restrict any or all of the Units registered in respect of the Party.

B.18.5.6   The Market Operator shall, while a Suspension Order is in place, be entitled to do any act, matter or thing to give effect to the Suspension Order including, without limitation:

(a)   rejecting any Commercial Offer Data submitted by the relevant Participant;

(b)   making a Credit Call;

(c)   setting-off any amount owed by the relevant Participant against the payment of any amounts otherwise due to that Participant under the Code;

(d)   cancelling any Settlement Reallocation Agreement to which the relevant Participant is a party; or

(e)   requesting the Regulatory Authorities and System Operators or any other Party to take such measures as the Market Operator, acting reasonably, decides are appropriate to give effect to the Suspension Order.

B.18.5.7   The Participant that has registered the Units to which a Suspension Order applies must comply with the terms of the Suspension Order and remedy the Default or Defaults giving rise to the Suspension Order.

B.18.6   **Termination and Deregistration**

B.18.6.1   The Market Operator may with the prior written approval of the Regulatory Authorities issue a Termination Order to a Party where the Party:

(a)   is in breach of a Suspension Order;

(b)   has not remedied the Default or Defaults giving rise to the Suspension Order or a Default Notice;

(c)   has not taken such action as required by the Market Operator within the timeframe specified in the Suspension Order; or

(d)   has been issued a corresponding order or notice under the Capacity Market Code or under any NEMO Rules.

B.18.6.2 A Termination Order may direct the Deregistration of any or all of a Party's Units or the Termination of a Party as a party to the Code. Termination of a Party as a party to the Code shall have the effect of Deregistration of all of the Party's Units.

B.18.6.3 The Market Operator shall specify in each Termination Order the Credit Cover which the relevant Party is required, in accordance with paragraph G.9.1.12, to maintain in respect of any Units being Deregistered pursuant to the Termination Order.

B.18.7 **Effect of Termination Order**

B.18.7.1 Where the Market Operator issues a Termination Order, the Termination Order shall specify the time and date from which the Termination or Deregistration will take effect and the terms of the Termination or Deregistration.

B.18.7.2 Where the Market Operator issues a Termination Order, the Market Operator shall at the same time send a copy of the Termination Order to the Regulatory Authorities, the System Operators and the relevant Distribution System Operators in accordance with Agreed Procedure 18 "Suspension and Termination" and shall publish the Termination Order.

B.18.8 **Voluntary Termination of a Party**

B.18.8.1 Subject to paragraph B.18.8.2, a Party may apply at any time to cease to be a Party.

B.18.8.2 A Party shall give at least 90 Working Days' notice in writing to the Market Operator (with a copy to the System Operators and the Regulatory Authorities) of its intention to cease being a Party and shall specify the time and date upon which it wishes the Termination to take effect. Voluntary Termination shall have the effect of Deregistration of all of a Party's Units.

B.18.8.3 Following receipt of a request for Voluntary Termination, the Market Operator shall issue a Voluntary Termination Consent Order if the relevant Party has complied with the following conditions:

(a) all amounts due and payable by the relevant Party pursuant to the Code have been paid in full;

(b) any outstanding Default by the relevant Party of the Code which is capable of remedy has been remedied;

(c) the relevant Party has no continuing obligations under the Capacity Market Code and, if it was a party to the Capacity Market Framework Agreement (as defined in the Capacity Market Code), it has ceased to be a party to that agreement or will cease to be a party to that agreement at the time it ceases to be a Party;

(d) the written consent of the Regulatory Authorities has been obtained; and

(e) if the Party has registered Supplier Units, the terms of any applicable Metering Code have been complied with in relation to the Deregistration or transfer of those Supplier Units.

B.18.8.4 The Market Operator shall specify in each Voluntary Termination Consent Order the Credit Cover which the relevant Party is required, in accordance with paragraph G.9.1.12, to maintain in respect of any Units being Deregistered pursuant to the Voluntary Termination Consent Order.

B.18.8.5   The Voluntary Termination shall take effect at the end of the last Imbalance Settlement Period of the Trading Day specified by the Market Operator in the Voluntary Termination Consent Order so long as, at that time, the relevant Party remains in compliance with the conditions set out in paragraph B.18.8.3.

B.18.8.6   The Market Operator, the System Operators, the Transmission Asset Owners, the Distribution System Operators and the Meter Data Providers shall not be permitted to terminate their being a party to the Code except where so required by the Regulatory Authorities.

B.18.9   **Consequences of Termination of a Party**

B.18.9.1   When a Party is Terminated, then:

(a)   the Market Operator shall Deregister all of that Party's Units;

(b)   the Party must stop all trading in the SEM in respect of all of its Units at the time and date specified in the Termination Order or the Voluntary Termination Consent Order; and

(c)   the Party must maintain the Credit Cover for each of its Units in the amounts and for the duration provided for in paragraph G.9.1.12 (as specified in the Termination Order or Voluntary Termination Consent Order as applicable).

B.18.9.2   Any Termination of a Party will not affect the accrued rights or obligations of any Party under this Code which arose out of or which relate to any act or omission prior to the date of such Termination and including:

(a)   payment of any amount which was or becomes payable under the Code in respect of any period before the date of the Termination of the Party (including in relation to any Dispute regarding an event before the Termination of the Party even if the Notice of Dispute is given after the date of Termination of the Party); and

(b)   any outstanding breach by it of the Code or Framework Agreement.

B.18.9.3   A Party shall continue to be liable after its Termination in respect of any obligation under the Code for a period of 6 years or any longer period specified under any Applicable Law.

B.18.9.4   Any provisions of this Code which expressly, or by implication are intended to, commence or continue in effect on or after Termination of a Party shall continue to bind a Terminated Party.

B.18.9.5   For the avoidance of doubt, a Terminated Party shall continue to be bound by the Dispute Resolution Process in respect of any Disputes arising following its Termination.

B.18.10   **Consequences of Deregistration**

B.18.10.1 Where any of a Participant's Units is Deregistered in accordance with the provisions of this Code, whether voluntarily or otherwise:

(a)   the Participant must stop all trading in the SEM in respect of the relevant Units at the time and date specified in the Termination Order or the date specified in the Deregistration Consent Order; and

(b)   the Participant must maintain the Credit Cover in respect of each of the relevant Units in the amounts and for the duration provided for in paragraph G.9.1.12 (as specified in the Termination Order or Deregistration Consent Order as applicable).

B.18.10.2 Where the Market Operator, in the circumstances provided for under the Code, accepts a new Participation Notice from a Party or Applicant to register a Unit which is at that time registered to another Participant, prior to the Deregistration of that Unit from the existing Participant, then the acceptance of the new Participation Notice shall, unless expressly provided otherwise, be without prejudice to the process for Deregistration of the Unit from the existing Participant in accordance with the timelines set out in the Code and the new registration of that Unit shall not take effect until such process has been completed.

B.19   DISPUTE RESOLUTION

B.19.1   Preliminaries

B.19.1.1 A "**Dispute**" means any claim, dispute or difference of whatever nature between any of the Parties howsoever arising under, out of or in relation to the Code or the Framework Agreement (including the existence or validity of the same) in respect of which:

(a)   one Party has served a Notice of Dispute; or

(b)   a Dispute is deemed to arise under paragraph G.3.2.15 following a Settlement Query.

B.19.1.2 A Notice of Dispute may be served on any number of Parties. Where the Market Operator reasonably determines that the resolution of a Disputed Event will impact a third Party who has not been served a Notice of Dispute, the Market Operator will inform that third Party of the existence, nature and progress of the Dispute, while maintaining the confidentiality of the Disputing Parties.

B.19.1.3 Subject to the requirements set out in sections B.19.2 and B.19.3, a Dispute is deemed to exist when one Party notifies another Party or Parties in writing of the Dispute by way of a Notice of Dispute within the applicable timeframe, as follows:

(a)   for a Pricing Dispute, within five Working Days of the relevant Imbalance Settlement Price being published;

(b)   for Disputes in relation to Settlement Queries under section G.3.2, within five Working Days of receipt of the Market Operator's response to the relevant Settlement Query;

(c)   for Disputes in relation to a claimed conflict between the Code and other relevant Legal Requirements, within 5 Working Days of the request of the Regulatory Authorities or the Market Operator in accordance with paragraph B.22.2.3; and

(d)   for all other Disputes, 20 Working Days of that Party having become aware of the Disputed Event and in any event within 2 years of the Disputed Event having occurred.

B.19.1.4 The Notice of Dispute shall briefly set out the nature of the Dispute (including the Disputed Event(s)) and the issues involved. A copy of the Notice of Dispute shall be

sent to the Market Operator and, where the Market Operator is a party to the Dispute, to the Regulatory Authorities.

B.19.1.5   In the event of a Pricing Dispute, the Market Operator is to identify the relevant published Imbalance Settlement Price as being subject to the Dispute.

B.19.1.6   The provisions set out in this Dispute Resolution Process shall not prejudice or restrict any Party's entitlement to seek interim or interlocutory relief directly from the appropriate Court or Courts having competent jurisdiction.

B.19.1.7   The obligations of the Parties under the Code shall not be affected by reason of the existence of a Dispute, save as provided for in any decision of the Dispute Resolution Board or a Court having competent jurisdiction. Disputing Parties shall continue to perform all of their obligations and functions as required by the Code including, for the avoidance of doubt, fulfilling all payment obligations as payment falls due.

B.19.1.8   A published Imbalance Settlement Price may only be amended, adjusted, changed or varied in accordance with section E.3.8.

B.19.2   **Reasonable Endeavours Obligations**

B.19.2.1   Where a Dispute concerns:

(a)   the application of the provisions of the Code relating to Credit Cover Requirements and action is being taken under section G.2.6 or G.12.1; or

(b)   the non-acceptance of a Contracted Quantity under section G.12.3,

then:

(c)   the Disputing Party and the Market Operator shall negotiate in good faith and use reasonable endeavours to resolve the Dispute within 1 Working Day or otherwise as soon as is practicable; and

(d)   unless the Disputing Party and the Market Operator agree a resolution to the Dispute:

(i)   within five Working Days of receipt of the Notice of Dispute; or

(ii)   within 10 Working Days, if the Disputing Parties agree to extend this time,

the Disputing Party may refer the Dispute to a Dispute Resolution Board by issuing a Referral Notice as soon as practicable, and in any case within 5 Working Days of the expiry of the negotiating timelines set out in this paragraph B.19.2.1, otherwise the Dispute will be deemed to be withdrawn.

B.19.2.2   In the case of a Pricing Dispute:

(a)   the Disputing Party and the Market Operator shall negotiate in good faith and use reasonable endeavours to resolve the Pricing Dispute within five Working Days of the issue of the Notice of Dispute; and

(b)   unless the Market Operator determines that a manifest error has occurred under paragraph E.3.8.1, a Disputing Party may refer the Pricing Dispute to a Dispute Resolution Board by issuing a Referral Notice as soon as practicable, and in any case within 5 Working Days of the issue of the Notice of Dispute, otherwise the Dispute will be deemed to be withdrawn.

B.19.2.3   In the case of any other kind of Dispute ("**General Dispute**"):

(a) each Disputing Party must procure that a nominated representative of the Disputing Party, with authority to resolve the General Dispute, meets within 10 Working Days of the date of the issue of the Notice of Dispute with the nominated representatives of the other Disputing Parties to seek to resolve the General Dispute;

(b) the Disputing Parties shall negotiate in good faith and use reasonable endeavours to agree a resolution to the General Dispute; and

(c) if, having met in accordance with sub-paragraph (a), the Disputing Parties are unable to reach agreement within a further period of 10 Working Days of first meeting, the General Dispute may within a further period of 20 Working Days be referred by any Disputing Party to a Dispute Resolution Board by issuing a Referral Notice, otherwise the Dispute will be deemed to be withdrawn.

B.19.2.4 This section is not intended to preclude Disputing Parties meeting to seek to resolve a Dispute at any time.

B.19.2.5 Where the Market Operator is not a Disputing Party, and the Disputing Parties agree a resolution to a Dispute, they shall advise the Market Operator.

B.19.3 **General Dispute Provisions**

B.19.3.1 All decisions of a Dispute Resolution Board are subject to the Settlement Recalculation Threshold and a Price Materiality Threshold determined as follows:

(a) a Settlement Recalculation Threshold shall be proposed by the Market Operator from time to time and approved by the Regulatory Authorities. The Market Operator shall publish the approved Settlement Recalculation Threshold within 5 Working Days of receipt of the Regulatory Authorities' approval or two months before it commences to apply, whichever is the later; and

(b) a Price Materiality Threshold shall be proposed by the Market Operator from time to time and approved by the Regulatory Authorities. The Market Operator shall publish the approved Price Materiality Threshold within 5 Working Days of receipt of the Regulatory Authorities' approval or two months before it commences to apply, whichever is the later.

B.19.3.2 Where a Disputed Event is in respect of one or more of the matters set out in paragraph G.3.2.5 and a Party becomes aware of the Disputed Event before the 20 Working Day period for raising a Settlement Query under paragraph G.3.2.3 expires, the Disputing Party must undertake the procedures set out in section G.3.2 before issuing a Notice of Dispute.

B.19.3.3 In the event that the Market Operator does not resolve a Settlement Query within the timeframe set out in paragraph G.3.2.15, the Settlement Query shall automatically become a Dispute and the Notice of Dispute shall be deemed to have been issued on the date on which the Market Operator was required to issue a resolution in respect of the Settlement Query.

B.19.3.4 Without prejudice to the jurisdiction of a Court to award costs pursuant to its jurisdiction in that regard where applicable, the Market Operator shall be liable for all costs in connection with a Dispute arising by operation of paragraph B.19.3.3.

B.19.3.5 In the case of a General Dispute, the Disputing Parties may mutually agree in writing with the written consent of the Market Operator (or the Regulatory Authorities where

the Market Operator is a Disputing Party) to extend the period for negotiation or any other time period set out in the Dispute Resolution Process.

B.19.4 **Pricing Disputes**

B.19.4.1 The Party raising a Pricing Dispute shall provide supporting evidence to enable the Dispute Resolution Board to assess under paragraph B.19.9.3 the likelihood that the matter being disputed will, if the Dispute is upheld, satisfy the Price Materiality Threshold.

B.19.5 **Objectives of the Dispute Resolution Process**

B.19.5.1 It is intended that the Dispute Resolution Process set out in or implemented in compliance with the Code and described in detail in the following paragraphs should to the extent possible:

(a)   be simple, quick and inexpensive;

(b)   preserve or enhance the relationship between the Disputing Parties;

(c)   resolve and allow for the continuing and proper operation of the Code having regard to the Code Objectives;

(d)   resolve Disputes on an equitable basis in accordance with the provisions of the Code having regard to the Code Objectives;

(e)   take account of the skills and knowledge that are required for the relevant procedure; and

(f)   encourage resolution of Disputes without formal legal representation or reliance on legal procedures.

B.19.6 **Dispute Resolution Board**

B.19.6.1 A Disputing Party shall immediately send a copy of any Referral Notice which it issues to the Market Operator (or to the Regulatory Authorities where the Market Operator is a Disputing Party) to the other Disputing Parties, and the Market Operator shall forward the Referral Notice to the chairperson of the Panel referred to in paragraph B.19.6.3.

B.19.6.2 Referral of a Dispute to a DRB in accordance with the Dispute Resolution Process and compliance with the applicable provisions set out in sections B.19.1 to B.19.13 is a pre-condition to the entitlement to refer a Dispute to Court.

B.19.6.3 The DRB shall be comprised of either a sole member or three members and shall be appointed from a panel of available DRB members established and maintained by the Market Operator with the prior approval of the Regulatory Authorities ("**the Panel**"). The Market Operator shall review the membership of the Panel, checking the continued willingness and availability of members to be included at least once every year. The Market Operator shall publish the name and brief curriculum vitae for each Panel member.

B.19.6.4 The Panel shall consist of no less than 10 members subject to any vacancies which may arise from time to time which shall be filled as soon as practicable. Any vacancies arising from time to time shall not invalidate the Panel. The Regulatory Authorities shall from time to time nominate a member of the Panel to act as chairperson of the Panel. The identity of the members of the Panel and the

chairperson shall be published by the Market Operator. The chairperson shall be responsible for nominating the member(s) of the DRB if the parties to a Dispute fail to agree on the composition of the DRB from the members of the Panel in accordance with paragraphs B.19.6.9 to B.19.6.11. The members of the DRB so appointed shall be independent of any Disputing Party to any dispute on which they shall be called to deliberate. The Regulatory Authorities shall appoint a replacement chairperson immediately on the position of chairperson being vacated on a permanent basis for any reason.

B.19.6.5 The chairperson shall, with the prior agreement of the Regulatory Authorities, nominate a vice-chairperson from the members of the Panel, from time to time to perform the chairperson's function in the event of the latter's unavailability or in the event of the chairperson's position being temporarily vacant. The chairperson and the vice-chairperson shall be retained under contract to the Regulatory Authorities. Where appropriate and at the sole discretion of the Regulatory Authorities, the contract may include provision for payment of a stipend to the chairperson and vice-chairperson in order to cover the reasonable expenses incurred by that person in connection with carrying out his or her duties under the Code. The Market Operator will indemnify the Regulatory Authorities for any payments made under the contract. The Market Operator shall with the prior approval of the Regulatory Authorities nominate further members to the Panel from time to time as may be necessary to fill any vacancies and to maintain the membership of the panel at a minimum of 10 members. Subject to paragraph B.19.6.7, there shall be no restriction on the ability or entitlement of the chairperson or vice-chairperson to act as a member of a DRB by virtue of holding those positions except where a dispute arises between the Disputing Parties in respect of the number of Members or the identity of Members of the DRB in relation to the Dispute concerned in which case the chairperson shall be proscribed from appointing himself to the DRB.

B.19.6.6 No Party to the Code shall hold the chairperson or vice-chairperson liable for any claims for anything done or omitted in the discharge or purported discharge of the chairperson's or vice-chairperson's functions under the Code, unless the act or omission is shown to be in bad faith. The Disputing Parties shall jointly and severally indemnify and hold the chairperson or vice-chairperson harmless from and against claims made by any third party against the chairperson or vice-chairperson in connection with their discharge or purported discharge of the chairperson's or vice-chairperson's functions under the Code, unless the claim is in connection with an act or omission shown to be in bad faith.

B.19.6.7 The Panel shall include suitably qualified experts from relevant disciplines who:

(a) are experienced in and familiar with alternative dispute resolution procedures which do not involve litigation; and/or

(b) have an understanding of the electricity industry or have the ability quickly to acquire such an understanding.

B.19.6.8 Where there are no more than two Disputing Parties, the Disputing Parties may agree within 10 Working Days of date of receipt by the receiving Party of the Referral Notice to establish a sole member DRB or a three member DRB. If the Disputing Parties to a Dispute agree to establish a sole member DRB, they shall agree to appoint the sole DRB member within a further 5 Working Days. If the Disputing Parties agree on a three member DRB, then each Disputing Party will within a further period of 5 Working Days nominate one member of the Panel to the DRB and the two members

so nominated will appoint the third member within a further period of 5 Working Days. Each Disputing Party shall promptly notify the chairperson of the Panel of the identity of any member of the DRB that it has agreed with the other Disputing Party and/ or nominated.

B.19.6.9 In the event the Disputing Parties do not within the relevant period notify the chairperson of the Panel of their agreement on:

(a) the number of members of the DRB; or

(b) having agreed a sole member DRB, the identity of the sole member,

then, the chairperson of the Panel will within a further period of 10 Working Days determine the number of members of the DRB and appoint the appropriate number from the Panel, or in the case of the appointment of a sole member DRB, appoint the sole member from the Panel. In making any such determination and appointment, the chairperson will take account of the complexity of the Dispute as set out in the Notice of Dispute and the range of issues which may be relevant.

B.19.6.10 In the event that the Disputing Parties agree upon a three member DRB but a Disputing Party does not notify the chairperson of the Panel of its nomination from the Panel, then the chairperson shall make the necessary nomination from the Panel within 10 Working Days of the end of the relevant period.

B.19.6.11 Where there are more than two Disputing Parties to any Dispute, then the DRB shall be appointed by the chairperson of the Panel unless all Disputing Parties have, within 10 Working Days of the date of receipt by the counterparties of the Referral Notice, notified the chairperson as to both the number of members of the DRB which shall be either one or three and as to the identity of member(s) to be selected from the Panel. In the absence of such notification, the chairperson shall:

(a) determine whether a sole member or three member DRB is appropriate; and

(b) appoint the member or members of the DRB from the Panel, and shall notify the Disputing Parties.

In making any such determination and appointment, the chairperson will take account of the complexity of the Dispute as set out in the Notice of Dispute and the range of issues which may be relevant.

B.19.6.12 The agreement between the Disputing Parties and either the sole member DRB or each of the three members of a three member DRB shall incorporate by reference the Dispute Resolution Agreement contained in Appendix B "Dispute Resolution Agreement", with such amendments as are agreed between them.

B.19.7 **Changes in DRB Members**

B.19.7.1 In the event any member of a DRB declines to act or is unable to act as a result of death, disability, incapacity, resignation or termination of appointment, the chairperson of the Panel or, where the chairperson of the Panel is the member affected, the vice-chairperson of the Panel shall appoint a replacement within 5 Working Days of notification of the relevant event. Such appointment shall be final and binding.

B.19.7.2 The appointment of any member of the DRB may be terminated by unanimous agreement of the Disputing Parties. Should this occur, paragraph B.19.7.1 shall apply.

B.19.8 **Costs**

B.19.8.1 Subject to paragraphs B.19.8.2 and B.19.8.3, each Disputing Party shall be responsible for paying an equal share of the costs of the DRB in respect of the Dispute involving them and shall bear its own costs of the procedure.

B.19.8.2 The DRB may make a decision as to the award of costs in any Dispute which decision shall be binding on the Disputing Parties.

B.19.8.3 The provisions of paragraph B.19.3.4 apply where the Market Operator does not resolve a Settlement Query within the timeframe set out in paragraph G.3.2.15.

B.19.9 **DRB Procedures**

B.19.9.1 For the purposes of this Code, a Dispute is deemed to be referred to the DRB as of the date of the receipt or issue of the Referral Notice by the Market Operator.

B.19.9.2 Disputing Parties shall promptly make available to the DRB all such additional information as they consider appropriate or as the DRB may require for the purposes of making a decision on a Dispute. The DRB may request any information it considers relevant.

B.19.9.3 For a Pricing Dispute, within five Working Days after the appointment of the DRB, or such longer time as may be agreed by the Disputing Parties, the DRB must consider and advise the Disputing Parties of its assessment as to the likelihood that the matter being disputed will, should the Dispute be upheld, satisfy the Price Materiality Threshold.

B.19.9.4 The DRB shall be entitled to determine the applicable procedure including the manner and the timing of any written submissions and any oral hearings. In determining the applicable procedure, the DRB shall have regard to the considerations set out in paragraph B.19.5.1 above as well as the number of Disputing Parties. The DRB shall not act as arbitrator and neither the Arbitration Act 2010 (Ireland) nor the Arbitration Act 1996 (United Kingdom) shall apply.

B.19.9.5 The DRB shall give its decision within:

(a) 30 Working Days after the appointment of the DRB where there are no more than two Disputing Parties;

(b) 40 Working Days after the appointment of the DRB where there are more than two Disputing Parties; or

(c) such other period as may be proposed by the DRB and approved by the Disputing Parties.

B.19.9.6 The DRB's decision shall be in writing providing reasons and state that it is given under paragraph B.19.9.5. Subject to paragraphs B.19.9.7 to B.19.12.1 below, the decision shall be binding on all Disputing Parties, who shall promptly give effect to it unless or until it shall be revised in an amicable settlement pursuant to paragraph B.19.11.1. The Parties shall continue to comply with the Code in all respects.

B.19.9.7 If any Disputing Party is dissatisfied with the DRB's decision, then that Party may, within 15 Working Days after receiving the decision, give notice to the other Disputing Party or Parties and the DRB in writing of its dissatisfaction. If the DRB fails to give its decision within the relevant period set out in paragraph B.19.9.5, then any Disputing Party may, within 15 Working Days after such period has expired, give notice to the other Disputing Party or Parties and the DRB in writing of its dissatisfaction.

B.19.9.8 A notice of dissatisfaction referred to in paragraph B.19.9.7 shall state that it is given under that paragraph, shall set out the Dispute and the reason(s) for dissatisfaction. Except as stated in paragraphs B.19.1.6 and B.19.13.1, no Disputing Party shall be entitled to commence any Court proceedings of whatever nature in relation to or in connection with a Dispute unless a notice of dissatisfaction has been given in accordance with paragraph B.19.9.7.

B.19.9.9 If the DRB has given its decision on a Dispute to the Disputing Parties and no notice of dissatisfaction has been given by any Disputing Party within 15 Working Days after the date of the DRB's decision, then the decision shall be final and binding upon all Disputing Parties.

B.19.10 DRB Decisions

B.19.10.1 DRB decisions may:

    (a)   declare that:

        (i)   the Dispute has been wholly or partially upheld; or

        (ii)   the Dispute has not been upheld;

    (b)   declare the correct application or interpretation of a provision of the Code;

    (c)   advise any other form of relief that may be appropriate in the circumstances; or

    (d)   recommend that a Disputing Party take a specified action within a specified timeframe.

B.19.11 Amicable Dispute Settlement

B.19.11.1 Where notice of dissatisfaction has been given, the Disputing Parties shall attempt to settle the dispute amicably before the commencement of any Court proceedings may take place. However, unless both Parties agree otherwise, proceedings may be commenced in a Court having competent jurisdiction on or after the twenty first Working Day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.

B.19.12 Court Proceedings

B.19.12.1 Unless settled amicably, any Dispute in respect of which notice of dissatisfaction has been issued may only be finally settled by proceedings in a Court having competent jurisdiction.

B.19.12.2 A Disputing Party may, in the proceedings before any Court having jurisdiction, adduce evidence or raise arguments not previously put before the DRB in the course of its consideration of the Dispute or included in the notice of dissatisfaction given by that Party. Any decision of the DRB shall be admissible as evidence in any Court proceedings.

B.19.13 Failure to Comply with DRB Decision

B.19.13.1 In the event that:

    (a)   no Disputing Party has given notice of dissatisfaction within the period stated in paragraph B.19.9.7; and

(b)   the DRB's related decision (if any) has become final and binding; and

(c)   a Disputing Party fails to comply with this decision,

then any other Disputing Party may take such action as it deems necessary, including the commencement of Court proceedings, to enforce the relevant DRB decision. There shall be no mandatory reference to the DRB or requirement to refer the matter to amicable settlement in respect of such a reference.

B.19.14 **Consequences of DRB Decision**

B.19.14.1 The Market Operator shall implement a final and binding decision of the DRB and shall, if necessary to do so in the case of an Upheld Dispute:

(a)   procure a recalculation of an Imbalance Settlement Price in accordance with paragraph E.3.8.2 where the Price Materiality Threshold is exceeded;

(b)   procure a Settlement Rerun in accordance with the outcomes of the Upheld Dispute where the Settlement Recalculation Threshold is exceeded; and / or

(c)   take any other action that the Market Operator considers necessary to implement the decision.

B.19.14.2 For the purposes of paragraph B.19.14.1(b), an Upheld Dispute that results in a Settlement Rerun shall be dealt with in one of the ways set out in paragraphs B.19.14.4 to B.19.14.6, depending on which of the following categories the Upheld Dispute falls in:

(a)   Upheld Dispute with Low Materiality; or

(b)   Upheld Dispute with High Materiality.

B.19.14.3 The Market Operator shall calculate the materiality of a change to Settlement Items arising from the resolution of a Dispute by reference to a single Settlement Statement or statement of Market Operator Charges.

B.19.14.4 In the event of an Upheld Dispute with Low Materiality, the Market Operator shall procure that the revised corrected data shall be used for the relevant Settlement Period for which Final Settlement has not occurred, and Settlement shall then take place on the next Timetabled Settlement Rerun.

B.19.14.5 In the event of an Upheld Dispute with Low Materiality after the final Timetabled Settlement Rerun, the Market Operator shall procure that an additional Settlement Rerun for the relevant Settlement Period shall then be performed within the timeframe directed by the DRB as a result of the Dispute Resolution Process.

B.19.14.6 In the event of an Upheld Dispute with High Materiality, the Market Operator shall procure that the revised corrected data will be used for the relevant Settlement Day and an additional Settlement Rerun for the relevant Settlement Period shall then be performed within the timeframe directed by the DRB as a result of the Dispute Resolution Process.

B.20   SUPPLIER OF LAST RESORT

B.20.1.1 In the event that a Regulatory Authority directs that any demand shall be met by a Supplier of Last Resort in the relevant Jurisdiction, the Market Operator shall take whatever steps are necessary to enable and assist the relevant Meter Data Providers to transfer all relevant Demand Sites, final customers or consumers represented

within the Supplier Units to which such a direction relates, to the Supplier Unit that is treated as registered by the Supplier of Last Resort in that Jurisdiction, with effect from the date set out in the direction. Such steps shall include the amendment by the Market Operator of the registration of any affected Trading Site Supplier Units and Associated Supplier Units.

B.21 LIMITATION OF LIABILITY

B.21.1.1 No Party shall be liable to any other Party for loss arising from any breach of the Code or the Framework Agreement other than for loss resulting directly from such breach (but without prejudice to any other provision of the Code which excludes or limits liability in respect of any breach for loss directly resulting from such breach) and which was reasonably foreseeable as not unlikely to occur in the ordinary course of events from such breach in respect of:

(a) physical damage to the property of any other Party or its officers, employees, or agents; and/or

(b) the liability (in law) of any other such Party to any other person for loss in respect of physical damage to the property of such other person.

B.21.1.2 No Party shall in any circumstances be liable to any other Party in respect of any breach of the Code or the Framework Agreement for:

(a) loss of profits, loss of income, loss of contract, loss of anticipated savings, loss of investment return, loss of goodwill, loss of use, or loss of reputation; or

(b) any indirect or consequential loss or any incidental or special damages (including punitive damages); or

(c) loss resulting from the liability of any other Party to any other person however and whenever arising save as provided in paragraphs B.21.1.1(b) and B.21.1.4.

B.21.1.3 The limitations of liability set out in paragraph B.21.1.1 and B.21.1.2 are without prejudice to any provision of the Code or the Framework Agreement which provides for an indemnity and shall not relieve any Party of an obligation to pay any amounts due pursuant to the Code.

B.21.1.4 Nothing in the Code or the Framework Agreement shall limit or exclude the liability of any Party for death or personal injury resulting from the negligence of such Party or for fraudulent misrepresentation or any other liability which cannot be limited or excluded under Applicable Laws.

B.21.1.5 All terms, conditions, warranties and representations implied pursuant to Sections 13 to 15 of the Sale of Goods Act, 1893 and Section 39 of the Sale of Goods and Supply of Services Act, 1980 (Ireland) and Sections 13 to 15 of the Sale of Goods Act, 1979 (United Kingdom) and Sections 2 to 5 and 7 to 10 of the Supply of Goods and Services Act, 1982 (United Kingdom) are excluded to the fullest extent permitted by law.

B.21.1.6 The rights and remedies of the Parties pursuant to the Code and the Framework Agreement as set out therein are, save as expressly provided otherwise, cumulative and are in exclusion of all other substantive (but not procedural) rights or remedies express or implied and whether provided by common law, statute, tort, in equity or

otherwise by law. Without prejudice to the foregoing and section B.23, each Party to the fullest extent permitted by law:

(a)   waives any rights or remedies; and

(b)   releases each other Party from any duties, liabilities, responsibilities or obligations,

arising or provided by common law, statute, tort, in equity or otherwise by law in respect of the Code.

B.21.1.7   Without prejudice to the preceding paragraph B.21.1.6, where any provision of the Code or decision of the DRB provides for any amount to be payable by a Party upon or in respect of that Party's breach of the Code or the Framework Agreement, each Party agrees and acknowledges that the remedy conferred by such provision or decision is exclusive of and is in substitution for any remedy in damages in respect of such Default or the event or circumstance giving rise thereto.

B.21.1.8   Nothing in the Code or the Framework Agreement relating to limitation on liability shall prevent or restrict any Party from enforcing any obligation owed to it under or pursuant to the Code in accordance with the provisions of the Code subject to any applicable limitation of liability.

B.21.1.9   Save as expressly provided otherwise in the Code or the Framework Agreement, nothing in paragraphs B.21.1.1 to B.21.1.7 shall apply to or restrict the exercise or enforcement of any rights or remedies which one Party may have against another Party or person pursuant to any other agreement besides the Code and the Framework Agreement.

B.21.1.10   For the purposes of paragraphs B.21.1.1, B.21.1.2 and B.21.1.4, references to a "Party" includes any of its Participants, officers, employees or agents, and each Party shall hold the benefit of those paragraphs for itself and as trustee and agent for its officers, employees and agents.

B.21.1.11   Each of paragraphs B.21.1.1 to B.21.1.10 shall be construed as a separate and severable contract term, and shall remain in full force and effect and shall continue to bind the Parties even if a Party ceases to be a Party to the Code or the Code is terminated.

B.21.1.12   Any specific limitation of liability in another provision of this Code applies in addition to this section B.21, so as to further limit liability in the circumstances in which they apply, and without affecting, limiting or restricting this section B.21.

B.22   FORCE MAJEURE

B.22.1   Concept

B.22.1.1   For the purposes of the Code, and subject to paragraphs B.22.1.2 and B.22.1.3, "Force Majeure" means any event that satisfies all of the following criteria:

(a)   the event is beyond the reasonable control of a Party and could not have been reasonably prevented or the consequences of which could not have been prevented by Prudent Electric Utility Practice;

(b)   the event is not due to the act, error, omission, breach, default or negligence of the Party, its employees, agents or contractors; and

(c)   the event has the effect of preventing the Party from complying with its obligations under this Code.

B.22.1.2 "Force Majeure" includes, without limitation:

(a)   acts of terrorism;

(b)   war (declared or undeclared), blockade, revolution, riot, insurrection, civil commotion, invasion or armed conflict;

(c)   sabotage or acts of vandalism or criminal damage;

(d)   natural disasters and phenomena, including extreme weather or environmental conditions, fire, meteorites, the occurrence of pressure waves caused by aircraft or other aerial devices travelling at supersonic speeds, impact by aircraft, volcanic eruption, explosion, including nuclear explosion, radioactive or chemical contamination or ionising radiation;

(e)   compliance with relevant Legal Requirements as contemplated in paragraph B.4.1.2; or

(f)   nationwide or industry wide strikes, lockouts or other industrial actions or labour disputes provided that such occurrence is not limited to the Party and/or its suppliers, contractors, agents or employees.

B.22.1.3 "Force Majeure" shall not include:

(a)   any inability (however caused) of a Party to pay any amounts owing under the Code and/or a lack of funds or Credit Cover;

(b)   mechanical or electrical breakdown or failure of machinery, plant or systems owned or operated by the Party; or

(c)   the failure or inability of the Party's IT systems or manual processes to perform any function necessary for that Party to comply with the Code,

other than where such events arise as a result of any of the circumstances in paragraphs B.22.1.2(a) – (f) above.

B.22.2 **Occurrence and Procedures**

B.22.2.1 In the event of a Party other than the Market Operator being unable to perform all or any of its obligations under this Code by reason of Force Majeure:

(a)   the Affected Party shall notify the Market Operator of the Force Majeure event, giving full details of the circumstances, including identifying the nature of the event, how it satisfies the criteria in section B.22.1, its expected duration, the particular obligation(s) affected and mitigation measures taken;

(b)   the Market Operator shall inform all Parties and the Regulatory Authorities that the Affected Party has notified the Market Operator that it is subject to Force Majeure. The notice from the Market Operator shall include any information provided by the Affected Party under paragraph (a);

(c)   the Affected Party shall furnish reports at such intervals as the Market Operator may reasonably request in respect of the Force Majeure event during the period of Force Majeure, giving full details of the circumstances including the matters listed in paragraph (a);

(d)   the Market Operator shall inform all Parties and the Regulatory Authorities, as soon as practicable, of the details provided in reports provided by the Affected Party under paragraph (c);

(e)   no obligations of any Party that arose before the Force Majeure and which can reasonably be expected to be performed are excused as a result of Force Majeure;

(f)   on the occurrence of the Force Majeure, the Affected Party shall consult with the Market Operator as to how best to give effect to the obligations of the Affected Party under this Code so far as is reasonably practicable during the period of Force Majeure;

(g)   the Affected Party shall use all reasonable efforts to remedy and mitigate the consequences of any Force Majeure to enable it to resume full performance of its obligations under the Code insofar as such is practicable during any Force Majeure;

(h)   the Affected Party shall resume full performance of its obligations under the Code on cessation of any Force Majeure and shall provide the Market Operator with written notice to that effect without delay; and

(i)   the Market Operator shall inform all Parties and the Regulatory Authorities that the Affected Party has notified the Market Operator that it has resumed performance of its obligations under the Code.

B.22.2.2   Where the Market Operator has specified a format for providing notices or reports for the purposes of paragraph B.22.2.1, an Affected Party shall follow that format and method in giving the relevant notices or reports.

B.22.2.3   Where the Affected Party has notified the Market Operator that the nature of the Force Majeure event is that there is a conflict between the Code and relevant Legal Requirements, it shall if so requested by the Market Operator or the Regulatory Authorities either submit a Modification Proposal in accordance with paragraph B.17.12.1 addressing the purported conflict, and mark it as "Urgent" in accordance with paragraph B.17.16, or serve a Notice of Dispute in respect of the issue in accordance with section B.19, within five Working Days of the request by the Market Operator or the Regulatory Authorities.

B.22.3   **Consequences**

B.22.3.1   Where the Market Operator is affected by Force Majeure, the Market Operator shall immediately inform the Regulatory Authorities. Where the Market Operator is affected by an event of Force Majeure:

(a)   no obligations of any Party that arose before the Force Majeure and which can reasonably be expected to be performed are suspended as a result of Force Majeure;

(b)   the Market Operator in consultation with, and where required by, the Regulatory Authorities, shall do all acts to mitigate the consequences of the Force Majeure to enable it to resume the full performance of its functions and obligations under the Code;

(c)   the Market Operator shall resume full performance of its obligations under the Code on cessation of any Force Majeure and shall inform the Regulatory Authorities of this; and

(d)   the Market Operator shall be relieved of its obligations only for so long as and to the extent that the occurrence of the Force Majeure and/or its effects could not be overcome by measures which the Market Operator might reasonably be expected to take acting prudently with a view to continuing or resuming performance of its obligations as appropriate.

B.22.3.2   When a Party is rendered wholly or partially unable to perform all or any of its obligations under the Code by reason of Force Majeure, the Party's relevant obligations under this Code shall be suspended and the Party shall be relieved from liability, subject to paragraph B.22.3.3, in respect of such obligations provided that such liability and suspension shall be of no greater scope and of no longer duration than is required by the Force Majeure.

B.22.3.3   The Party shall be relieved from liability only for so long as and to the extent that the occurrence of Force Majeure and/or the effects of such occurrence could not be overcome by measures which the Party might reasonably be expected to take as a Prudent Industry Operator with a view to continuing or resuming performance of its obligations as appropriate.

B.22.3.4   Notwithstanding the foregoing, Force Majeure shall not relieve any Affected Party from any liability to make any payments or charges due under the Code (including without limitation to make Trading Charges, Trading Payments, Capacity Charges or Capacity Payments), even if the payment or charge is incurred in whole or in part as a result of the Force Majeure event save to the extent that any failure to pay is caused by Force Majeure affecting all reasonable means of payment in which event on the cessation of the Force Majeure event, the Affected Party shall pay Interest on any amounts due from the Payment Due Date to the actual date of payment.

B.23   WAIVER

B.23.1.1   No failure to exercise, nor any delay in exercising, on the part of any Party any right or remedy under the Code or the Framework Agreement operates as a waiver thereof, nor shall any single or partial exercise of any right or remedy prevent any further or other exercise thereof or the exercise of any other right or remedy under the Code or the Framework Agreement.

B.24   SEVERANCE

B.24.1.1   Each of the provisions of the Code and the Framework Agreement is severable. If at any time any provision or part of a provision of the Code or the Framework Agreement is or becomes illegal, invalid or unenforceable in any respect for the purposes of any Applicable Law or by the decision of any Competent Authority, it shall be deemed severed from the Code and the legality, validity or enforceability of the remaining provisions (in whole or in part) of the Code or the Framework Agreement shall not in any way be affected or impaired thereby.

B.25   THIRD PARTY BENEFICIARIES

B.25.1.1   Subject to paragraph B.25.1.2, a person who is not a Party shall not have the right (whether under the Contracts (Rights of Third Parties) Act 1999 (United Kingdom), or otherwise) to enforce any provision of the Code or the Framework Agreement, and the Code and the Framework Agreement shall not be construed as granting rights to or imposing any duty or liability on or to, or any duty of care with reference to, any person who is not a Party.

B.25.1.2 Where rights are granted to the Regulatory Authorities or the Market Auditor pursuant to the Code or the Framework Agreement, the Parties confirm and acknowledge that the Regulatory Authorities, or the Market Auditor, as applicable, shall be entitled to enforce the rights granted to them under the Code as against any other Party to the Code by virtue of the Contracts (Rights of Third Parties) Act, 1999 (United Kingdom).

B.25.1.3 Subject to any express rights which the Regulatory Authorities have under the Code and to any rights, powers or functions of the Regulatory Authorities under Applicable Laws, where a person who is not a party to the Code has a right to enforce any provisions of the Code pursuant to paragraph B.25.1.2, the Parties may vary or terminate the Code in accordance with its provisions and without requiring the consent of that person.

B.26 NO ASSOCIATION

B.26.1.1 Except where expressly provided, the Code and the Framework Agreement shall not be interpreted or construed as creating an association, agency, joint venture or partnership between the Parties. Further, except where expressly provided, nothing in the Code or the Framework Agreement shall give any Party the right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or to be an agent or representative of, or otherwise to bind, any other Party.

B.27 ASSIGNMENT

B.27.1.1 Except with the prior written consent of the Regulatory Authorities, or as otherwise expressly provided herein, a Party shall not assign or transfer or purport to assign or transfer all or any of its rights or obligations under the Code or the Framework Agreement. Any request to assign or transfer any or all of a Party's rights under the Code or the Framework Agreement shall be notified to the Market Operator and shall be subject to the prior consent of the Regulatory Authorities but not of any other Party. In giving consent under this paragraph, the Regulatory Authorities may impose such conditions as they determine are necessary for the purposes of the proper functioning of the SEM.

B.27.1.2 A Party may authorise a Data Processing Entity to submit Data in respect of its Units as provided for in Chapter C (Data and Information Systems), provided that each Party shall always remain liable at all times for fulfilling its obligations under the Code.

B.28 PUBLICATION OF THE CODE

B.28.1.1 The Market Operator shall publish the current, effective version of the Code no less frequently than twice yearly in line with the Scheduled Release (unless there has been no change from the previous version). The published version of the Code shall be amended to reflect any Modifications as soon as practical in accordance with the terms set out within Agreed Procedure 12 "Modification Committee Operation". The date of publication of the complete amended version of the Code shall not affect the date of coming into effect of the relevant Modification.

B.28.1.2 The Market Operator shall also publish at all times a list of effective Modifications which have been approved but have not yet been incorporated into the current baseline version of the Code.

B.28.1.3 The Market Operator shall not be obliged to publish any material that it reasonably believes may be of an obscene or libellous or similar nature.

B.29 CONFIDENTIAL INFORMATION

B.29.1.1 Confidential Information means, in relation to any Party, information which is designated in writing by that Party as "confidential information", or which would be considered as being confidential by its nature, and which is disclosed in connection with the Code, the Framework Agreement or the disclosing Party's activities in connection with the Code. Confidential Information shall not include:

(a) the existence of and terms of the Code or the Framework Agreement; and

(b) Data Records or items which are at the relevant time required to be published in accordance with this Code.

B.29.1.2 For the purpose of this section, a "**Recipient Party**" is any Party which receives, acquires possession or control of, or otherwise becomes aware of Confidential Information of another Party. A "**Disclosing Party**" is any Party by whom the Confidential Information is disclosed.

B.29.1.3 Each Recipient Party shall keep confidential any Confidential Information relating to any Disclosing Party and shall:

(a) use the Confidential Information only for the purpose of performing its obligations under the Code and for no other purpose whatsoever;

(b) not at any time disclose, reveal, or otherwise disseminate the Confidential Information to any person or Party whatsoever or to permit any person or Party any form of access to the Confidential Information without the prior written consent of the Disclosing Party;

(c) treat and safeguard as private and confidential all Confidential Information received at any time keeping it and treating it with the same care as any Prudent Industry Operator would be expected to exercise;

(d) not use the Confidential Information, or permit or assist a third party to use the Confidential Information, to procure a commercial advantage over, or an advantage which is in any way likely to be prejudicial, whether directly or indirectly to, the Disclosing Party or to its business, goodwill or reputation; and

(e) not use the Confidential Information or permit or assist a third party to use the Confidential Information to attract management, employees, advisors, agents, representatives, consultants, contractors, sub-contractors or customers away from the Disclosing Party.

B.29.2 Exceptions

B.29.2.1 The obligations set out in paragraph B.29.1.3 do not apply to:

(a) information which at the time of disclosure to the Receiving Party is within the public domain;

(b) information which comes into the public domain other than by reason of a breach of the Code or of any Legal Requirement by the Recipient Party; or

(c) information which was lawfully within the possession of the Recipient Party prior to its being furnished to it by or on behalf of the Disclosing Party as evidenced by the written records of the Recipient Party or the sworn evidence of an officer of the Recipient Party, provided that the source of such

information was not bound by a confidentiality agreement or any other obligation of secrecy in respect thereof.

B.29.3 **Permitted Disclosures**

B.29.3.1 Nothing in paragraph B.29.1.3 shall prevent the disclosure of Confidential Information by a Recipient Party:

(a) to any lending or other financial institution proposing to provide or arrange the provision of finance or Credit Cover to the Recipient Party, where and to the extent that the disclosure of such Confidential Information is reasonably required for the purposes of the provision or arrangement of such finance or Credit Cover, and provided that the person to whom the Confidential Information is disclosed is bound by confidentiality provisions equivalent to those in paragraph B.29.1.3;

(b) as may be required by the regulations of any recognised stock exchange on which the share capital of the Recipient Party (or any parent or affiliated undertaking of the Recipient Party) is or is proposed to be from time to time listed or dealt in, and the Recipient Party shall, if reasonably practicable prior to making the disclosure, and in any event as soon as reasonably practicable thereafter, supply the Disclosing Party with a copy of such disclosure or statement and details of the persons to whom the Confidential Information is to be, or has been, disclosed. Where a copy of such disclosure or statement has been supplied prior to making the disclosure, the Disclosing Party may give comments on that disclosure or statement to the Recipient Party;

(c) as may be required to comply with Legal Requirements of the Recipient Party;

(d) contemplated by a Market Code or any NEMO Rules;

(e) as may be necessary in relation to an application by any person for a connection to or use of the Transmission System or Distribution System in accordance with Section 34 of the Energy Regulation Act, 1999 (Ireland) or with the Northern Ireland Grid Code;

(f) as may be required by the DRB, a Court having competent jurisdiction or a Competent Authority; or

(g) as may be otherwise agreed in writing by the Disclosing Party prior to disclosure by the Recipient Party.

B.29.3.2 The confidentiality obligations set out in this section B.29 shall continue to apply to any Terminated Party in respect of Confidential Information which came into its possession while it was a Party.

B.30 FREEDOM OF INFORMATION ACTS

B.30.1.1 All Parties confirm and acknowledge that although they may inform the Market Operator, the System Operators and/or the Regulatory Authorities in writing that specific data submitted under this Code may be classified as Confidential Information, such information may be subject to disclosure in accordance with the provisions of the Freedom of Information Acts as applicable. All Parties acknowledge that any such statement does not bind the Market Operator, any System Operator or the Regulatory Authorities nor guarantee that any such described information will not be subject to disclosure under the Freedom of Information Acts.

B.31 DATA PROTECTION

B.31.1.1 Without prejudice to the generality of any other provision of this Code, each Party shall comply with applicable requirements of Data Protection Legislation in respect of any Personal Data which it Processes in the course of its activities in connection with the Code. All Parties shall use their reasonable endeavours to enter into any contract necessary to legitimise the Processing of Personal Data under Data Protection Legislation.

B.31.1.2 Each Party ("Indemnifying Party") shall indemnify each other Party and the Regulatory Authorities in respect of any loss or liability howsoever arising incurred by that Party, or the Regulatory Authorities, as appropriate, as a result of a breach of paragraph B.31.1.1 by the Indemnifying Party.

B.32 NOTICES

B.32.1.1 This section B.32 applies to Notices which shall, for the avoidance of doubt, include:

(a) Default Notices;

(b) Suspension Orders;

(c) Termination Orders;

(d) Notice of Dispute and the current status of each;

(e) notices of dissatisfaction under paragraph B.19.9.7;

(f) Referral Notices;

(g) notification of Force Majeure;

(h) Notice of revocation of an Intermediary's authority under paragraph B.11.1.7;

(i) Notice of proposed revocation of an Interconnector Administrator's authority under paragraph B.10.1.12;

(j) Notice of resignation of an Interconnector Administrator under paragraph B.10.1.13;

(k) Notice of proposed revocation of the authority of the Participant in respect of an Interconnector Error Unit under paragraph B.10.3.3;

(l) Notice of proposed Deregistration of the Interconnector Error Unit under paragraph B.10.3.4;

(m) Notices required for the purposes of disputes determination procedure as described in detail in Agreed Procedure 14 "Disputes"; and

(n) unless Agreed Procedure 12 provides otherwise, Notices required for the purposes of the modifications procedure as described in Agreed Procedure 12 "Modifications Committee Operation".

B.32.2 Notice to Other Parties

B.32.2.1 Any Notices required to be given for the purposes of the Code shall be given in writing unless otherwise specified in the Code.

B.32.2.2 Notices in writing shall be addressed and sent to the receiving Party at the address, facsimile or email address specified by the receiving Party for the purposes of the receipt of Notices under the Code or such other address, facsimile number or email

address as the receiving Party may from time to time specify by notice given in writing in accordance with this Chapter B to the Party giving the notice.

B.32.2.3 Notices shall be marked for the attention of the representative of the receiving Party specified for the purpose of receipt of Notices or such other person as may be notified by the receiving Party to the Sending Party in accordance with the provisions of this Chapter B.

B.32.2.4 Any Notice of a kind listed in any of paragraphs B.32.1.1(a) to B.32.1.1(c) and B.32.1.1(g) to B.32.1.1(l) given by facsimile or email shall be confirmed by forwarding a copy of the same by pre-paid registered post provided that failure to receive such confirmation shall not prejudice effective receipt of the notice under paragraph B.32.2.5. This is with the exception of SEM NEMO Credit Reports, a Required Credit Cover Report containing a Warning Notice, a Required Credit Cover Report containing a Credit Cover Increase Notice which do not require confirmation by post.

B.32.2.5 Any Notice in writing shall be deemed to have been received:

(a) in the case of delivery by hand, when delivered; or

(b) in the case of prepaid post, on the second Working Day following the day of posting or, if sent from another jurisdiction other than Northern Ireland or Ireland, on the fifth Working Day following the day of posting; or

(c) in the case of facsimile, at 5pm on the Working Day on which the Notice was sent as evidenced by a transmission report of the sending Party showing that the Notice has been transmitted; or

(d) in the case of email when the email enters the receiving Party's IT system.

B.32.2.6 Each Party shall, on registration, specify at least one postal address, facsimile number, and email address and one representative for the service of Notices in writing and may amend such details by notifying the relevant Market Operator representative in writing.

B.32.2.7 A Party may specify different addresses (including email addresses) or facsimile numbers and representatives for the purposes of Notices of different kinds or relating to different matters.

B.32.2.8 For the purposes of this Code, "facsimile" includes e-fax.

B.32.3 **Notice to the Regulatory Authorities**

B.32.3.1 Any Notice to the Regulatory Authorities shall be in writing (which for the purposes of this paragraph shall not include email) and shall be addressed:

(a) in respect of matters relating to a particular Unit or Participant, to the relevant Regulatory Authority at such address or number and marked for the attention of such person as that Regulatory Authority may publish; and

(b) in respect of other matters, to each Regulatory Authority, or to such single address as may be published by the Regulatory Authorities for the purposes of the joint receipt of notifications under the SEM.

B.32.3.2 Notices to the Regulatory Authorities shall be effective upon actual receipt.

B.32.4 **Market Operator Notices**

B.32.4.1 Notices which are required to be published by the Market Operator shall be published on its website within any applicable timeframes set out in this Code.

C. DATA AND INFORMATION SYSTEMS

C.1   INTRODUCTION

C.1.1   **Purpose**

C.1.1.1   This Chapter C sets out rules relating to the systems and procedures for the communication of Data Transactions and REMIT Data Transactions by each Party to the Market Operator, and by the Market Operator to one or more Parties, and the rules and principles for the publication by the Market Operator of data and information relating to the trading arrangements under this Code.

C.1.2   **General**

C.1.2.1   A Party (other than the Market Operator) may appoint a Data Processing Entity, in accordance with Agreed Procedure 1 "Registration", to do any or all of the following tasks for and on behalf of the Party or any of its Participants:

(a)   to submit applicable Data Transactions;

(b)   to raise Settlement Queries; or

(c)   to view but not modify Settlement Statements.

C.1.2.2   The Isolated Market System used by any Data Processing Entity must comply with the requirements set out in the Code and must pass Communication Channel Qualification. A Party shall at all times remain liable for the performance of, and compliance with the Code by, its Data Processing Entity.

C.1.2.3   Where a Party or Participant (except the Market Operator) has an obligation in relation to the submission of Data Transactions and that Party or Participant has appointed a Data Processing Entity, then:

(a)   that Party or Participant shall procure that the obligation is performed or observed by the relevant Data Processing Entity; and

(b)   the acts and omissions of the relevant Data Processing Entity in that capacity are taken to be those of that Party or Participant.

C.1.2.4   Where the Code requires data forming part of a Data Transaction to be "submitted", it must be submitted in accordance with the applicable rules for submission of Data Transactions as set out in this Chapter C and Appendices F to L.

C.1.2.5   Where the Market Operator is required to "issue", "submit" or "send" data to a Party, unless otherwise specified, the Market Operator may meet this requirement in respect of users of Type 2 Channel and Type 3 Channel by making the data available for retrieval by the relevant Party in accordance with timescales specified under this Code. In the event that:

(a)   no timescale is specified for the issue, submission or sending of data; or

(b)   the event or circumstance giving rise to the issue, submission or sending of data is not timetabled; or

(c)   the Market Operator has failed to "issue", "submit" or "send" the data, as appropriate, in accordance with the specified timescale,

the Market Operator will meet the requirement in respect of users of Type 2 Channel and Type 3 Channel by making the data available for retrieval by the relevant Party and by notifying the Party that the data is available, provided that in relation to the circumstances set out in sub-paragraph C.1.2.1(c), such action shall not meet the timing element of the requirement.

C.2 DATA COMMUNICATION CHANNELS

C.2.1 Communication Channel Types

C.2.1.1 The Market Operator shall establish and maintain three distinct Communication Channels, as more particularly described in Agreed Procedure 3 "Communication Channel Qualification":

(a) Type 1 Channel, meaning manual communication comprising but not limited to paper based communications and facsimile communications;

(b) Type 2 Channel meaning assisted communication (human to computer);and

(c) Type 3 Channel meaning automated communication (computer to computer).

C.2.1.2 Each Participant must designate, by Notice to the Market Operator, one or both of the Type 2 Channel and the Type 3 Channel.

C.2.1.3 Appendices F-L and the relevant Agreed Procedures referred to in each Appendix, set out the rules relating to each Data Transaction.

C.2.2 Obligation of Parties to Maintain a Functional Interface to the Communication Channels

C.2.2.1 A Party or Participant must meet any requirements as specified pursuant to paragraph B.7.6.5(b) to use a Communication Channel.

C.2.2.2 Subject to paragraph C.2.2.4, a Participant must remain qualified for each Communication Channel which it designates in accordance with Agreed Procedure 3 "Communication Channel Qualification" for the duration of its participation in the SEM.

C.2.2.3 The Market Operator may suspend a Participant's use of a Type 2 Channel or Type 3 Channel, or both, where the Market Operator reasonably determines, as provided for in Agreed Procedure 3 "Communication Channel Qualification", that the Participant's communications over that Communication Channel materially fail to meet the standards in Agreed Procedure 3 "Communication Channel Qualification" or Agreed Procedure 5 "Data Storage and IT Security". In such an event, the Market Operator shall immediately contact the affected Participant to explain the reason for the suspension which shall last until issues are resolved, and may specify the steps for that Participant to take to resolve the issue.

C.2.2.4 A Party may apply to change its designated Communication Channel Type(s) for any of its Participants in accordance with Agreed Procedure 1 "Registration" and Agreed Procedure 3 "Communication Channel Qualification", provided that it continues to designate at least one of Type 2 Channel and Type 3 Channel for each Participant. No such change shall take effect without the Market Operator's prior written consent which shall not be unreasonably withheld or delayed.

C.2.2.5 The Market Operator shall provide technical and operational advice to Parties in relation to the Communication Channels and the interfaces to those Communication

Channels. This is set out in Agreed Procedure 11 "Market System Operation, Testing, Upgrading, and Support".

C.2.3   **Obligation on Parties to Maintain IT Security**

C.2.3.1   Parties shall ensure that their interfaces for Type 2 Channel and Type 3 Channel shall comply with the IT security requirements set out or referenced in Agreed Procedure 5 "Data Storage and IT Security".

C.2.4   **Specific IT Security Obligations on the Market Operator**

C.2.4.1   The Market Operator shall put in place and maintain procedures for the security of the Market Operator's Isolated Market System in accordance with Agreed Procedure 5 "Data Storage and IT Security".

C.2.4.2   Notwithstanding the requirements of the Modifications Process, no document required to be published in connection with the process of modifying Agreed Procedure 5 "Data Storage and IT Security" shall contain a level of detail such that its publication could reasonably be expected to compromise the security of the Market Operator's Isolated Market System.

C.2.5   **Obligation on Parties during Testing and Upgrading of Isolated Market Systems and Communication Channels**

C.2.5.1   The Market Operator shall co-ordinate and facilitate testing of the Market Operator's Isolated Market System and the interfaces to Communication Channels as described under Agreed Procedure 11 "Market System Operation, Testing, Upgrading, and Support".

C.2.5.2   The Market Operator shall provide reasonable prior notice to all affected Parties of any proposed testing, upgrading or down-time of the Market Operator's Isolated Market System or the Communication Channels.

C.2.5.3   The Market Operator shall, where practicable, schedule testing, upgrading, or down-time of the Market Operator's Isolated Market System or the Communication Channels in consultation with Parties under Agreed Procedure 11 "Market System Operation, Testing, Upgrading, and Support". The Market Operator will use reasonable endeavours to minimise the impact of the testing or down-time of the Market Operator's Isolated Market System on Parties.

C.2.5.4   The Market Operator shall ensure that the scheduled testing or down-time will, where practicable, be scheduled in a manner which does not preclude Settlement and does not preclude Commercial Offer Data and Technical Offer Data being submitted before the relevant Gate Closure.

C.2.5.5   Scheduled Market Operator Isolated Market System down-time will not constitute failure by the Market Operator to fulfil its obligations under the Code where:

(a)   the down-time is of reasonable duration; and

(b)   the procedure of notification under paragraph C.2.5.2 was followed by the Market Operator.

C.2.5.6   All Parties shall facilitate the co-ordination of testing and upgrading of the Communication Channels and the Market Operator's Isolated Market System as and when requested by the Market Operator in connection with a proposed event of which notice has been given pursuant to paragraph C.2.5.2

C.2.5.7   Any Party proposing to undertake any testing or upgrading work which may impact on the interfaces of the Market Operator or another Party's Isolated Market System shall inform the Market Operator of this as soon as reasonably practicable. The Market Operator shall be entitled to issue instructions in relation to the undertaking of any such work for the purposes of the proper operation of the Code, and the Party concerned shall comply with such instructions. Each Party shall ensure that any testing or upgrading of its own Isolated Market System is undertaken at a time and in a manner so as to minimise any adverse effect for any other Party's Isolated Market System or the use by any other Party of any Communication Channel.

C.2.6   **Data Categories and Data Transactions**

C.2.6.1   The requirements and procedures relating to Data Transactions are more particularly described in Appendices F to L and Agreed Procedure 4 "Transaction Submission and Validation".

C.2.6.2   For each Data Transaction, the Sending Party, other than the System Operators, Meter Data Providers and any Interconnector Administrator, may assign it an identifier in accordance with Agreed Procedure 4 "Transaction Submission and Validation" that shall be stored by the Receiving Party to assist the Sending Party in identifying the Data Transaction.

C.2.6.3   For each Data Transaction or group of Data Transactions in a single communication for which the Market Operator is the Receiving Party, the Market Operator shall assign it a unique identifier in accordance with Agreed Procedure 4 "Transaction Submission and Validation" and shall store such identifier to enable it to uniquely identify the Data Transaction.

C.2.6.4   In the event that a Data Transaction is wrong or defective, the Sending Party shall, after becoming aware of the error or defect, re-submit that Data Transaction within any applicable timelines.

C.2.6.5   On request by a Sending Party, the Market Operator shall, within the timelines provided for pursuant to Agreed Procedure 4 "Transaction Submission and Validation", identify, or shall facilitate identification by that Sending Party of, the Accepted data for that Party or any of its Units, for any particular Imbalance Settlement Period.

C.3   SUBMISSION, VALIDATION AND REJECTION OF CMS DATA TRANSACTIONS

C.3.1.1   Parties and Participants shall, unless otherwise specified, submit CMS Data Transactions in accordance with the Code.

C.3.1.2   Subject to paragraphs section C.5 (concerning communication failures and system failures), the Sending Party shall send a CMS Data Transaction using either the Type 2 Channel or Type 3 Channel, and all System Operators, Meter Data Providers and Interconnector Administrators shall use Type 3 Channel.

C.3.1.3   A CMS Data Transaction shall be deemed to be received by the Market Operator at the time that the Market Operator's Isolated Market System records it as entering via a valid, functioning Type 2 Channel or Type 3 Channel, or if sent by another means as permitted under section C.5, at the time that it is deemed to be received in accordance with paragraph B.32.2.6 and has successfully completed initial validation

checks to ensure that the Market Operator's Isolated Market System can receive the data as specified in Agreed Procedure 4 "Transaction Submission and Validation".

C.3.1.4   On receipt of a CMS Data Transaction, the Market Operator shall send a Confirmation Notice to the Sending Party using the same Communication Channel as used by the Sending Party. The Confirmation Notice shall contain a time stamp and sufficient information to enable the Sending Party to identify the CMS Data Transaction to which it relates.

C.3.1.5   If the Sending Party does not receive a Confirmation Notice by the time it is due, as set out in Agreed Procedure 4 "Transaction Submission and Validation", then:

(a)   for CMS Data Transactions in Appendix I "Offer Data", the Sending Party may, but shall not be obliged to, contact the Market Operator by calling the Market Operator Help Desk as described subject to Agreed Procedure 7 "Emergency Communications"; or

(b)   for CMS Data Transactions in Appendix J "Data Transactions from Market Operator to System Operator" or Appendix L "Meter Data Transactions", the Sending Party must contact the Market Operator by calling the Market Operator Help Desk as described in Agreed Procedure 7 "Emergency Communications",

in order to establish whether or not its CMS Data Transaction has been received.

C.3.1.6   The Market Operator:

(a)   shall be under no obligation to follow up any Party that has not submitted any particular CMS Data Transaction; and

(b)   shall have no liability in respect of any CMS Data Transaction which it has not received under paragraph C.3.1.3, or any CMS Data Transaction which contains defective or incorrect data, or for using any data contained in any Validated CMS Data Transaction or Default Data as contemplated by this Code.

C.3.1.7   The Market Operator shall, in respect of each CMS Data Transaction received by it prior to the deadlines set out in Appendix I "Offer Data", Appendix K "Other Market Data Transactions" and Appendix L "Meter Data Transactions" (as applicable), process the CMS Data Transaction to determine whether it is valid in accordance with Agreed Procedure 4 "Transaction Submission and Validation". The Market Operator shall determine a CMS Data Transaction to be valid if the conditions set out in Agreed Procedure 4 "Transaction Submission and Validation" are satisfied in respect of that CMS Data Transaction and shall reject the CMS Data Transaction if such conditions are not so satisfied.

C.3.1.8   Following the processing of a CMS Data Transaction under paragraph C.3.1.7, the Market Operator shall send a Validation Notice or a Rejection Notice to the Sending Party using the same Communication Channel as that used by the Sending Party to send the CMS Data Transaction and in accordance with Agreed Procedure 4 "Transaction Submission and Validation". The Market Operator shall specify in any Rejection Notice the conditions set out in Agreed Procedure 4 "Transaction Submission and Validation" that were not satisfied.

C.3.1.9   The Market Operator may send both a Confirmation Notice and a Validation Notice or Rejection Notice in respect of a CMS Data Transaction in a single communication provided that it satisfies the timelines provided for pursuant to Agreed Procedure 4

"Transaction Submission and Validation" for the issue of each of the Confirmation Notice and the Validation Notice or Rejection Notice.

C.3.1.10 If a Meter Data Provider or a System Operator does not receive a Confirmation Notice and either a Validation Notice or a Rejection Notice for a CMS Data Transaction by the time it is due pursuant to Agreed Procedure 4 "Transaction Submission and Validation", then it must contact the Market Operator by calling the Market Operator helpdesk as described in Agreed Procedure 7 "Emergency Communications".

C.3.1.11 Save as expressly provided otherwise, for each Participant, Unit and Imbalance Settlement Period, and each relevant category of CMS Data Transaction, the Market Operator shall be obliged to use, for all purposes set out in the Code, only the most recently received CMS Data Transaction of that category that has been Validated.

C.3.1.12 The Market Operator shall use the CMS Data Transaction as required by paragraph C.3.1.11 regardless of whether or not it has issued a Confirmation Notice or Validation Notice to the Sending Party in respect of that CMS Data Transaction, or whether that CMS Data Transaction was Validated prior to or following the appropriate Gate Closure in respect of that CMS Data Transaction.

C.3.1.13 Where two or more CMS Data Transactions are received contemporaneously, the Market Operator shall use the procedures provided for in Agreed Procedure 4 "Transaction Submission and Validation" to determine the deemed order of receipt of the CMS Data Transactions.

C.4 CMS DATA TRANSACTION AND MARKET PROCEDURES

C.4.1 **System Operator Market Data Transactions, Interconnector, Administrator Market Data Transactions and Meter Data Transactions**

C.4.1.1 The Market Operator shall not estimate or substitute Market Data Transactions provided by the System Operator or the Interconnector Administrator in accordance with Appendix K "Other Market Data Transactions", or Meter Data Transactions, except as required when Administered Imbalance Settlement is in effect.

C.4.1.2 If for a particular Imbalance Settlement Period, in relation to any one of the CMS Data Transactions listed in Appendix K "Other Market Data Transactions" or Appendix L "Meter Data Transactions" either:

(a) no such CMS Data Transaction has been received by the Market Operator before the applicable deadline; or

(b) none of the CMS Data Transactions received prior to the applicable deadline meets the requirements to be Validated by the Market Operator,

then, all calculation and processing in relation to Settlement by the Market Operator and to which the relevant data relates shall be deferred until the valid data is provided to and accepted by the Market Operator, unless Administered Imbalance Settlement is in effect.

C.4.1.3 When processing is deferred in accordance with paragraph C.4.1.2, the obligations of the Market Operator in respect of any consequential Data Transactions and publication shall also be deferred accordingly.

C.4.1.4 Notwithstanding paragraphs C.4.1.2 and C.4.1.3, the Market Operator shall use Prudent Electric Utility Practice to continue any provisions of the Code that it deems appropriate to avoid further delays.

C.4.1.5   In the event that a circumstance of the type set out in paragraph C.4.1.2(a) arises due to a communications failure or any error affecting the System Operator, Interconnector Administrator, or Meter Data Provider outside of the Market Operator's Isolated Market System, the System Operator, Interconnector Administrator or Meter Data Provider will comply with Agreed Procedure 7 "Emergency Communications" to submit the required Data Transaction to the Market Operator within one day of the specified submission deadline in the Code.

C.4.1.6   Following the occurrence of the circumstances described in paragraph C.4.1.2, the Market Operator shall, once the necessary data has been received, take steps to undertake all the necessary deferred processing as rapidly as reasonably possible and shall promptly inform all Parties of the changes to the Settlement Calendar that will result.

C.5   COMMUNICATION AND SYSTEM FAILURES

C.5.1.1   As soon as is practicable following any General Communication Failure or General System Failure, the Market Operator shall take all practicable measures to maintain and, where necessary, restore its Isolated Market System and the Communication Channels under its control.

C.5.1.2   Agreed Procedure 7 "Emergency Communications" sets out the methods of communication to be used for Data Transactions, and any permitted derogations from the required timelines for submission of Data Transactions, which shall apply during a Limited Communication Failure, a General Communication Failure or a General System Failure.

C.5.2   Limited Communication Failure

C.5.2.1   As soon as a Participant becomes aware, or should have become, aware of the commencement of a Limited Communication Failure, that Participant shall notify the Market Operator of the Limited Communication Failure using another valid means of communication, other than the failed Communication Channel(s), as provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.5.2.2   During a Limited Communication Failure, the affected Participant shall use the methods of communication, other than the failed Communication Channel(s), as provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.5.2.3   A Limited Communications Failure shall not affect the obligations of any Party to submit data.

C.5.2.4   No Party or Participant shall be entitled to reimbursement of costs or expenses incurred in connection with using alternative communication methods during a Limited Communication Failure.

C.5.3   General Communication Failure

C.5.3.1   When the Market Operator becomes, or should have become, aware of a General Communication Failure, the Market Operator shall inform Parties of the General Communication Failure using the methods of communication provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.5.3.2   During a General Communication Failure, Parties and Participants shall use the methods of communication provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.5.3.3 Notwithstanding paragraph C.5.1.1, in the event of a General Communication Failure, the Market Operator shall act prudently and reasonably to prioritise Data Transactions necessary for the calculation of Imbalance Settlement Prices, Trading Charges, Trading Payments, and Settlement in the event that some of its obligations under the Code cannot be reasonably fulfilled due to the nature of the General Communication Failure.

C.5.3.4 No Party or Participant shall be entitled to reimbursement of costs or expenses incurred in connection with using alternative communication methods in case of a General Communication Failure.

C.5.4 General System Failure

C.5.4.1 When the Market Operator becomes aware, or should have become, aware of a General System Failure, the Market Operator shall inform Parties of the General System Failure using the methods of communication provided for by Agreed Procedure 7 "Emergency Communications".

C.5.4.2 During a General System Failure, Parties shall use the methods of communication provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.5.4.3 During a General System Failure, all calculations by the Market Operator for the purposes of Settlement relating to Trading Days, or Settlement Days as appropriate, for which the necessary data cannot be accessed or processed may be deferred. However, the Market Operator may continue processing to the extent possible in respect of any Imbalance Settlement Periods for which all data as required by the Code is available.

C.5.4.4 In the event of a General System Failure, the Market Operator must restore the Market Operator's Isolated Market System to working order according to the timelines and standards provided for pursuant to Agreed Procedure 11 "Market System Operation, Testing, Upgrading, and Support".

C.5.4.5 Following the restoration of the Market Operator's Isolated Market System, the Market Operator shall recommence processing and restore its operation to normal timescales as soon as reasonably possible and shall promptly inform all Parties of the changes to the Settlement Calendar that will result.

C.5.4.6 No Party or Participant shall be entitled to reimbursement of costs or expenses incurred in connection with using alternative communication methods in case of a General System Failure.

C.5.5 Reporting of General Communication Failures, General System Failures

C.5.5.1 The Market Operator shall commission an externally audited report in accordance with the timelines provided for pursuant to Agreed Procedure 11 "Market System Operation, Testing, Upgrading, and Support" in the event of any General Communication Failure or General System Failure which materially affects Participants, for the purpose of investigating and identifying the cause of the failure and assessing the resulting response to that failure of all Parties. The Market Operator shall provide the report to the Regulatory Authorities.

C.5.5.2 During any General Communication Failure or General System Failure, the Market Operator will keep Parties updated of the best estimate of when the Market Operator's Isolated Market System will be operational again following the General

Communication Failure or General System Failure, as provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.5.5.3   Unless indicated otherwise by the Market Operator, a General Communication Failure or General System Failure shall not affect the obligations of any Party to submit data. As soon as a Party becomes, or should have become, aware of any such failure, that Party shall use another valid means of communication other than the failed Communication Channel(s) as provided for pursuant to Agreed Procedure 7 "Emergency Communications".

C.6   METER DATA REQUIREMENTS

C.6.1.1   Each Meter Data Provider shall provide such meter registration identification, estimation, substitution, aggregation, communication and storage services as are provided for in the Metering Code or Grid Code (as applicable) for the installed meters of categories identified under Appendix L "Meter Data Transactions".

C.6.1.2   Each Meter Data Provider shall submit to the Market Operator the Data Transactions defined in Appendix L "Meter Data Transactions" in accordance with the timelines provided for in Agreed Procedure 16 "Provision of Meter Data" to the standards specified in the Metering Code or Grid Code as applicable.

C.6.1.3   A Party (or Applicant as applicable) who applies to register a Dispatchable or Controllable Generator Unit must ensure that there is appropriate equipment installed at the relevant Generator to permit real-time monitoring of the Output of that Generator.

C.6.1.4   A Party that registers a Generator Unit must ensure that there is Interval Metering installed by the Relevant Meter Operator responsible for installing, commissioning and maintaining such meters at the relevant Generator to meter Generation. Such Interval Metering, Meter Communication Channels and associated power supplies shall be to an approved standard, sufficient to allow routine polling of that Interval Metering by the responsible Meter Data Provider for provision of data to the Market Operator as identified under Appendix L "Meter Data Transactions" and further detailed in the Metering Code.

C.6.1.5   Demand or Generation aggregated by a Meter Data Provider may utilise standard consumption profiles or standard generation profiles to derive half-hourly metered values in place of Interval Metering.

C.6.1.6   During the registration process described in Agreed Procedure 1 "Registration", the Meter Data Provider or the System Operator as appropriate, shall inform the Market Operator if a Unit does not fulfil its metering or operational requirements for the Unit classification requested by the relevant Party.

C.6.1.7   If a Party does not have adequate metering installed in respect of any of its Units under paragraph C.6.1.4 or appropriate equipment to permit real-time monitoring of Output by the System Operator under paragraph C.6.1.3 to facilitate Settlement under the rules of the Code without further netting, aggregation or estimation rules, the Meter Data Provider shall determine, subject to accuracy, practicality and cost, in consultation with the affected Party, and subject to the prior written approval of the Regulatory Authorities, the appropriate bespoke netting, aggregation, or estimation rules to allow for Settlement of that Unit under the Code.

C.6.1.8   Where such netting, aggregation and estimation rules as provided for under paragraph C.6.1.7 are determined by the Regulatory Authorities to be inaccurate or impractical following any information and advice provided by the Meter Data Provider, the Regulatory Authorities may require the Participant (or Applicant, as applicable) to adjust the form of registration of that Generator Unit or Trading Site until the appropriate metering equipment or equipment to permit real-time monitoring of Generator Unit Availability under paragraph C.6.1.3 is installed in accordance with such timeframes as are provided for in the Metering Code or Grid Code as applicable.

C.6.1.9   The Meter Data Providers, System Operators and Interconnector Administrators shall facilitate the timely resolution of any relevant Settlement Query, or Dispute raised under the Code, so that data shall comply with standards specified in the relevant Metering Code or Grid Code as applicable.

C.6.1.10   Parties that have registered Units must facilitate the Relevant Meter Operator in fulfilling such obligations regarding the installation, commissioning, calibration, maintenance, testing, inspection, security, repair, reading of and access to meter equipment as are provided for in the relevant Metering Code or Grid Code as applicable.

C.6.1.11   Meter Data Providers are required to submit to the Market Operator, the Data Transactions as described in Agreed Procedure 1 "Registration".

C.7   DATA PUBLICATION

C.7.1   General

C.7.1.1   Where the Market Operator is required to publish information under the Code, the Market Operator shall publish the information in accordance with paragraphs A.4.1.1(o) and A.4.1.1(p) and as provided for pursuant to Agreed Procedure 6 "Data Publication and Data Reporting" which sets out details of the procedures for publication of data by the Market Operator under the Code.

C.7.2   Data Record Publication

C.7.2.1   The Market Operator shall publish any Data Records required to be published pursuant to Appendix E "Data Publication" in accordance with the timelines set out in Appendix E "Data Publication".

C.7.2.2   The Market Operator shall not publish any Confidential Information except as otherwise expressly provided for in the Code.

C.7.3   Forecast Publication Rationale

C.7.3.1   The Market Operator shall publish Load Forecasts and Wind Power Unit Forecasts and the assumptions behind the production of those forecasts using the data most recently submitted by the System Operators to the Market Operator at the time of publication.

C.7.4   Updating Publications

C.7.4.1   Where the Market Operator has published data and such data is updated prior to its use in any calculation performed by the Market Operator, then, subject to any contrary provision of the Code, the Market Operator shall publish the updated data in

accordance with Appendix E "Data Publication" and Agreed Procedure 6 "Data Publication and Data Reporting".

C.7.5   **Numerical Rounding of Calculations and Publications**

C.7.5.1   The Market Operator shall use consistent numerical rounding of all published quantities in accordance with the following:

(a)   all energy variables will be expressed in MWh to three decimal places;

(b)   all power variables will be expressed in MW to three decimal places;

(c)   all Currency variables (excluding exchange rates) will be expressed in euro or in pounds sterling as appropriate, and to two decimal places;

(d)   all parameters, ratios, factors, discounts, premiums, currency exchange rates, rates, and proportions used in calculations shall be published to the same number of decimal places as that used in calculations; and

(e)   time shall be expressed to the nearest second.

C.7.5.2   Without prejudice to paragraph C.7.5.1, the Market Operator may publish specific quantities consistent with the precision to which the published quantities are calculated as set out in Agreed Procedure 5 "Data Storage and IT Security".

C.7.5.3   Without prejudice to paragraph C.7.5.1, the Market Operator shall not round any variable, quantity, parameter, volume, ratio, factor, discount, premium, rate, or proportion during calculation other than that automatically arising from the limitations of its IT systems, unless specifically required under this Code.

C.7.5.4   The level of computational precision and the method of computational rounding that shall be employed by the Market Operator's IT systems are set out in more detail in Agreed Procedure 5, "Data Storage and IT Security".

C.7.6   **Obligation on the Market Operator to Retain Market Data Transactions**

C.7.6.1   The Market Operator shall, in relation to each Trading Day, store, for the period of six years commencing on that Trading Day, at least one copy of all Data Transactions and Accepted data in a safe and secure environment and in a form which shall enable re-calculation or reproduction of any Settlement Statement by the Market Operator's Isolated Market System.

C.7.7   **Obligation on the Market Operator to Maintain Market Re-Run Capabilities**

C.7.7.1   The Market Operator shall, in relation to each Settlement Day, maintain, for the period of two years commencing on that Settlement Day, the ability to perform a Settlement Rerun for that Settlement Day using the Market Operator's Isolated Market System as it applied on that day.

C.7.7.2   The Market Operator shall, in relation to each Settlement Day, maintain, for the period of six years (or such longer period as shall be necessary to comply with the requirements of the relevant Revenue Authority) commencing on that Settlement Day, the ability to manually perform any Settlement Rerun required as a result of a decision of a Dispute Resolution Board or of any other Competent Authority.

C.7.8   **REMIT Data**

C.7.8.1   A Participant may appoint the Market Operator to report REMIT Data to the European Agency for the Cooperation of Energy Regulators on its behalf by completing the 'Request to Report' section in the REMIT Notification Form. The Participant may choose to revoke such appointment at any time by completing the 'Notice to Cease Reporting' section in the REMIT Notification Form. The provisions of paragraphs C.7.8.2 to C.7.9.3 shall only apply in the event that and for so long as the Market Operator has been appointed to report REMIT Data in accordance with this paragraph C.7.8.1 and such appointment has not been revoked.

C.7.8.2   The Market Operator shall only process and transmit the REMIT Data to the European Agency for the Cooperation of Energy Regulators on behalf of a Participant for the purposes of compliance with REMIT requirements.

C.7.9   **Liability of the Market Operator and the Participants**

C.7.9.1   The Market Operator shall have no liability in respect of the completeness, accuracy and timely submission by the Participant of any CMS Data Transaction required for REMIT Data Transactions, in accordance with paragraph C.3.1.6.

C.7.9.2   Without prejudice to paragraph C.7.9.1 and subject to it being appointed under paragraph C.7.8.1, the Market Operator shall be responsible for failures in the completeness, accuracy or timely submission of the REMIT Data to the European Agency for the Cooperation of Energy Regulators as required under REMIT.

C.7.9.3   Subject to it being appointed under paragraph C.7.8.1, the Market Operator will provide access to REMIT Data Transactions to relevant Participants in accordance with Appendix E "Data Publication".

D. BALANCING MARKET DATA SUBMISSION

D.1   PURPOSE OF CHAPTER

D.1.1.1   This Chapter specifies how Participants shall submit data for the Balancing Market to the Market Operator.

D.2   GATE OPENING AND CLOSURE

D.2.1.1   Gate Opening in respect of a Trading Day is the time from which Data Transactions for that Trading Day may be submitted and Accepted for use, and is 12:00 19 days prior to the Trading Day.

D.2.1.2   Gate Closure is the time after which particular Data Transactions may no longer be submitted and Accepted, as follows:

(a)   Gate Closure 1 (GC1) in respect of a Trading Day is 13:30 on the day prior to the Trading Day (so that, for example, where a Trading Day commences at 23:00 on a Thursday, Gate Closure 1 is 13:30 on that Thursday); and

(b)   Gate Closure 2 (GC2) in respect of an Imbalance Settlement Period is one hour before the start of that Imbalance Settlement Period.

D.2.1.3   An Open Imbalance Settlement Period is an Imbalance Settlement Period for which Gate Closure 2 has not yet passed.

D.3   TIMING OF DATA SUBMISSION

D.3.1   General

D.3.1.1   Subject to paragraph D.3.2.1, Participants may submit Commercial Offer Data, Technical Offer Data, Physical Notification Data, Forecast Availability Profiles, Forecast Minimum Output Profiles, and Forecast Minimum Stable Generation after Gate Opening and prior to each of the relevant Gate Closures in respect of each Trading Day or Imbalance Settlement Period, as the case may be, in accordance with this section D.3.

D.3.2   Data Submission

D.3.2.1   The provisions of this section D.3.2 do not apply to any Unit which is:

(a)   an Assetless Unit;

(b)   a Trading Unit;

(c)   an Interconnector Error Unit; or

(d)   an Interconnector Residual Capacity Unit.

D.3.2.2   Prior to Gate Closure 1 in respect of each Trading Day, a Participant shall submit for each of its Generator Units which are Dispatchable:

(a)   Commercial Offer Data;

(b)   a Validation Data Set Number;

(c)   Physical Notification Data;

(d)   a Forecast Availability Profile;

(e)   a Forecast Minimum Output Profile; and

(f)   a Forecast Minimum Stable Generation Profile,

in respect of every Imbalance Settlement Period in that Trading Day, as specified in this Code and in accordance with Appendix I "Offer Data".

D.3.2.3   Prior to Gate Closure 2 in respect of an Imbalance Settlement Period, a Participant may submit for any of its Generator Units which are Dispatchable:

(a)   Commercial Offer Data;

(b)   Physical Notification Data;

(c)   a Forecast Availability Profile;

(d)   a Forecast Minimum Output Profile; and/or

(e)   a Forecast Minimum Stable Generation Profile,

for that Imbalance Settlement Period and any subsequent Imbalance Settlement Period in the same Trading Day, as specified in this Code and in accordance with Appendix I "Offer Data".

D.3.2.4   Prior to Gate Closure 2 in respect of an Imbalance Settlement Period, a Participant may submit Physical Notification Data for any of its Generator Units which have Priority Dispatch and which are not Dispatchable, and any of its Supplier Units, in respect of that Imbalance Settlement Period and any subsequent Imbalance Settlement Period in the same Trading Day, as specified in this Code and in accordance with Appendix I "Offer Data".

D.3.2.5   Except as otherwise provided in this Code, the Market Operator shall apply Accepted Commercial Offer Data and Accepted Technical Offer Data for each Generator Unit in the calculations under Chapter F (Calculation of Payments and Charges).

D.3.2.6   The Market Operator may at any time query any Accepted Commercial Offer Data or Accepted Technical Offer Data it has received from a Party if the Data Record and field-level values in that CMS Data Transaction appear, pursuant to Prudent Electric Utility Practice, to be materially incorrect. This discretion of the Market Operator does not in any way diminish the obligations of each Party under paragraph B.14.1.5(d).

D.3.3   Updating and Use of Default Data

D.3.3.1   Each Participant that is required to submit Default Data shall review its submitted Default Data at least once per quarter, and update it as necessary to ensure that the Default Data for each of the Participant's Units continues to comply with the requirements set out in the Code for Technical Offer Data and Commercial Offer Data as appropriate.

D.3.4   Gate Closure Data

D.3.4.1   In accordance with Agreed Procedure 4 "Transaction Submission and Validation", if for a particular Participant, Unit and Gate Closure in respect of any one of the CMS Data Transactions listed in Appendix I "Offer Data", no CMS Data Transaction that meets the requirements to be Validated has been received by the Market Operator by Gate Closure in respect of that Trading Day or Imbalance Settlement Period, as the case may be (or, in the event of a Limited Communications Failure, General Communication Failure, General System Failure or Initiation of Fallback Procedures,

such later time as permitted under Agreed Procedure 7 "Emergency Communications"), then:

(a)   in respect of Gate Closure 1, the Gate Closure Data shall be deemed to be the relevant Default Data as Accepted; or

(b)   in respect of Gate Closure 2, the Gate Closure Data shall be deemed to be the relevant components of the latest Accepted data.

D.4   COMMERCIAL OFFER DATA

D.4.1   Setting of Commercial Offer Data Parameters

D.4.1.1   The Market Price Cap (PCAP) and the Market Price Floor (PFLOOR) shall have the values determined by the Regulatory Authorities from time to time.

D.4.1.2   The Market Operator shall publish the approved values within 5 Working Days of receipt of the Regulatory Authorities' determination or four months before the start of the Year or other period to which the values are intended to apply, whichever is the later.

D.4.2   Commercial Offer Data Requirements

D.4.2.1   Subject to paragraph D.3.2.1, a Participant is required to submit Commercial Offer Data in respect of each of its Generator Units which are Dispatchable in accordance with this section D.4.2. The required Data Records which must be included in the Commercial Offer Data are listed in Appendix I "Offer Data".

D.4.2.2   Where any Participant submits any value for a monetary amount as part of the Commercial Offer Data for a Generator Unit, it shall express the amount in the Currency that is relevant to the Currency Zone in which the Generator Unit is registered, provided that where such an amount is in pounds sterling, the Market Operator shall, for the purposes of all calculations under this Code, convert the value to euro in accordance with Chapter G (Financial and Settlement).

D.4.2.3   All data items submitted as part of Commercial Offer Data are deemed to apply to levels of Output which are net of Unit Load and, in the case of an Autoproducer Site, independent of Demand at that site.

D.4.2.4   A Participant submitting Default Data in accordance with section B.7.2 and section D.3.3 in respect of a Generator Unit shall submit Complex Bid Offer Data for the Commercial Offer Data components of Default Data.

D.4.2.5   A Participant submitting Commercial Offer Data for a Generator Unit in respect of a Trading Day may submit:

(a)   Complex Bid Offer Data, in respect of multiple Open Imbalance Settlement Periods in the format specified in Appendix I "Offer Data"; and

(b)   Simple Bid Offer Data, in respect of each Open Imbalance Settlement Period individually in the format specified in Appendix I "Offer Data".

D.4.2.6   Complex Bid Offer Data shall comprise the following:

(a)   In the case of Generator Units which are not Demand Side Units:

(i)   Start Up Costs; and

(ii)   No Load Costs,

in accordance with section D.4.3;

(b)   In the case of Generator Units which are Demand Side Units, a single Shut Down Cost in accordance with section D.4.3;

(c)   In the case of Generator Units which are Energy Limited Generator Units, a single Energy Limit; and

(d)   Incremental and Decremental Price Quantity Pairs in accordance with section D.4.4.

D.4.2.7   Simple Bid Offer Data shall comprise Incremental and Decremental Price Quantity Pairs for a specified Open Imbalance Settlement Period in accordance with section D.4.4.

D.4.2.8   Each Participant shall ensure that the Forecast Availability Profile submitted in respect of each of its Generator Units at or prior to any Gate Closure shall contain the Participant's forecast of average level of Availability, in MW, for the Generator Unit for each Imbalance Settlement Period in the Trading Day. The forecast Availability values can be positive, but cannot be negative.

D.4.2.9   The Forecast Minimum Output Profile submitted at or prior to any Gate Closure, shall contain the Participant's forecast of the average level of Minimum Output, in MW, for the Generator Unit for each Imbalance Settlement Period in the Trading Day. The Forecast Minimum Output values must be zero except as otherwise specified.

D.4.2.10   The Forecast Minimum Stable Generation Profile submitted at or prior to any Gate Closure, shall contain the Participant's forecast of the average level of Minimum Stable Generation, in MW, for the Generator Unit for each Imbalance Settlement Period in the Trading Day. The Forecast Minimum Stable Generation values can be positive but cannot be negative.

D.4.2.11   A Participant shall ensure that values of the Forecast Availability Profile submitted in respect of Pumped Storage Units or Battery Storage Units, as part of Commercial Offer Data, shall be equal to the expected generation availability for that Pumped Storage Unit or Battery Storage Unit (as the case may be) in each relevant Imbalance Settlement Period.

D.4.2.12   A Participant shall ensure that values of the Forecast Minimum Output Profile submitted in respect of Pumped Storage Units or Battery Storage Units, as part of Commercial Offer Data, shall be equal to the expected pumping capability for that Pumped Storage Unit or storage capability for that Battery Storage Unit (as the case may be) in each relevant Imbalance Settlement Period.

D.4.2.13   Participants shall submit Commercial Offer Data in accordance with the provisions of Appendix I "Offer Data" of the Code, for each of their Demand Side Units in respect of its offered Demand Reduction.

D.4.2.14   A Participant shall ensure that values of the Energy Limit submitted in respect of Energy Limited Generator Units must not exceed the total energy that the Energy Limited Generator Unit is physically capable of generating during the Trading Day.

D.4.3   **Start Up Costs and No Load Costs**

D.4.3.1   A Participant shall ensure that Complex Bid Offer Data in respect of each of its Generator Units which are not Demand Side Units shall include:

(a)   one No Load Cost;

(b)   a Cold Start Up Cost, a Warm Start Up Cost and a Hot Start Up Cost, where the Cold Start Up Cost must be greater than or equal to the Warm Start Up Cost, and the Warm Start Up Cost must be greater than or equal to the Hot Start Up Cost; and

(c)   a Warm Cooling Boundary and a Hot Cooling Boundary, where the Warm Cooling Boundary duration must be greater than or equal to the Hot Cooling Boundary duration.

D.4.3.2   A Participant shall ensure that Complex Bid Offer Data in respect of a Demand Side Unit shall include a single Shut Down Cost.

D.4.3.3   In respect of a Pumped Storage Unit or Battery Storage Unit, a Participant shall ensure the No Load Cost, Cold Start Up Cost, Warm Start Up Cost and Hot Start Up Cost components of Complex Bid Offer Data, including Default Data, are submitted with a value of zero.

D.4.4   Incremental and Decremental Price Quantity Pairs

D.4.4.1   A Participant submitting Commercial Offer Data in respect of a Generator Unit, u:

(a)   shall include a set of Incremental Price Quantity Pairs; and

(b)   may include a set of Decremental Price Quantity Pairs.

D.4.4.2   Each set of Incremental Price Quantity Pairs and (to the extent submitted) Decremental Price Quantity Pairs shall include a minimum of one and a maximum of ten Price Quantity Pairs, each comprising a Price and a Quantity.

D.4.4.3   Each Price can be either positive or negative but cannot exceed the Market Price Cap (PCAP) or be lower than the Market Price Floor (PFLOOR).

D.4.4.4   Each Participant shall, in respect of each of its Generator Units, ensure that each set of Price Quantity Pairs that is submitted for an Imbalance Settlement Period:

(a)   is submitted in order of increasing Quantity;

(b)   has both Prices and Quantities that are monotonically increasing; and

(c)   does not include more than one Price for the same Quantity.

D.4.4.5   Each Participant shall ensure, in the Commercial Offer Data that it submits, that the Price in each Incremental Price Quantity Pair shall be greater than or equal to:

(a)   the Price in each Decremental Price Quantity Pair that has a Quantity that is less than the Quantity in the applicable Incremental Price Quantity Pair; and

(b)   the Price in the Decremental Price Quantity Pair that has the lowest Quantity out of all those Decremental Price Quantity Pairs that have a Quantity greater than or equal to the Quantity in the applicable Incremental Price Quantity Pair.

D.4.4.6   The Market Operator shall adjust the greatest Quantity specified in a set of Price Quantity Pairs to a sufficiently high value such that it is greater than the value of all function of time Dispatch Quantities ($qD_{uoh}(t)$ or $qD_{uo\gamma}(t)$, as applicable) and Final Physical Notification Quantity ($qFPN_{uh}(t)$ or $qFPN_{uy}(t)$, as applicable) for the Generator Unit, u, in the Period, h, or Imbalance Settlement Period, γ, as applicable, in order to ensure that Bid Offer Acceptances can be calculated over the entire operating range of the Generator Unit.

D.4.4.7 The Market Operator shall adjust the lowest Quantity specified in a set of Price Quantity Pairs to a sufficiently low value such that it is less than or equal to the value of all function of time Dispatch Quantities ($qD_{uoh}(t)$ or $qD_{uoy}(t)$, as applicable) and the function of time Final Physical Notification Quantity ($qFPN_{uh}(t)$ or $qFPN_{uy}(t)$, as applicable) for the Generator Unit, u, in the Period, h, or Imbalance Settlement Period, γ, as applicable in order to ensure that Bid Offer Acceptances can be calculated over the entire operating range of the Generator Unit.

D.4.4.8 If both negative and positive Quantities are submitted but a Quantity equal to zero is not submitted as part of a set of Price Quantity Pairs, the Market Operator shall include an additional Price Quantity Pair with a Quantity equal to zero, and a Price which is equal to the Price corresponding to the first positive Quantity in the set of Price Quantity Pairs.

D.4.4.9 For the purposes of all calculations within this Code, the Market Operator shall determine the Price that shall apply at each level of Output for each Generator Unit, u, such that for levels of Output less than or equal to a Quantity specified in the set of Price Quantity Pairs (the "upper bound Quantity") and greater than the next lowest Quantity specified in the set of Price Quantity Pairs, the Price corresponding to the upper bound Quantity applies.

D.4.4.10 In the event that Commercial Offer Data for an Imbalance Settlement Period comprises only a set of Incremental Price Quantity Pairs, the Market Operator shall deem the value of the set of Decremental Price Quantity Pairs to be the same as the set of Incremental Price Quantity Pairs for that Imbalance Settlement Period.

D.4.4.11 A Participant, in respect of a Generator Unit which is Dispatchable, has Priority Dispatch and has zero marginal costs, shall ensure that each Price corresponding to a Quantity in a set of Decremental Price Quantity Pairs is zero, and in the event that a non-zero value is submitted, the value of the Price shall be deemed to be zero.

D.5   TECHNICAL OFFER DATA

D.5.1   Technical Offer Data Requirements

D.5.1.1 The required Data Records which must be included in the Technical Offer Data are set out in Appendix I "Offer Data".

D.5.1.2 Each Participant shall use reasonable endeavours in accordance with Prudent Electric Utility Practice to ensure that all data items submitted as part of Technical Offer Data in respect of each of its Generator Units are accurate and reflect the real capabilities of the relevant Generator Unit at the point where the Unit is Connected, net of Unit Load and with due regard for the impact of forecast ambient conditions on that Generator Unit.

D.5.1.3 Each Participant shall use reasonable endeavours in accordance with Prudent Electric Utility Practice to ensure that Technical Offer Data (including Default Data) submitted in respect of each of its Generator Units shall be consistent with data which is submitted under the applicable Grid Code in respect of the relevant Unit, provided that Technical Offer Data submitted under this Code must be net of Unit Load and shall not be scaled by any Distribution Loss Adjustment Factor.

D.5.1.4 A Participant shall submit additional Data Records in the Technical Offer Data in respect of each of its Pumped Storage Units. These additional Data Records shall be

submitted in accordance with the provisions of Appendix I "Offer Data" and shall be as follows:

(a) Pumped Storage Cycle Efficiency (FPSCE$_{ut}$), submitted as a single value for each Trading Day to apply to all Imbalance Settlement Periods, γ, within that Trading Day, t. The value of Pumped Storage Cycle Efficiency shall in all cases be submitted as greater than 0% and less than or equal to 100% (with the specific value calculated as the relevant quantity of Generation divided by the relevant quantity of Demand);

(b) Off to Generating Time expressed as a whole number of minutes for each Pumped Storage Unit, u, within Trading Day, t;

(c) Off to Spin Pump Time expressed as a whole number of minutes for each Pumped Storage Unit, u, within Trading Day, t;

(d) Spin Pump to Pumping Energy Time expressed as a whole number of minutes for each Pumped Storage Unit, u, within Trading Day, t;

(e) Maximum Storage Quantity (QPSMAXL$_{ut}$) expressed in terms of generation (MWh) for each Pumped Storage Unit, u, within Trading Day, t;

(f) Minimum Storage Quantity (QPSMINL$_{ut}$) expressed in terms of generation (MWh) for each Pumped Storage Unit, u, within Trading Day, t; and

(g) Pumping Capacity expressed in terms of Output (MW) for each Pumped Storage Unit, u, within Trading Day, t.

D.5.1.5 A Participant shall submit additional Data Records in the Technical Offer Data in respect of each of its Battery Storage Units. These additional Data Records shall be submitted in accordance with the provisions of Appendix I "Offer Data" and shall be as follows:

(a) Battery Storage Efficiency (FBSE$_{ut}$), submitted as a single value for each Trading Day to apply to all Imbalance Settlement Periods, γ, within that Trading Day, t. The value of Battery Storage Efficiency shall in all cases be submitted as greater than 0% and less than or equal to 100% (with the specific value calculated as the relevant quantity of Generation divided by the relevant quantity of Demand);

(b) Maximum Battery Storage Quantity (QBSMAXL$_{ut}$) expressed in terms of generation (MWh) for each Battery Storage Unit, u, within Trading Day, t;

(c) Minimum Battery Storage Quantity (QBSMINL$_{ut}$) expressed in terms of generation (MWh) for each Battery Storage Unit, u, within Trading Day, t; and

(d) Battery Storage Capacity expressed in terms of Output (MW) for each Battery Storage Unit, u, within Trading Day, t.

D.5.1.6 For all Pumped Storage Units or Battery Storage Units which utilise the same reservoir or stored energy for any Imbalance Settlement Period, the relevant Participant shall ensure that the values of Maximum Storage Quantity or Maximum Battery Storage Quantity, as the case may be, for the associated Imbalance Settlement Period shall be equal.

D.5.1.7 For all Pumped Storage Units or Battery Storage Units which utilise the same reservoir or stored energy for any Imbalance Settlement Period, the relevant Participant shall ensure that the values of Minimum Storage Quantity or Minimum

Battery Storage Quantity, as the case may be, for the associated Imbalance Settlement Period shall be equal.

D.5.1.8 In respect of Generation at an Autoproducer Site, all Data Records submitted as part of Technical Offer Data are deemed to apply to levels of Output which are net of Unit Load and independent of Demand at that site.

D.5.1.9 Participants shall submit Technical Offer Data in accordance with the provisions of Appendix I "Offer Data" of the Code, for each of their Demand Side Units in respect of its offered Demand Reduction.

D.5.2 Validation Data Sets

D.5.2.1 Each Participant with one or more registered Generator Units shall have a minimum of one and a maximum of six Approved Validation Data Sets for each Generator Unit.

D.5.2.2 Each Approved Validation Data Set shall contain a set of Validation Technical Offer Data which shall be validated by the Market Operator as set out in Agreed Procedure 4 "Transactions Submission and Validation".

D.5.2.3 Approved Validation Data Set Number 1 in respect of each Generator Unit shall be the Approved Primary Validation Data Set for that Generator Unit. The Approved Primary Validation Data Set shall be deemed to contain the Validation Technical Offer Data components of Default Data for all purposes set out in the Code in respect of that Participant.

D.5.3 Submission and Approval of Validation Data Sets

D.5.3.1 Upon registration, and thereafter as required, a Participant shall submit a minimum of one and a maximum of six Validation Data Sets to the Market Operator for each of its Generator Units. For each Validation Data Set subsequently submitted for approval, the Participant shall identify which of the six Validation Data Sets it is intended to comprise or replace.

D.5.3.2 The Market Operator shall provide each submitted Validation Data Set that is identified as such to the relevant System Operator for approval.

D.5.3.3 The System Operator shall assess each submitted Validation Data Set within 10 Working Days and either approve or reject the submitted Validation Data Set and advise the Market Operator accordingly.

D.5.3.4 If a submitted Validation Data Set is approved by the relevant System Operator, the Market Operator shall ensure that the approved status is matched in the CMS within 1 Working Day, in order for the relevant Validation Data Set to be deemed to be an Approved Validation Data Set. The set shall be identified thereafter by its Validation Data Set Number. Otherwise the submitted Validation Data Set shall be deemed to be rejected.

D.5.4 Validation of Data Transactions Containing Validation Technical Offer Data

D.5.4.1 If a Participant submits a Data Transaction identifying a Validation Data Set Number for a given Trading Day at least 10 minutes before the corresponding Gate Closure 1, the relevant Data Transaction shall be Accepted by the Market Operator in respect of the Trading Day.

D.5.4.2   If a Participant does not submit a Data Transaction identifying a Validation Data Set Number for a given Trading Day, the last Accepted and Approved Primary Validation Data Set shall be used by the Market Operator for that Trading Day.

D.5.4.3   The Market Operator shall inform the System Operator as soon as possible after acceptance of data submitted under paragraph D.5.4.1 which Approved Validation Data Set is active for each Generator Unit.

D.5.4.4   In the event that a Participant submits more than one Data Transaction identifying a Validation Data Set Number for a given Trading Day, the most recent Data Transaction that has been Accepted shall supersede all previously submitted Data Transactions in respect of that same Trading Day.

D.5.5   Updating Approved Validation Data Sets

D.5.5.1   Each Participant that has one or more Approved Validation Data Sets shall review its Approved Validation Data Sets at least once every three months and update as necessary to ensure that the Approved Validation Data Sets for each of the Participant's Generator Units continue to comply with the requirements set out in the Code.

D.5.5.2   Any submitted Validation Data Set which is an update to an Approved Validation Data Set shall be submitted by the relevant Participant to the Market Operator in accordance with the provisions of paragraph D.5.3.1.

D.6   SYSTEM DATA

D.6.1   Provision of Forecast Data by the System Operators

D.6.1.1   Each System Operator shall submit to the Market Operator the following forecast values pertaining to its Jurisdiction in accordance with Appendix K "Other Market Data Transactions":

(a)   Annual Load Forecast;

(b)   Monthly Load Forecast;

(c)   Four Day Load Forecast; and

(d)   Wind Power Unit Forecast.

D.6.1.2   The Market Operator shall calculate the Annual Combined Load Forecast Quantity for each Imbalance Settlement Period, γ, within the relevant Year as the sum of the submitted values of the Annual Load Forecast for each Jurisdiction within 5 Working Days of receipt of the Annual Load Forecast from every System Operator.

D.6.2   Net Output Function

D.6.2.1   Each System Operator, each Meter Data Provider and each Participant shall provide all values expressed in MW, MW/min or MWh that are required under this Code, in each case net of Unit Load.

D.6.2.2   The Net Output Function is a linear transformation that shall be used by each System Operator to convert values relating to Gross Output to values that are net of Unit Load.

D.6.2.3   The Net Output Function and its application are set out in this paragraph D.6.2.3. If XG_u is a quantity gross of Unit Load at the relevant time, then XN_u is the quantity net of Unit Load, pertaining to a Generator Unit, u at that time, calculated as follows:

$$XN_u = ULS_u \times XG_u - FUL_u$$

where:

(a) FUL_u is the Fixed Unit Load for Generator Unit, u, for the relevant time; and

(b) ULS_u is the Unit Load Scalar for Generator Unit, u, for the relevant time.

D.6.2.4   Each System Operator shall ensure that, with the exception of Pumped Storage Units, Battery Storage Units, Interconnector Residual Capacity Units and Interconnector Error Units, the results of applying the Net Output Function shall be positive and shall be set to zero if negative.

D.6.2.5   Each Participant shall register the values of Fixed Unit Load (FUL_u) and Unit Load Scalar (ULS_u) in respect of each of its Generator Units in accordance with Appendix H "Data Requirements for Registration" as part of Unit Registration, such that $FUL_u \geq 0$ and $0 \leq ULS_u \leq 1$.

D.6.2.6   The relevant System Operator shall convert the following values using the Net Output Function to represent values net of Unit Load:

(a)   Outturn Availability;

(b)   Outturn Minimum Output;

(c)   Outturn Minimum Stable Generation; and

(d)   Dispatch Instructions.

D.6.3   Availability, Minimum Stable Generation and Minimum Output

D.6.3.1   Each System Operator shall submit to the Market Operator the Generator Unit Technical Characteristics Data Transaction, consisting of Outturn Minimum Stable Generation, Outturn Availability and Outturn Minimum Output, in respect of each Generator Unit which is Dispatchable and registered within its Jurisdiction, for the previous Trading Day, in accordance with Appendix K "Other Market Data Transactions".

D.6.3.2   In the case of a Dual Rated Generator Unit, the Outturn Availability submitted by the relevant System Operator to the Market Operator shall include data for both Primary Fuel Type and Secondary Fuel Type: the Primary Fuel Type Outturn Availability and Secondary Fuel Type Outturn Availability respectively. In addition, a Rating Flag shall be submitted by the relevant System Operator to denote whether a Dual Rated Generator Unit is operating using its Primary Fuel Type or Secondary Fuel Type.

D.6.3.3   The Market Operator shall calculate time-weighted average values of Availability Profile Quantity ($qAP_{u\gamma}$) and Minimum Output Quantity ($qMINOUT_{u\gamma}$) in respect of each Generator Unit, u (with the exception of each Interconnector Error Unit and Interconnector Residual Capacity Unit), in each Imbalance Settlement Period, γ, as follows:

(a) The time-weighted average Availability Profile Quantity ($qAP_{u\gamma}$) for Imbalance Settlement Period, γ, is the sum, over all Outturn Availability values for Generator Unit, u, that is not a Dual Rated Generator Unit, that apply during Imbalance Settlement Period, γ, of the product of each Outturn Availability value for Generator Unit, u, and the proportion of the Imbalance Settlement Period for which that Outturn Availability value applies;

(b) In the case of a Dual Rated Generator Unit, the time-weighted average Availability Profile Quantity ($qAP_{u\gamma}$) for Imbalance Settlement Period, γ, is the sum, over all Outturn Availability values for Generator Unit, u, that apply during Imbalance Settlement Period, γ, of the product of each Outturn Availability value for Dual Rated Generator Unit, u, and the proportion of the Imbalance Settlement Period for which that Outturn Availability value applies where the value of Outturn Availability used on a per minute basis is the maximum of the Primary Fuel Type Outturn Availability value and the Secondary Fuel Type Outturn Availability value; and

(c) The time-weighted average Minimum Output Quantity ($qMINOUT_{u\gamma}$) for Imbalance Settlement Period, γ, is the sum, over all Outturn Minimum Output values for Generator Unit, u, that apply during Imbalance Settlement Period, γ, of the product of each Outturn Minimum Output value for Generator Unit, u, and the proportion of the Imbalance Settlement Period for which that Outturn Minimum Output value applies.

D.6.4 Actual Availability

D.6.4.1 The Market Operator shall calculate the Actual Availability Quantity ($qAA_{u\gamma}$) for each Generator Unit for each Imbalance Settlement Period, as set out in this section D.6.4.

D.6.4.2 For each Generator Unit, u, that is not a Dual Rated Generator Unit, the Actual Availability Quantity ($qAA_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, shall be calculated as follows:

$$qAA_{u\gamma} = qAP_{u\gamma}$$

where:

(a) $qAP_{u\gamma}$ is the Availability Profile Quantity for Generator Unit, u, in Imbalance Settlement Period, γ.

D.6.4.3 For each Dual Rated Generator Unit, u, the Actual Availability Quantity ($qAA_{u\gamma}$) for each Imbalance Settlement Period shall be calculated as the sum, over all Outturn Availability values for Dual Rated Generator Unit, u, that apply during Imbalance Settlement Period, γ, of the product of each Outturn Availability value for Dual Rated Generator Unit, u, and the proportion of the Imbalance Settlement Period for which that Outturn Availability value applies where the Outturn Availability used on a per minute basis equals the Primary Fuel Type Outturn Availability when the Rating Flag denotes the Primary Fuel Type and the Outturn Availability equals the Secondary Fuel Type Outturn Availability when the Rating Flag denotes the Secondary Fuel Type.

D.6.5   **Interconnector Capacity Market Availability**

D.6.5.1   For each Trading Day for each Interconnector, the relevant Interconnector Owner shall, or shall ensure that the relevant Interconnector Administrator shall, for that Trading Day, calculate the Capacity Market Availability (consisting of the Maximum Import Capacity Market Availability and the Maximum Export Capacity Market Availability) for each Imbalance Settlement Period in the Trading Day and shall submit the resulting values to the Market Operator via the Interconnector Capacity Market Availability Data Transaction in accordance with Appendix K "Other Market Data Transactions".

D.6.5.2   If, following the submission of the Interconnector Capacity Market Availability Data Transaction in accordance with paragraph D.6.5.1, the Capacity Market Availability is changed for any Imbalance Settlement Period during the relevant Trading Day, the Interconnector Administrator shall submit a revised Interconnector Capacity Market Availability Data Transaction to the Market Operator in accordance with Appendix K "Other Market Data Transactions".

D.6.5.3   Following receipt of any Accepted Interconnector Capacity Market Availability Data Transaction, the Market Operator shall as soon as possible publish such Capacity Market Availability values for the Trading Day.

D.6.5.4   Maximum Import Capacity Market Availability shall be the physical capability of the Interconnector to deliver energy to the Interconnector Data Submission Point, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in either case in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.

D.6.5.5   Maximum Export Capacity Market Availability shall be the physical capability of the Interconnector to off-take energy from the Interconnector Data Submission Point, and shall take account of any further restrictions placed by any relevant agreement or the provisions of any Licence in either case in respect of the Interconnector, but shall not otherwise take account of any expected transmission constraints or other aspects of the operation of the Transmission System.

D.7   PHYSICAL NOTIFICATION DATA

D.7.1   **Physical Notification Data Format**

D.7.1.1   Physical Notification Data submitted in accordance with Appendix I "Offer Data" shall comprise one or more Physical Notification Quantities ($qPN_{u\gamma}(t)$) associated with a time during an Imbalance Settlement Period, γ, each of which shall comprise a From MW Level with an associated From MW Time, and a To MW Level with an associated To MW Time. The time element of this data shall represent the start of a minute and shall be expressed in a whole number of minutes. The Physical Notification Data may also include an Under Test Flag.

D.7.1.2   As required for the purposes of calculations in this Code, the Market Operator shall establish the MW values of the Physical Notification Quantities ($qPN_{u\gamma}(t)$) for times between the applicable From MW Time and the applicable To MW Time specified in the Physical Notification Data submission by linear interpolation between the Physical Notification Quantities stated for those times in the Physical Notification Data submission.

D.7.1.3   Physical Notification Data shall be equal to the Output intended by the Participant for each of its Generator Units, excluding Accepted Offers and Accepted Bids during each Imbalance Settlement Period, γ.

D.7.1.4   Participants shall ensure that all Physical Notification Data submitted in respect of a Generator Unit are consistent with the Technical Offer Data for that Generator Unit.

D.7.1.5   For each Imbalance Settlement Period, γ, the Final Physical Notification Quantities in respect of each Generator Unit, u, in Imbalance Settlement Period, γ, shall be the Physical Notification Quantities specified in the Physical Notification Data in respect of that Generator Unit last Accepted before Gate Closure 2 in respect of that Imbalance Settlement Period, except as otherwise permitted under section F.2.3.

D.7.1.6   If there are no Physical Notification Quantity ($qPN_{u\gamma}(t)$) values for any point in time during an Imbalance Settlement Period in the applicable Physical Notification Data submitted by a Participant, or as established by the Market Operator in paragraph D.7.1.2, the default value of $qPN_{u\gamma}(t)$ for that Imbalance Settlement Period shall be zero.

D.7.2   **Physical Notification Data for Interconnectors**

D.7.2.1   For each Imbalance Settlement Period, the System Operator shall at any time necessary prior to the Gate Closure 2 in respect of that Imbalance Settlement Period determine the Physical Notification Quantities for each Interconnector, l, registered within its Jurisdiction, based on the available Day-ahead Interconnector Schedule Quantities and Intraday Interconnector Schedule Quantities for that Interconnector relevant to that Imbalance Settlement Period, provided that the Physical Notification Quantities must be consistent with the Interconnector Technical Data for that Interconnector at all times.

D.7.2.2   For each Imbalance Settlement Period, the System Operator shall, prior to or after Gate Closure 2 in respect of that Imbalance Settlement Period as necessary, determine the Final Physical Notification Quantities for each Interconnector registered within its Jurisdiction, based on all Day-ahead Interconnector Schedule Quantities and Intraday Interconnector Schedule Quantities for that Interconnector relevant to that Imbalance Settlement Period, provided that the Physical Notification Quantities must be consistent with the Interconnector Technical Data for that Interconnector at all times.

D.7.3   **Generator Units Under Test**

D.7.3.1   The relevant System Operator may grant Generator Units the status of 'Under Test' for a limited period under the terms of the relevant Grid Code.

D.7.3.2   Notwithstanding paragraph D.7.3.1, the Market Operator shall not grant the status of Under Test to Generator Units which have Priority Dispatch and which are not Dispatchable, Generator Units which are not Dispatchable and not Controllable (with the exception of Interconnector Error Units), or Interconnector Residual Capacity Units. Any request from any such Units shall be deemed returned whether or not a response is received from the Market Operator.

D.7.3.3   Prior to the submission of a Generator Unit Under Test Notice under paragraph D.7.3.4, an eligible Participant shall submit a Generator Unit Under Test Request which shall propose a Unit Under Test Start Date and Time and a Unit Under Test

End Date and Time as specified in Appendix F "Other Communications" and in accordance with Agreed Procedure 4 "Transaction Submission and Validation".

D.7.3.4 In order for a Generator Unit to apply for Under Test status under this Code, an eligible Participant shall submit a Generator Unit Under Test Notice to the relevant System Operator as part of its Physical Notification Data which shall identify those Physical Notification Quantities which have a Under Test Flag. The submission of this data shall constitute an application by the Participant for Under Test status.

D.7.3.5 The Physical Notification Quantities for a Generator Unit Under Test within the Physical Notification Data shall reflect the pattern of operation agreed as part of the Generator Unit Under Test Request process in accordance with paragraph D.7.3.3.

D.7.3.6 The Market Operator shall award the Generator Unit Under Test status under this Code for the Imbalance Settlement Periods between the Physical Notification Quantity times associated with the Under Test Flag, subject to verification with the relevant System Operator in accordance with Appendix J "Data Transactions from Market Operator to System Operator" that the Generator Unit shall be Under Test under the terms of the relevant Grid Code for all Imbalance Settlement Periods starting on the Imbalance Settlement Period in which the Under Test Flag first applies, and ending on the Imbalance Settlement Period in which the Under Test Flag last applies.

E. IMBALANCE PRICING

E.1 INTRODUCTION

E.1.1 Purpose of this Chapter

E.1.1.1 This Chapter E sets out the basis on which the Market Operator shall determine:

   (a)   the single Imbalance Price ($PIMB_\varphi$) for each Imbalance Pricing Period φ; and

   (b)   the single Imbalance Settlement Price ($PIMB_\gamma$) for each Imbalance Settlement Period γ.

E.1.1.2 In order to determine the Imbalance Price for Imbalance Pricing Period, φ, the Market Operator shall sequentially:

   (a)   determine the Accepted Bids and Accepted Offers, in accordance with section E.3.1;

   (b)   rank Accepted Bids and Accepted Offers whose size is greater than the De Minimis Acceptance Threshold in order of ascending price, in accordance with section E.3.2;

   (c)   flag the Accepted Bids and Accepted Offers that are subject to a System Operator Flag or a Non-Marginal Flag in that Imbalance Pricing Period as submitted by the System Operators, in accordance with section E.3.3 and Appendix N "Flagging and Tagging";

   (d)   identify the Marginal Energy Action Price and replace the price of more expensive actions with this price, in accordance with section E.3.4;

   (e)   tag the Accepted Bids or Accepted Offers based on Imbalance Price Flags, the Net Imbalance Volume and the Price Average Reference, in accordance with section E.3.5 and Appendix N "Flagging and Tagging"; and

   (f)   calculate the weighted average of the prices of untagged actions, subject to the Administered Scarcity Price (calculated in accordance with section E.4), the Market Price Cap and Market Price Floor, in accordance with section E.3.6.

E.1.1.3 The Market Operator shall calculate the Imbalance Settlement Price ($PIMB_\gamma$) for each Imbalance Settlement Period, γ, in accordance with section E.3.7.

E.1.1.4 This Chapter E also sets out the basis on which the Market Operator shall determine the Market Back Up Price ($PMBU_\gamma$) for each Imbalance Settlement Period, γ, in accordance with section E.5 and the Curtailment Price ($PCURL_{u\gamma}$) for each Generator Unit, u, for each Imbalance Settlement Period, γ, in accordance with section E.6.

E.2 TIMING, INPUTS AND PRE-PROCESSING

E.2.1 Parameter Setting

E.2.1.1 If requested by the Regulatory Authorities, the Market Operator shall report to the Regulatory Authorities proposing the following parameters to be used in the calculation of Imbalance Prices:

   (a)   the De Minimis Acceptance Threshold; and

(b) the Price Average Reference Quantity (QPAR).

E.2.1.2 The Market Operator's report referred to in paragraph E.2.1.1 must set out any relevant research or analysis carried out by the Market Operator and the justification for the specific values proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

E.2.1.3 The Market Operator shall publish the approved value(s) for each parameter referred to in paragraph E.2.1.1, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' determination.

E.2.2 Timing of Imbalance Pricing

E.2.2.1 Subject to paragraphs E.2.2.3 and E.2.2.4, the Market Operator shall calculate and publish the Imbalance Price ($PIMB_\varphi$) for Imbalance Pricing Period, φ, as soon as reasonably possible and no later than 30 minutes after the end of the Imbalance Pricing Period, φ.

E.2.2.2 Subject to paragraphs E.2.2.3 and E.2.2.4, the Market Operator shall calculate and publish the Imbalance Settlement Price ($PIMB_\gamma$) for Imbalance Settlement Period, γ, as soon as reasonably possible and no later than 30 minutes after the end of the Imbalance Settlement Period, γ.

E.2.2.3 In the event of a scheduled outage of the Imbalance Pricing System, the Market Operator may delay the calculation and publication of Imbalance Prices for the Imbalance Pricing Periods, and Imbalance Settlement Prices for the Imbalance Settlement Periods, during the scheduled outage and until such time as the relevant system returns to service and the Market Operator is able to calculate those prices. The Market Operator shall notify Participants of any scheduled outage of the Imbalance Pricing System, and of the time at which it intends to recommence publishing Imbalance Prices and Imbalance Settlement Prices after the scheduled outage.

E.2.2.4 If the Market Operator is unable to calculate an Imbalance Price for an Imbalance Pricing Period during an Imbalance Settlement Period, or an Imbalance Settlement Price for an Imbalance Settlement Period, in accordance with sections E.3.1 to E.3.7 of the Code by the time it is required to publish that price under paragraphs E.2.2.1 to E.2.2.3, then the Market Operator shall set and publish the Imbalance Settlement Price for that Imbalance Settlement Period equal to the Market Back Up Price as determined in accordance with section E.4.6.

E.3 IMBALANCE PRICE CALCULATION

E.3.1 Determination of Accepted Bids and Offers

E.3.1.1 For the purposes of this Chapter, and in respect of each Accepted Bid and Accepted Offer for each Imbalance Pricing Period, φ, the Market Operator shall use the values for:

(a) Accepted Bid Quantity ($QAB_{uoi\varphi}$), as calculated under section F.6.2;

(b) Accepted Offer Quantity ($QAO_{uoi\varphi}$), as calculated under section F.6.2; and

(c) Bid Offer Price ($PBO_{uoi\varphi}$), as calculated under section F.6.3.

E.3.1.2 For each Imbalance Pricing Period, φ, the Market Operator shall calculate an Accepted Offer Quantity ($QAO_{uoi\varphi}$) and associated Bid Offer Price ($PBO_{uoi\varphi}$) in respect of any Demand Control in that period in accordance with the detailed methodology set out in section E.4.4.

E.3.2 Ranking of Accepted Bids and Offers

E.3.2.1 For each Imbalance Pricing Period, φ, the Market Operator shall assign a rank (k) to each Accepted Bid ($QAB_{uoi\varphi}$, $PBO_{uoi\varphi}$) in ascending order of Bid Offer Price ($PBO_{uoi\varphi}$) from k = 1 to M, where M is the total number of Accepted Bids.

E.3.2.2 When ranking Accepted Bids in accordance with paragraph E.3.2.1, the Market Operator shall exclude each Accepted Bid ($QAB_{uoi\varphi}$, $PBO_{uoi\varphi}$) for which the absolute value of the Accepted Bid Quantity ($QAB_{uoi\varphi}$) is less than the De Minimis Acceptance Threshold.

E.3.2.3 For each Imbalance Pricing Period, φ, the Market Operator shall assign a rank (k) to each Accepted Offer ($QAO_{uoi\varphi}$, $PBO_{uoi\varphi}$) in ascending order of Bid Offer Price ($PBO_{uoi\varphi}$) from k = M+1 to N, where M is the total number of Accepted Bids and N is the total number of Accepted Bids and Accepted Offers.

E.3.2.4 When ranking Accepted Offers in accordance with paragraph E.3.2.3, the Market Operator shall exclude each Accepted Offer ($QAO_{uoi\varphi}$, $PBO_{uoi\varphi}$) for which the Accepted Offer Quantity ($QAO_{uoi\varphi}$) is less than the De Minimis Acceptance Threshold.

E.3.2.5 Where two or more Bid Offer Prices ($PBO_{uoi\varphi}$) have equal values, the Market Operator shall assign their rank using a systematic process of random selection.

E.3.2.6 Following the ranking of the Accepted Bids and Offers in accordance with the preceding paragraphs in this section E.3.2, each rank, k, uniquely identifies each Band, i, and Bid Offer Acceptance, o, for a Generator Unit, u, such that, for the purpose of calculation of the Imbalance Price:

(a)   Accepted Bid ($QAB_{uoi\varphi}$, $PBO_{uoi\varphi}$) = Accepted Bid ($QAB_{uk\varphi}$, $PBO_{uk\varphi}$); and

(b)   Accepted Offer ($QAO_{uoi\varphi}$, $PBO_{uoi\varphi}$) = Accepted Offer ($QAO_{uk\varphi}$, $PBO_{uk\varphi}$).

E.3.3 Flagging of Accepted Bids and Offers

E.3.3.1 For each Imbalance Pricing Period, φ, the System Operators shall determine System Operator Flags ($FSO_{u\varphi}$) and Non-Marginal Flags ($FNM_{u\varphi}$) for each Generator Unit, u, in respect of that Imbalance Pricing Period, φ, in accordance with paragraphs 1-5 of Appendix N "Flagging and Tagging".

E.3.3.2 For each Imbalance Pricing Period, φ, the System Operators shall submit the System Operator Flag ($FSO_{u\varphi}$) and Non-Marginal Flag ($FNM_{u\varphi}$) for all Generator Units, u, for that Imbalance Pricing Period to the Market Operator in accordance with Appendix K "Other Market Data Transactions".

E.3.3.3 For each Imbalance Pricing Period, φ, the Market Operator shall set the System Operator Flag ($FSO_{uk\varphi}$) for each rank, k, for a Generator Unit, u, equal to the value of the System Operator Flag ($FSO_{u\varphi}$) for that Generator Unit, u, in respect of that Imbalance Pricing Period, φ.

E.3.3.4 For each Imbalance Pricing Period, φ, where the value of the Non-Marginal Flag ($FNM_{u\varphi}$) equals zero for a Generator Unit, u, in respect of that Imbalance Pricing

Period, φ, the Market Operator shall set the Non-Marginal Flag ($FNM_{uk\varphi}$) for each rank, k, for that Generator Unit, u, equal to zero.

E.3.3.5 For each Imbalance Pricing Period, φ, where the value of the Non-Marginal Flag ($FNM_{u\varphi}$) equals one for a Generator Unit, u, in respect of that Imbalance Pricing Period, φ, the Market Operator shall set the Non-Marginal Flag ($FNM_{uk\varphi}$) for each rank, k, corresponding to the final Bid Offer Acceptance, o, for that Generator Unit, u, equal to one. Otherwise, the Market Operator shall set the Non-Marginal Flag ($FNM_{uk\varphi}$) for each rank, k, for that Generator Unit, u, equal to zero.

E.3.3.6 For each Imbalance Pricing Period, φ, the Market Operator shall set the Imbalance Price Flag ($FIP_{uk\varphi}$) for each Generator Unit, u, and rank, k, as follows:

$$FIP_{uk\varphi} = FSO_{uk\varphi} \times FNM_{uk\varphi}$$

where:

(a) $FSO_{uk\varphi}$ is the System Operator Flag for Generator Unit, u, and rank, k; and

(b) $FNM_{uk\varphi}$ is the Non-Marginal Flag for Generator Unit, u, and rank, k.

E.3.4   Determination of the Marginal Energy Action Price

E.3.4.1 For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Net Imbalance Volume Quantity ($QNIV_\varphi$) as follows:

$$QNIV_\varphi = \sum_k QAO_{uk\varphi} + \sum_k QAB_{uk\varphi}$$

where:

(a) $\sum_k$ is the sum of values over all ranks, k;

(b) $QAO_{uk\varphi}$ is the Accepted Offer Quantity for Generator Unit, u, and rank, k; and

(c) $QAB_{uk\varphi}$ is the Accepted Bid Quantity for Generator Unit, u, and rank, k.

E.3.4.2 For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Marginal Energy Action Price ($PMEA_\varphi$) as follows:

$$If\ QNIV_\varphi > 0, PMEA_\varphi = Max(PBO_{uk\varphi})\ for\ all\ values\ of\ PBO_{uk\varphi}\ where\ FIP_{uk\varphi} = 1;\ or$$

$$If\ QNIV_\varphi < 0, PMEA_\varphi = Min(PBO_{uk\varphi})\ for\ all\ values\ of\ PBO_{uk\varphi}\ where\ FIP_{uk\varphi} = 1$$

where:

(a) $QNIV_\varphi$ is the Net Imbalance Volume Quantity;

(b) $PBO_{uk\varphi}$ is the Bid Offer Price for Generator Unit, u, and rank, k; and

(c) $FIP_{uk\varphi}$ is the Imbalance Price Flag for Generator Unit, u, and rank, k.

E.3.4.3   For each Imbalance Pricing Period, φ, the Market Operator shall calculate Replaced Bid Offer Prices ($PRBO_{uk\varphi}$) for Generator Unit, u, and rank, k, as follows:

$$If\ QNIV_\varphi > 0, PRBO_{uk\varphi} = Min(PBO_{uk\varphi}, PMEA_\varphi);\ or$$
$$If\ QNIV_\varphi < 0, PRBO_{uk\varphi} = Max(PBO_{uk\varphi}, PMEA_\varphi)$$

where:

(a) $QNIV_\varphi$ is the Net Imbalance Volume Quantity;

(b) $PMEA_\varphi$ is the Marginal Energy Action Price; and

(c) $PBO_{uk\varphi}$ is the Bid Offer Price for Generator Unit, u, and rank, k.

E.3.5   Tagging of Accepted Bids and Offers

E.3.5.1   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Net Imbalance Volume Tag ($TNIV_{uk\varphi}$) for each Accepted Bid and each Accepted Offer for each Generator Unit, u, and rank, k, in accordance with the detailed methodology set out in paragraphs 6–10 of Appendix N "Flagging and Tagging".

E.3.5.2   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Price Average Reference Tag ($TPAR_{uk\varphi}$) for each Accepted Bid and each Accepted Offer for each Generator Unit, u, and rank, k, in accordance with the detailed methodology set out in paragraphs 11–13 of Appendix N "Flagging and Tagging".

E.3.5.3   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Imbalance Price Tag ($TIP_{uk\varphi}$) for each Accepted Bid and each Accepted Offer for Generator Unit, u, and rank, k, as follows:

$$TIP_{uk\varphi} = TNIV_{uk\varphi} \times TPAR_{uk\varphi}$$

where:

(a) $TNIV_{uk\varphi}$ is the Net Imbalance Volume Tag for each Generator Unit, u, and rank, k; and

(b) $TPAR_{uk\varphi}$ is the Price Average Reference Tag for each Generator Unit, u, and rank, k.

E.3.6   Determination of Imbalance Price

E.3.6.1   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Administered Scarcity Price (PAS_φ) in accordance with section E.4.

E.3.6.2   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Initial Imbalance Price ($PIIMB_\varphi$) as follows:

(a)   Except where $QNIV_\varphi$ is equal to zero:

$$PIIMB_{\varphi} = \frac{\sum_k \left(PRBO_{uk\varphi} \times QAO_{uk\varphi} \times TIP_{uk\varphi} - PRBO_{uk\varphi} \times QAB_{uk\varphi} \times TIP_{uk\varphi} \right)}{\sum_k \left(QAO_{uk\varphi} \times TIP_{uk\varphi} - QAB_{uk\varphi} \times TIP_{uk\varphi} \right)}$$

where:

(i) $\sum_k$ is the sum of values over all ranks, k;

(ii) $PRBO_{uk\varphi}$ is the Replaced Bid Offer Price for Generator Unit, u, and rank, k;

(iii) $QAO_{uk\varphi}$ is the Accepted Offer Quantity for Generator Unit, u, and rank, k;

(iv) $QAB_{uk\varphi}$ is the Accepted Bid Quantity for Generator Unit, u, and rank, k; and

(v) $TIP_{uk\varphi}$ is the Imbalance Price Tag for Generator Unit, u, and rank, k.

(b)   Where $QNIV_{\varphi}$ is equal to zero, $PIIMB_{\varphi}$ is set equal to the Market Back Up Price as determined in accordance with section E.4.6.

E.3.6.3   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Imbalance Price ($PIMB_{\varphi}$) as follows:

$$PIMB_{\varphi} = Max \left(PIIMB_{\varphi}, PAS_{\varphi} \right)$$

where:

(a) $PIIMB_{\varphi}$ is the Initial Imbalance Price; and

(b) PAS_{φ} is the Administered Scarcity Price,

provided that $PIMB_{\varphi}$ shall equal the Market Price Cap (PCAP) if the value calculated in accordance with this equation exceeds the Market Price Cap and shall equal the Market Price Floor (PFLOOR) if the value calculated in accordance with this equation is less than the Market Price Floor.

E.3.7   Determination of Imbalance Settlement Price

E.3.7.1   For each Imbalance Settlement Period, γ, the Market Operator shall calculate the Imbalance Settlement Price ($PIMB_{\gamma}$) as follows:

$$PIMB_{\gamma} = \sum_{\varphi \in \gamma} PIMB_{\varphi} \times \frac{DIPP}{DISP}$$

where:

(a) $\sum_{\varphi \in \gamma}$ is a summation over all Imbalance Pricing Periods, φ, in Imbalance Settlement Period, γ;

(b) $PIMB_{\varphi}$ is the Imbalance Price for Imbalance Pricing Period, φ;

(c)   DIPP is the Imbalance Pricing Period Duration in hours; and

(d)   DISP is the Imbalance Settlement Period Duration in hours.

E.3.8   Changes to Published Imbalance Prices

E.3.8.1   If the Market Operator identifies a manifest error in a published Imbalance Settlement Price within 5 Working Days of its publication (whether or not as a result of a Settlement Query or a Pricing Dispute), the Market Operator shall correct the manifest error and shall publish the corrected Imbalance Settlement Price as soon as possible and within 1 Working Day of making the correction.

E.3.8.2   If, in its decision in relation to a Pricing Dispute, a Dispute Resolution Board or a Court having competent jurisdiction determines that a published Imbalance Settlement Price has not been calculated in accordance with this Code and should be recalculated, then the Market Operator shall recalculate and publish the corrected Imbalance Settlement Price as soon as possible.

E.3.8.3   A published Imbalance Settlement Price may only be amended, adjusted, changed or varied in accordance with paragraph E.3.8.1 or E.3.8.2.

E.4   ADMINISTERED SCARCITY PRICING

E.4.1   Setting of Administered Scarcity Pricing Parameters

E.4.1.1   The Full Administered Scarcity Price (PFAS) and the Reserve Scarcity Price Curve shall have the values, and approved dates and times on which they come into effect, determined by the Regulatory Authorities from time to time, where the Reserve Scarcity Price Curve shall have the form of a set of N monotonically decreasing Reserve Scarcity Price Quantity Pairs ($PRSC_\Theta$, $qRSC_\Theta$) where $\Theta = 1$ to N and:

(a) $PRSC_1 = PFAS$ and $qRSC_1 = 0$;

(b) $PRSC_\Theta < PRSC_{\Theta-1}$ for $\Theta = 2$ to N;

(c) $qRSC_\Theta > qRSC_{\Theta-1}$ for $\Theta = 2$ to N.

E.4.1.2   The Market Operator shall publish the approved value(s) for each such parameter referred to in paragraph E.4.1.1, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' determination.

E.4.2   Determination of the Reserve Scarcity Price

E.4.2.1   For each Imbalance Pricing Period, φ, the System Operator shall submit the Operating Reserve Requirement Quantity ($qORR_\varphi$) and Short Term Reserve Quantity ($qSTR_\varphi$) to the Market Operator in accordance with Appendix K "Other Market Data Transactions".

E.4.2.2   For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Reserve Scarcity Price (PRS_φ) as follows:

(a)   If $qSTR_\varphi < qORR_\varphi$, the Market Operator shall calculate the value of Θ that satisfies $qRSC_{\Theta-1} < qSTR_\varphi \leq qRSC_\Theta$ where $2 \leq \Theta \leq N$ and then calculate,

$$PRS_{\varphi} = \left(\frac{PRSC_{\Theta} - PRSC_{\Theta-1}}{qRSC_{\Theta} - qRSC_{\Theta-1}}\right) \times \left(qSTR_{\varphi} - qRSC_{\Theta-1}\right) + PRSC_{\Theta-1}$$

where ($PRSC_{\Theta}$, $qRSC_{\Theta}$) is the Θth Reserve Scarcity Price Quantity Pair in the Reserve Scarcity Price Curve applying to the Capacity Year in which Imbalance Pricing Period φ falls and $qSTR_{\varphi}$ is the Short Term Reserve Quantity for Imbalance Pricing Period, φ;

(b)   Otherwise, the Reserve Scarcity Price (PRS_{φ}) is set equal to PFLOOR.

E.4.3   Determination of Demand Control Quantities

E.4.3.1   If during an Imbalance Pricing Period, φ:

(a)   the Short Term Reserve Quantity ($qSTR_{\varphi}$) is less than the Operating Reserve Requirement Quantity ($qORR_{\varphi}$); and

(b)   any of the following Demand Control events occurs:

(i)   Customer Voltage Reduction in Northern Ireland, in accordance with section OC4.4.5 of the Northern Ireland Grid Code;

(ii)   Emergency or Exceptional Voltage Control, in Ireland in accordance with OC4.4.6 of the Ireland Grid Code;

(iii)   Automatic Load Shedding in Northern Ireland, in accordance with section OC4.4.8 of the Northern Ireland Grid Code;

(iv)   Automatic Low Frequency Demand Disconnection in Ireland, in accordance with section OC5.5 of the Ireland Grid Code;

(v)   Planned or Emergency Manual Disconnection in Northern Ireland, in accordance with section OC4.4.6 of the Northern Ireland Grid Code; or

(vi)   Demand Control on the instructions of the TSO in Ireland, in accordance with section OC5.4 of the Ireland Grid Code.

then the relevant System Operator shall determine that the Imbalance Pricing Period, φ, is an Affected Imbalance Pricing Period.

E.4.3.2   For each Affected Imbalance Pricing Period, φ, the relevant System Operator shall determine the Demand Control Quantity (QDC_{φ}) as follows:

(a)   For Demand Control events described in paragraphs E.4.3.1 (b) (i) – (iv):

$$QDC_{\varphi} = Max\left(\left(qFL_{\varphi} - qAD_{\varphi}\right) \times DIPP, 1\right)$$

where:

(i) qFL_{φ} is the Four Day Load Forecast Quantity applicable to Imbalance Pricing Period, φ;

(ii) qAD_{φ} is the Instantaneous Actual Demand Quantity at the beginning of the Imbalance Pricing Period, φ; and

(iii)   DIPP is the Imbalance Pricing Period Duration in hours.

(b) For a Demand Control event described in paragraphs E.4.3.1 (b) (v) – (vi), QDC_φ shall be a positive value determined on the basis of the instructions provided to the relevant DSO in respect of that Demand Control event for that Imbalance Pricing Period, φ.

E.4.3.3 For each Affected Imbalance Pricing Period, φ, the System Operator shall submit the Demand Control Quantity (QDC_φ) to the Market Operator in accordance with Appendix K "Other Market Data Transactions".

E.4.4 **Determination of Demand Control Bid Offer Acceptances**

E.4.4.1 For each Imbalance Pricing Period, φ, the Market Operator shall calculate an Accepted Offer Quantity ($QAO_{uoi\varphi}$) in respect of any Demand Control as follows:

(a) For an Affected Imbalance Pricing Period, the Accepted Offer Quantity ($QAO_{uoi\varphi}$) is equal to the Demand Control Quantity (QDC_φ); and

(b) Otherwise, the Accepted Offer Quantity ($QAO_{uoi\varphi}$) is zero.

E.4.4.2 For each Affected Imbalance Pricing Period, φ, the Market Operator shall calculate a Bid Offer Price ($PBO_{uoi\varphi}$) in respect of any Demand Control as equal to the Full Administered Scarcity Price (PFAS).

E.4.5 **Determination of Demand Control Price**

E.4.5.1 For each Imbalance Pricing Period, φ, the Market Operator shall calculate a Demand Control Price (PDC_φ) in respect of any Demand Control as follows:

(a) For an Affected Imbalance Pricing Period, φ, the Demand Control Price (PDC_φ) is set equal to the Full Administered Scarcity Price (PFAS) applying to the Capacity Year in which Imbalance Pricing Period φ falls; and

(b) Otherwise, the Demand Control Price (PDC_φ) is set equal to the Price Floor (PFLOOR).

E.4.6 **Determination of Administered Scarcity Price**

E.4.6.1 For each Imbalance Pricing Period, φ, the Market Operator shall calculate the Administered Scarcity Price (PAS_φ),

$$PAS_\varphi = Max\left(PDC_\varphi, PRS_\varphi\right)$$

where:

(a) PDC_φ is the Demand Control Price; and

(b) PRS_φ is the Reserve Scarcity Price.

E.5 **MARKET BACK UP PRICE**

E.5.1.1 For each Imbalance Settlement Period, γ, the Market Operator shall calculate the Market Back Up Price ($PMBU_\gamma$) as the quantity-weighted average price of the prices associated with each Day-ahead Trade Quantity ($qTDA_{xuh}$, $qTDA_{xvh}$) and Intraday Trade Quantity ($qTID_{xuh}$, $qTID_{xvh}$) for all Generator Units, u, and Supplier Units, v, in the Imbalance Settlement Period, γ.

E.5.1.2   For the purposes of the calculation set out in paragraph E.5.1.1, the Market Operator shall multiply:

   (a)   the Intraday Trade Quantities ($qTID_{xuh}$) by the lesser of the Imbalance Settlement Period Duration (DISP) and the relevant Intraday Trade Duration ($DTID_x$); and

   (b)   the Day-ahead Trade Quantities ($qTDA_{xuh}$) by the lesser of the Imbalance Settlement Period Duration (DISP) and the Day-ahead Trade Duration ($DTDA_x$), taking the absolute value of each quantity.

E.5.1.3   For the purposes of the calculation set out in paragraph E.5.1.1, where the Intraday Trade Quantities ($qTID_{xuh}$) or Intraday Trade Prices ($PTID_{xuh}$) and Day-Ahead Trade Quantities ($qTDA_{xuh}$) or Day-Ahead Trade Prices ($PTDA_{xuh}$) for the Imbalance Settlement Period, γ, are not available to the Market Operator, the Market Operator shall use values from the most recent Imbalance Settlement Period for which those quantities are available.

E.6   CURTAILMENT PRICE

E.6.1.1   For each Imbalance Settlement Period, γ, the Market Operator shall calculate the Curtailment Price ($PCURL_{uγ}$) for each Generator Unit, u, as the quantity-weighted average price of the prices associated with each Intraday Trade Quantity ($qTID_{xuh}$) and Day-Ahead Trade Quantity ($qTDA_{xuh}$) for the Generator Unit, u, in the Imbalance Settlement Period, γ.

E.6.1.2   For the purposes of the calculation set out in paragraph E.6.1.1, the Market Operator shall multiply:

   (a)   the Intraday Trade Quantities ($qTID_{xuh}$) by the lesser of the Imbalance Settlement Period Duration (DISP) and the relevant Intraday Trade Duration ($DTID_x$); and

   (b)   the Day-ahead Trade Quantities ($qTDA_{xuh}$) by the lesser of the Imbalance Settlement Period Duration (DISP) and the Day-ahead Trade Duration ($DTDA_x$), taking the absolute value of each quantity.

E.6.1.3   For the purposes of the calculation set out in paragraph E.6.1.1, where the Intraday Trade Quantities ($qTID_{xuh}$) or Intraday Trade Prices ($PTID_{xuh}$) and Day-Ahead Trade Quantities ($qTDA_{xuh}$) or Day-Ahead Trade Prices ($PTDA_{xuh}$) for the Imbalance Settlement Period, γ, for Generator Unit, u, are not available to the Market Operator, the Market Operator shall use values from the most recent Imbalance Settlement Period for which those quantities are available.

F. CALCULATION OF PAYMENTS AND CHARGES

F.1 INTRODUCTION

F.1.1 Purpose of this Chapter

F.1.1.1 This Chapter specifies how the Market Operator shall calculate:

(a) the charges and payments for settlement of the Balancing Market and Imbalances; and

(b) the charges and payments for settlement of the Capacity Market.

F.1.2 Settlement Charges and Payments for Generator Units

F.1.2.1 The Market Operator shall calculate the following charges and payments for each Generator Unit in accordance with the Settlement Calendar in section G.2.4:

(a) $CIMB_{u\gamma}$, the Imbalance Component Payment or Charge calculated in accordance with section F.5;

(b) $CPREMIUM_{u\gamma}$, the Premium Component Payment calculated in accordance with section F.6;

(c) $CDISCOUNT_{u\gamma}$, the Discount Component Payment calculated in accordance with section F.6;

(d) $CAOOPO_{u\gamma}$, the Offer Price Only Accepted Offer Payment or Charge calculated in accordance with section F.7;

(e) $CABBPO_{u\gamma}$, the Bid Price Only Accepted Bid Payment or Charge calculated in accordance with section F.7;

(f) $CCURL_{u\gamma}$, the Curtailment Payment or Charge calculated in accordance with section F.8;

(g) $CUNIMB_{u\gamma}$, the Uninstructed Imbalance Charge calculated in accordance with section F.9;

(h) $CII_{u\gamma}$, the Information Imbalance Charge calculated in accordance with section F.10;

(i) CFC_{ub}, the Fixed Cost Payment or Charge calculated in accordance with section F.11; and

(j) $CTEST_{u\gamma}$, the Testing Charge calculated in accordance with section F.13.

F.1.3 Settlement Charges and Payments for Capacity Market Units

F.1.3.1 The Market Operator shall calculate the following charges and payments for each Capacity Market Unit in accordance with the timetable in section G.2.4:

(a) $CCP_{\Omega c}$, the Capacity Payment calculated in accordance with section F.17; and

(b) $CDIFFCTOT_{\Omega\gamma}$, the Total Difference Charge calculated in accordance with section F.18.

F.1.4   **Settlement Charges and Payments for Supplier Units**

F.1.4.1   The Market Operator shall calculate the following charges and payments for each Supplier Unit in accordance with the timetable in section G.2.4:

(a) $CIMB_{v\gamma}$, the Imbalance Component Payment or Charge calculated in accordance with section F.5;

(b) $CIMP_{v\gamma}$, the Imperfections Charge calculated in accordance with section F.12;

(c) $CREV_{v\gamma}$, the Residual Error Volume Charge calculated in accordance with section F.14; and

(d) $CCA_{v\gamma}$, the Currency Adjustment Charge calculated in accordance with section F.15;

(e) CCC_{vc}, the Capacity Charge calculated in accordance with section F.19;

(f) $CSOCDIFFP_{vc}$, the Difference Payment Socialisation Charge calculated in accordance with section F.19; and

(g) $CDIFFPACHIEVE_{vd}$, the Achievable Difference Payment calculated in accordance with section F.20.

F.2   DATA SOURCES, CONVENTIONS AND DEFINITIONS

F.2.1   **Interpretation**

F.2.1.1   For each Imbalance Pricing Period, φ, and each Imbalance Settlement Period, γ, as applicable for the relevant process, for the purposes of this Code, the Bid Offer Acceptance subscript, o, resets to zero so that the first Bid Offer Acceptance in the period has a subscript value of o = 1.

F.2.1.2   The Market Operator shall set the value of a variable at zero where this Code states that a provision does not apply to a Unit, and where the variable which is the result of that provision is to be used in a later process for that Unit.

F.2.1.3   The Market Operator shall determine whether a Pumped Storage Generator Unit, u, is in Pumping Mode for the purposes of the calculations in this Code as follows:

(a)   If the value of a Pumped Storage Unit's Dispatch Quantity ($qD_{uo\gamma}(t)$) at all times within an Imbalance Settlement Period, γ, is positive (i.e. in the generating range of the Unit's output), then the Unit is deemed to be in Generating Mode for the entirety of that Imbalance Settlement Period; and

(b)   If the value of a Pumped Storage Unit's Dispatch Quantity ($qD_{uo\gamma}(t)$) at any time within an Imbalance Settlement Period, γ, is negative (i.e. in the pumping range of the Unit's output), then the Unit is deemed to be in Pumping Mode for the entirety of that Imbalance Settlement Period.

F.2.1.4   The Market Operator shall determine whether a Battery Storage Generator Unit, u, is in Charging Mode for the purposes of the calculations in this Code as follows:

(a)   If the value of a Battery Storage Unit's Dispatch Quantity ($qD_{uo\gamma}(t)$) at all times within an Imbalance Settlement Period, γ, is positive (i.e. in the generating range of the Unit's output), then the Unit is deemed to be in Generating Mode for the entirety of that Imbalance Settlement Period; and

(b) If the value of a Battery Storage Unit's Dispatch Quantity ($qD_{uo\gamma}(t)$) at any time within an Imbalance Settlement Period, γ, is negative (i.e. in the charging range of the Unit's output), then the Unit is deemed to be in Charging Mode for the entirety of that Imbalance Settlement Period.

F.2.1.5 An "Incremental Action" ("Inc") is a System Operator action intended to increase the power (MW) or energy (MWh) being sent out into the system, or decrease the power or energy being taken from the system. Inc power or energy quantities are positive, resulting from the Dispatch Quantity for a Bid Offer Acceptance being higher than the Dispatch Quantity for the previous Bid Offer Acceptance for the Generator Unit in respect of an Imbalance Pricing Period or Imbalance Settlement Period (as appropriate), or being higher than the Final Physical Notification Quantity if there is no previous Bid Offer Acceptance for the Generator Unit in respect of the Imbalance Pricing Period or Imbalance Settlement Period (as appropriate), for a Unit at any point in time. Incremental Actions are represented in settlement through Accepted Offer Quantities.

F.2.1.6 A "Decremental Action" ("Dec") is a System Operator action intended to decrease the power (MW) or energy (MWh) being sent out into the system, or increase the power or energy being taken from the system. Dec power or energy quantities are negative, resulting from the Dispatch Quantity for a Bid Offer Acceptance being lower than the Dispatch Quantity for the previous Bid Offer Acceptance for the Generator Unit in respect of an Imbalance Pricing Period or Imbalance Settlement Period (as appropriate), or being lower than the Final Physical Notification Quantity if there is no previous Bid Offer Acceptance for the Generator Unit in respect of the Imbalance Pricing Period or Imbalance Settlement Period (as appropriate), for a Unit at any point in time. Decremental Actions are represented in settlement through Accepted Bid Quantities.

F.2.1.7 Variables for power (expressed as MW) quantities begin with a lower case "q", while variables for energy (expressed as MWh) quantities begin with an upper case "Q".

F.2.1.8 A Scheduling Agent is the entity or entities with the task of providing details of ex-ante market Contracted Quantities from market participants to TSOs, or where applicable third parties, in accordance with Article 111 of the EU Guideline on Electricity Transmission System Operation.

F.2.1.9 A variable which is a function of time may have a different value at each time within an Imbalance Settlement Period, γ, or Imbalance Pricing Period, φ, rather than a single fixed value defined for all times within an Imbalance Settlement Period, γ, or Imbalance Pricing Period, φ. Such variables are represented with the inclusion of the notation '(t)' at the end of the variable term.

F.2.1.10 For the purposes of all calculations in this Code, each quantity and price calculated, deemed or defined in respect of a Generator Unit which is not Dispatchable shall be deemed, where applicable, to be at Band number $i = 1$, with the corresponding value for $qBOUR_{u(i=1)h}(t)$ or $qBOUR_{u(i=1)\gamma}(t)$, as applicable, being a sufficiently high value that it is greater than the value of all function of time Dispatch Quantities ($qD_{uoh}(t)$ or $qD_{uo\gamma}(t)$, as applicable) and the function of time Final Physical Notification Quantity ($qFPN_{uh}(t)$ or $qFPN_{u\gamma}(t)$, as applicable) for the Generator Unit, u, in the Period, h, or Imbalance Settlement Period, γ, as applicable.

F.2.2   **Ex-Ante Market Data**

F.2.2.1   Each Scheduling Agent for a Participant shall, in accordance with the Settlement Calendar, submit to the Market Operator details of the Contracted Quantities (the Day-ahead Trade Quantities and Intraday Trade Quantities, $qTDA_{xuh}$, $qTID_{xuh}$, $qTDA_{xvh}$ and $qTID_{xvh}$), the durations relevant to the trades (Day-ahead Trade Duration and Intraday Trade Duration, $DTDA_x$ and $DTID_x$), and the prices relevant to those quantities (the Day-ahead Trade Price and Intraday Trade Price, $PTDA_{xuh}$, $PTID_{xuh}$, $PTDA_{xvh}$ and $PTID_{xvh}$), for each Generator Unit, u, and each Supplier Unit, v, registered in respect of that Participant, for each Trade, x, in each Period, h, in this context meaning each Day-ahead Trading Period and each Intraday Trading Period.

F.2.2.2   If the Market Operator has not received a submission under paragraph F.2.2.1 for a Participant's Unit which applies to an Imbalance Settlement Period by the time the Market Operator is required to calculate the payments and charges in accordance with this Code for that period, the value of the Ex-Ante Quantity ($QEX_{uγ}$ and $QEX_{vγ}$) for the relevant Generator Unit, u, or Supplier Unit, v, in each Imbalance Settlement Period, γ, shall be deemed to be zero.

F.2.2.3   If, under section G.12.3, the Market Operator does not accept a Contracted Quantity, the value of the relevant Contracted Quantity (the Day-ahead Trade Quantity and / or Intraday Trade Quantity, $qTDA_{xuh}$, $qTID_{xuh}$, $qTDA_{xvh}$ and / or $qTID_{xvh}$) for the relevant Generator Unit, u, or Supplier Unit, v, shall be deemed to be zero.

F.2.2.4   The Scheduling Agent of the Shipping Agent for each Interconnector shall, in accordance with the Settlement Calendar, submit to the Market Operator the Day-ahead Interconnector Schedule Quantities ($qICSDA_{xlh}$) and Intraday Interconnector Schedule Quantities ($qICSID_{xlh}$) for each Trade, x, for that Interconnector, l, in each Period, h, in this context meaning the Day-ahead Trading Period or Intraday Interconnector Trading Period, as the case may be.

F.2.2.5   The Scheduling Agent for each SEM NEMO shall, in accordance with the Settlement Calendar, submit to the Market Operator the Day-ahead Market Area Exchange Quantities ($qEMADA_{xuh}$) and Intraday Market Area Exchange Quantities ($qEMAID_{xuh}$) for each Trade, x, for the Assetless Unit, u, registered in accordance with paragraph B.8.1.2(e), in each Period, h, in this context meaning the Day-ahead Trading Period or Intraday Interconnector Trading Period, as the case may be.

F.2.3   **Physical Notification Data**

F.2.3.1   For the purposes of calculating the Information Imbalance Charge in accordance with section F.10, in respect of an Imbalance Settlement Period, γ, the PN Submission Period, β, means a half-hour period between 13:30 TD-1 and the Gate Closure 2 during which a Participant may submit Physical Notification Data in accordance with Chapter D (Balancing Market Data Submission).

F.2.3.2   The value of the Final Physical Notification Quantity ($qFPN_{uh}(t)$) for each Generator Unit, u, which has Priority Dispatch, and which is not Dispatchable, shall at all times in Period, h, be deemed to be equal to the Outturn Availability Quantity ($qAVAILO_{uh}(t)$) of the Unit.

F.2.3.3   The Market Operator shall derive the Physical Notification Quantity ($QPN_{uβγ}$) for Generator Unit, u, in PN Submission Period, β, for Imbalance Settlement Period, γ, by integrating the associated function of time Physical Notification Quantity ($qPN_{uγ}(t)$)

from the Accepted Physical Notification Data prevailing at the end of that PN Submission Period, with respect to time across the Imbalance Settlement Period.

F.2.3.4 The Market Operator shall derive the Final Physical Notification Quantity ($QFPN_{uy}$) for Generator Unit, u, in Imbalance Settlement Period, γ, by integrating the associated function of time Final Physical Notification Quantity ($qFPN_{uy}(t)$), determined in accordance with Chapter D (Balancing Market Data Submission), with respect to time across the Imbalance Settlement Period.

F.2.3.5 The Market Operator shall derive the Final Physical Notification Quantity ($QFPN_{ly}$) for Interconnector, l, in Imbalance Settlement Period, γ, by integrating the associated function of time Final Physical Notification Quantity ($qFPN_{ly}(t)$), determined in accordance with Chapter D (Balancing Market Data Submission), with respect to time across the Imbalance Settlement Period.

F.2.3.6 The Final Physical Notification Quantity ($qFPN_{uh}(t)$ and $QFPN_{uh}$) for each Interconnector Residual Capacity Unit and each Interconnector Error Unit, u, in Period, h, shall be equal to the Final Physical Notification Quantity of the relevant Interconnector, l.

F.2.4 **Dispatch Data**

F.2.4.1 Each System Operator shall, in accordance with the Settlement Calendar, submit to the Market Operator the Dispatch Instructions in respect of each Generator Unit which is Dispatchable (and which has Priority Dispatch and is not Dispatchable where relevant) and is registered within its Jurisdiction, and shall where applicable submit an associated Dispatch Ramp Up Rate or Dispatch Ramp Down Rate for each Dispatch Instruction and may state that the Dispatch Instruction is for the purposes of All-Island Curtailment through the submission of a CURL Instruction Combination Code in accordance with Appendix O: "Instruction Profiling Calculations". Notwithstanding the precedence of the Grid Code in accordance with paragraphs B.4.1.1 and B.4.1.2, the use of these Dispatch Instructions for the purposes of this Code in accordance with Appendix O "Instruction Profiling Calculations" may be different to their use in accordance with the Grid Code.

F.2.4.2 Each System Operator shall submit information referred to in paragraph F.2.4.1 to the Market Operator in accordance with Appendix K "Other Market Data Transactions", based on Outturn Data, and the values submitted shall be net of Unit Load.

F.2.4.3 Except as provided in paragraph F.2.4.4(a), the Market Operator shall derive the value of the Dispatch Quantity ($qD_{uoh}(t)$) for each Generator Unit, u, for each Bid Offer Acceptance, o, in Period, h, in accordance with Appendix O "Instruction Profiling Calculations".

F.2.4.4 The Market Operator shall derive the value of the Dispatch Quantity ($qD_{uoh}(t)$), for each Generator Unit, u, which has Priority Dispatch, and which is not Dispatchable, for each Bid Offer Acceptance, o, in Period, h, as follows:

(a) The value shall be equal to the Final Physical Notification Quantity ($qFPN_{uh}(t)$) for the Generator Unit, determined in accordance with paragraph F.2.3.2, for each time in Period, h, where the Unit does not have a Dispatch Instruction applying to it; and

(b) The Market Operator shall determine the value in accordance with paragraph F.2.4.3 for each time in respect of which a Dispatch Instruction applies to the Unit.

F.2.4.5 The Market Operator shall derive the Dispatch Quantity ($QD_{u\gamma}$) for each Generator Unit, u, in Imbalance Settlement Period, γ, by integrating the associated function of time Dispatch Quantity ($qD_{uo\gamma}(t)$) reflecting the last Dispatch Instruction in effect from time to time during the Imbalance Settlement Period, with respect to time across the Imbalance Settlement Period in accordance with Appendix O "Instruction Profiling Calculations".

F.2.4.6 Each System Operator shall, in accordance with the Settlement Calendar, submit to the Market Operator the Dispatch Quantity ($qD_{lo\gamma}(t)$) in respect of each Interconnector, l, which is connected to its Jurisdiction, reflecting the last Dispatch Instruction in effect from time to time during the Imbalance Settlement Period.

F.2.4.7 The Dispatch Quantity ($qD_{uo\gamma}(t)$) for each Interconnector Residual Capacity Unit and each Interconnector Error Unit, u, reflecting the last Dispatch Instruction in effect from time to time during the Imbalance Settlement Period, shall be equal to the Dispatch Quantity of the relevant Interconnector, l.

F.2.4.8 Each System Operator shall, in accordance with the Settlement Calendar, submit to the Market Operator the SO Interconnector Trade Quantity and Price (in the form of Accepted Bid and Offer Quantities, QAB_{uoih}, QAO_{uoih}, and Bid Offer Price, PBO_{uoih}) for each Interconnector Residual Capacity Unit, u, relevant to an Interconnector, l, which is connected to its Jurisdiction, for each Bid Offer Acceptance, o, for Band, i, in Period, h.

F.2.4.9 Each System Operator shall, in accordance with the Settlement Calendar, submit to the Market Operator the Outturn Availability Quantity ($qAVAILO_{uh}(t)$) in respect of each Generator Unit u, which is registered within its Jurisdiction, in accordance with Chapter D (Balancing Market Data Submission).

F.2.5 Metered Quantity Data

F.2.5.1 Each Meter Data Provider shall, in accordance with the Settlement Calendar, submit to the Market Operator the Metered Quantities ($QM_{u\gamma}$, $QM_{v\gamma}$, and $QM_{l\gamma}$) for each Generator Unit, u, Supplier Unit, v, and Interconnector, l, as applicable, which is registered within, or connected to, its Jurisdiction in each Imbalance Settlement Period, γ.

F.2.5.2 Each Meter Data Provider shall, in accordance with the Settlement Calendar, submit to the Market Operator the Non-Interval Energy Proportion Factor ($FNIEP_{v\gamma}$) for each Supplier Unit, v, which is registered within its Jurisdiction, in Imbalance Settlement Period, γ.

F.2.5.3 The value of the Metered Quantity ($QM_{u\gamma}$) for each Interconnector Error Unit and each Interconnector Residual Capacity Unit, u, shall be equal to the Metered Quantity ($QM_{l\gamma}$) of the relevant Interconnector, l.

F.2.5.4 The value of the Metered Quantity ($QM_{u\gamma}$) for each Generator Unit, u, which is an Assetless Unit or a Trading Unit, shall be deemed to be zero.

F.2.5.5 The value of the Metered Quantity ($QM_{u\gamma}$) for each Generator Unit, u, which is a Demand Side Unit, shall be deemed to be equal to the Dispatch Quantity ($QD_{u\gamma}$) of that Demand Side Unit.

F.2.5.6 The value of the Metered Quantity ($QM_{v\gamma}$) for each Trading Site Supplier Unit, v, which is on a Trading Site, s, associated with a Generator Unit, u, which is a Demand

Side Unit, shall be deemed to be equal to the negative of the Dispatch Quantity ($QD_{u\gamma}$) of that Demand Side Unit.

F.2.6 **Timing Conventions**

F.2.6.1 The Intraday Trading Period is the period relevant to the trading of energy in the intraday market, which is the period covered by a traded product in the intraday market. It can vary depending on the products in the market, and is assumed for the calculations in this Chapter to be either one hour or thirty minutes. It is represented by the subscript for a generalised Period, h, and the time in hours covered by this Period is the Intraday Trade Duration.

F.2.6.2 The Day-ahead Trading Period is the period relevant to the trading of energy in the day-ahead market, which is the period covered by a traded product in the day-ahead market. It can vary depending on the products in the market, and is assumed for the calculations in this Chapter to be either one hour or thirty minutes. It is represented by the subscript for a generalised Period, h, and the time in hours covered by this Period is the Day-ahead Trade Duration.

F.2.6.3 The Imbalance Pricing Period is the period within an Imbalance Settlement Period relevant to the calculation of the Imbalance Price. It is represented by the subscript φ, and the time in hours covered by this Period is the Imbalance Pricing Period Duration.

F.2.6.4 An Imbalance Settlement Period is represented by the subscript γ, and the time in hours covered by this Period is the Imbalance Settlement Period Duration.

F.2.6.5 The Aggregated Settlement Period is the period relevant to the calculation of imbalance quantities covering one or multiple Imbalance Settlement Periods for the execution of the Imbalance Settlement Process. It is represented by the subscript α, and the time in hours covered by this Period is the Aggregated Settlement Period Duration.

F.2.6.6 The Intraday Interconnector Trading Period is the period relevant to the scheduling of energy flows on interconnectors in the intraday market. It is assumed for the calculations in this Chapter to be thirty minutes. It is represented by the subscript for a generalised Period, h, and the time in hours covered by this Period is the Intraday Interconnector Trade Duration.

F.2.7 **Capacity Market Data**

F.2.7.1 The System Operators shall submit to the Market Operator the following data for each Capacity Market Unit, Ω, in each Imbalance Settlement Period, γ, in accordance with Appendix M "Capacity Market Data Transactions":

(a) The Demand Side Non-Delivery Percentage ($FNDDS_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which represents one or more Generator Units, u, that are Demand Site Units;

(b) The Capacity Quantity ($qC_{\Omega n}$) with Primary or Secondary Trade Flag;

(c) The Commissioned Capacity Quantity ($qCCOMMISS_{\Omega\gamma}$);

(d) The De-Rating Factor ($FDERATE_{\Omega}$);

(e) The Gross De-Rated Capacity Quantity ($qCDERATEG_{\Omega\gamma}$);

(f) The Annual Stop-Loss Limit Factor ($FSLLA_{n}$);

(g)   The Billing Period Stop-Loss Factor ($FSLLB_n$);

(h)   The Capacity Payment Price ($PCP_{\Omega n}$); and

(i)   The Capacity Duration Exchange Rate ($XRCD_n$).

F.2.7.2   If the Market Operator has not received values of the Demand Side Non-Delivery Percentage from the System Operators by the time it is required to carry out the Settlement calculations, the value of the Demand Side Non-Delivery Percentage ($FNDDS_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which represents one or more Generator Units, u, that are Demand Side Units, in each Imbalance Settlement Period, γ, shall be deemed to be zero.

F.3   DETERMINATION OF TIMES AND RELEVANT COMMERCIAL OFFER DATA FOR BID OFFER ACCEPTANCES

F.3.1   Times Relevant to Bid Offer Acceptances

F.3.1.1   The Market Operator shall determine the Bid Offer Acceptance Time for each Bid Offer Acceptance, o, to be the Instruction Issue Time of the Dispatch Instruction or Pseudo Dispatch Instruction relevant to the Dispatch Quantity ($qD_{uoh}(t)$) for the Bid Offer Acceptance in accordance with Appendix O "Instruction Profiling Calculations".

F.3.1.2   The Market Operator shall determine the Bid Offer Opening Time for each Bid Offer Acceptance, o, to be the Instruction Effective Time of the Dispatch Instruction or Pseudo Dispatch Instruction relevant to the Dispatch Quantity ($qD_{uoh}(t)$) for the Bid Offer Acceptance in accordance with Appendix O "Instruction Profiling Calculations".

F.3.2   Commercial Offer Data for Calculations

F.3.2.1   The Market Operator shall, for each Generator Unit, u, and for each Period, h, derive, from the individual sets of Incremental and Decremental Price Quantity Pairs submitted by each Participant through its Commercial Offer Data in accordance with Chapter D and adjusted by the Market Operator in accordance with paragraphs D.4.4.6 and D.4.4.7 a set of Price Quantity Pairs for each set of Complex Bid Offer Data or Simple Bid Offer Data (as applicable), comprising a single set of Quantities each having two prices applicable (an Incremental Price and a Decremental Price), as follows:

(a)   The Quantities (q_{uih}) for the single set of Price Quantity Pairs shall be the Quantities in each set of Incremental and Decremental Price Quantity Pairs submitted by the Participant and processed by the Market Operator, ranked in order of increasing Quantity value, and assigned in this order a Band, i. For positive Quantity values, the Band, i, shall increase from zero with every Quantity increasing from zero. For negative Quantity values, the Band, i, shall decrease from zero with every Quantity decreasing from zero. For Quantities equal to zero, the Band, i, shall be zero; and

(b)   The Incremental Price ($PINC_{uih}$) for the Quantity (q_{uih}) in the single set of Price Quantity Pairs shall be the Price from the set of Incremental Price Quantity Pairs applicable at that Quantity. The Decremental Price ($PDEC_{uih}$) for the Quantity (q_{uih}) in the single set of Price Quantity Pairs shall be the Price from the set of Decremental Price Quantity Pairs applicable at that Quantity.

F.3.2.2   The Market Operator shall derive the Bid Offer Upper Range Quantity ($qBOUR_{uih}(t)$) and Bid Offer Lower Range Quantity ($qBOLR_{uih}(t)$) for each Generator Unit, u, for each Band, i, in each Period, h, from the sets of Price Quantity Pairs derived under paragraph F.3.2.1, as follows:

(a)   The Bid Offer Upper Range Quantity ($qBOUR_{uih}(t)$) shall be equal to the Quantity (q_{uih}) for the relevant Price Quantity Pair derived under paragraph F.3.2.1, for Band, i, where $i \geq 0$; and

(b)   The Bid Offer Lower Range Quantity ($qBOLR_{uih}(t)$) shall be equal to the Quantity (q_{uih}) for the relevant Price Quantity Pair derived under paragraph F.3.2.1, for Band, i, where $i \leq 0$.

F.3.2.3   The Market Operator shall derive the Bid Offer Price (PBO_{uoih}) for each Bid Offer Acceptance, o, for each Generator Unit, u, for each Band, i, in each Period, h, from the single set of Price Quantity Pairs derived under paragraph F.3.2.1, using the relevant set of Commercial Offer Data as determined in Section F.3.3, as follows:

(a)   If the quantity to which the Bid Offer Price applies has a positive value, the Bid Offer Price shall be the Incremental Price ($PINC_{uih}$) of the relevant Price Quantity Pair; and

(b)   If the quantity to which the Bid Offer Price applies has a negative value, the Bid Offer Price shall be the Decremental Price ($PDEC_{uih}$) of the relevant Price Quantity Pair.

F.3.2.4   The value of the Bid Offer Price (PBO_{uoih}) for each Bid Offer Acceptance, o, for each Generator Unit, u, which has Priority Dispatch, which is not Dispatchable, and which has zero variable costs, for each Band, i, in each Period, h, shall be deemed to be zero if the quantity to which the Bid Offer Price applies is negative, with the exception of when the quantity considered is a Bid Price Only Accepted Bid Quantity in accordance with section F.7.

F.3.3   **Commercial Offer Data to be Used**

F.3.3.1   For the purposes of calculating the Imbalance Price in an Imbalance Pricing Period, φ, in calculating Accepted Bid Quantity and Accepted Offer Quantity, and determining the relevant Bid Offer Price, in respect of a Bid Offer Acceptance, the Market Operator shall use the following Commercial Offer Data:

(a)   If the Bid Offer Acceptance Time is before the Gate Closure 2 in respect of the Imbalance Settlement Period containing the Bid Offer Opening Time, the most recently submitted valid Complex Bid Offer Data for the relevant Trading Day as at the Bid Offer Acceptance Time; and

(b)   Otherwise, the most recently submitted valid Simple Bid Offer Data for the relevant Imbalance Settlement Period as at the Bid Offer Acceptance Time.

F.3.3.2   For the purposes of calculating settlement quantities in an Imbalance Settlement Period, γ, in calculating Accepted Bid Quantity and Accepted Offer Quantity, and determining the relevant Bid Offer Price, in respect of a Bid Offer Acceptance, the Market Operator shall use the following Commercial Offer Data:

(a)   If the Bid Offer Acceptance Time is before the Gate Closure 2 in respect of the Imbalance Settlement Period containing the Bid Offer Opening Time, the most recently submitted valid Complex Bid Offer Data for the relevant Trading Day as at the Bid Offer Acceptance Time;

(b)   If any Bid Offer Acceptance for Generator Unit, u, at rank, k, has, after applying the Flagging and Tagging process in accordance with Chapter E (Imbalance Pricing), a Net Imbalance Volume Tag ($TNIV_{uk\varphi}$) with a value less than one, or a System Operator Flag ($FSO_{uk\varphi}$) with a value less than one, for any Imbalance Pricing Period, φ, within the Imbalance Settlement Period, γ, the most recently submitted valid Complex Bid Offer Data for the relevant Trading Day as at the Bid Offer Acceptance Time,

where:

         (i) $FSO_{uk\varphi}$ is the System Operator Flag for Generator Unit, u, and rank, k, in Imbalance Pricing Period, φ, determined in accordance with Chapter E (Imbalance Pricing) and where in the absence of a value for the period resulting from the process outlined in Chapter E (Imbalance Pricing) a value of one shall be used; and

         (ii) $TNIV_{uk\varphi}$ is the value of the Net Imbalance Volume Tag for Generator Unit, u, and rank, k, in Imbalance Pricing Period, φ, determined in accordance with Chapter E (Imbalance Pricing) and where in the absence of a value for the period resulting from the process outlined in Chapter E (Imbalance Pricing) a value of one shall be used;

(c)   Otherwise, the most recently submitted valid Simple Bid Offer Data for the Imbalance Settlement Period as at the Bid Offer Acceptance Time.

F.3.3.3   Where in accordance with paragraphs F.3.3.1 or F.3.3.2 the Market Operator is required to use Complex Bid Offer Data, it shall use the following Commercial Offer Data for each Imbalance Settlement Period relevant to the Bid Offer Acceptance:

(a)   The Complex Bid Offer Data (if any) that was valid for the Imbalance Settlement Period containing the Bid Offer Opening Time most recently submitted as at the Bid Offer Acceptance Time; or

(b)   Otherwise, the valid Commercial Offer Data components of Default Data that had been most recently submitted as at the Bid Offer Acceptance Time.

F.3.3.4   Where in accordance with paragraphs F.3.3.1 or F.3.3.2 the Market Operator is required to use Simple Bid Offer Data, it shall use the following Commercial Offer Data for each Imbalance Settlement Period relevant to the Bid Offer Acceptance:

(a)   The Simple Bid Offer Data (if any) that was valid for the Imbalance Settlement Period relevant to the Bid Offer Acceptance and had been most recently submitted as at the Bid Offer Acceptance Time; or

(b)   Otherwise, the Price Quantity Pair data of the Complex Bid Offer Data that it would be required to use in accordance with paragraph F.3.3.3(a) or F.3.3.3(b), as applicable, were that paragraph to apply.

F.4   TRADING BOUNDARY AND TREATMENT OF LOSSES

F.4.1   Trading Boundary

F.4.1.1   The Trading Boundary is a notional boundary between all points on the Transmission System and all points on the Distribution System. The Trading Boundary is the notional balancing point for generation and supply and is the point of sale for trading in the SEM at which the title for all products and services settled through the trading arrangements set out in the Code transfers. All volumes traded or settled at the

Trading Boundary are adjusted, where required, to reflect Transmission Losses and (where applicable) Distribution Losses. For the avoidance of doubt, for all Supplier Units or Generator Units that are Distribution Connected, the Trading Boundary is not the specific boundary between the Transmission System and Distribution System for that Unit and so appropriate Combined Loss Adjustment Factors also apply to volumes associated with these Units in order to ensure that they are appropriately adjusted for Transmission Losses and Distribution Losses incurred as electricity is transported to (or from) the Trading Boundary from (or to) the relevant boundary of the Transmission System and the Distribution System for that Unit and then from (or to) the point of connection of that Unit.

F.4.1.2   Before submitting to the Market Operator Meter Data relating to a Generator Unit (other than a Demand Side Unit), or a Supplier Unit, that is Distribution Connected and for which the Distribution System Operator is the Meter Data Provider, each Distribution System Operator shall apply the appropriate Distribution Loss Adjustment Factor to the Meter Data values.

F.4.2   **Setting of Loss Adjustment Factors**

F.4.2.1   At least four months before the start of each Tariff Year, each System Operator shall submit to the Regulatory Authorities a set of Transmission Loss Adjustment Factors for each Generator Unit, other than a Demand Side Units, that is Connected within its Jurisdiction and for each Interconnector connected to that Jurisdiction, calculated in co-operation with the System Operator in the other Jurisdiction and in accordance with the statutory and Licence requirements pertaining within its Jurisdiction, for each Imbalance Settlement Period in the Tariff Year. The Transmission Loss Adjustment Factors for each Interconnector shall be applicable to each Interconnector Error Unit and Interconnector Residual Capacity Unit registered in respect of the relevant Interconnector.

F.4.2.2   In determining Transmission Loss Adjustment Factors the System Operator shall incorporate Transmission Losses incurred on the relevant Interconnector as estimated by the System Operator in consultation with the Interconnector Owner.

F.4.2.3   At least three months before the start of each Tariff Year, each Distribution System Operator shall provide the relevant System Operator with a set of Distribution Loss Adjustment Factors for each Generator Unit (other than Demand Side Units) that is Distribution Connected within its Jurisdiction, calculated in accordance with the statutory and Licence requirements pertaining within its Jurisdiction, for each Imbalance Settlement Period in the Tariff Year, and including the relevant supporting information to enable the System Operator to calculate the corresponding Combined Loss Adjustment Factors.

F.4.2.4   At least two months before the start of each Tariff Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is the later, each System Operator shall provide to the Market Operator in accordance with Appendix K "Other Market Data Transactions" the System Parameters Data Transaction which shall comprise a complete set of Combined Loss Adjustment Factors for each Generator Unit (other than Demand Side Units, Interconnector Error Units or Interconnector Residual Capacity Units) Connected within its Jurisdiction, and each Interconnector connected to that Jurisdiction, for each Imbalance Settlement Period in that Tariff Year.

F.4.2.5 At least two months before the start of each Tariff Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is the later, each System Operator shall provide the Market Operator with a complete set of Transmission Loss Adjustment Factors for each Generator Unit (other than Demand Side Units) that is Connected within its Jurisdiction for each Imbalance Settlement Period in that Tariff Year in accordance with those prepared and submitted to the Regulatory Authorities under paragraph F.4.2.1.

F.4.2.6 At least two months before the start of each Tariff Year each System Operator shall provide the Market Operator with a complete set of Distribution Loss Adjustment Factors for each Generator Unit (other than Demand Side Units) that is Distribution Connected within its Jurisdiction for each Imbalance Settlement Period in that Tariff Year.

F.4.2.7 The Market Operator shall publish the approved Combined Loss Adjustment Factor value(s) within 5 Working Days of receipt of the System Parameters Data Transaction.

F.4.2.8 The Market Operator shall publish the approved Distribution Loss Adjustment Factor value(s) and Transmission Loss Adjustment Factor value(s) within 5 Working Days of receipt of the Loss Adjustment Factors Data Transaction.

F.4.2.9 The Transmission Loss Adjustment Factor ($FTLAF_{v\gamma}$) shall be equal to 1 for each Supplier Unit, v.

F.4.2.10 The Combined Loss Adjustment Factor ($FCLAF_{u\gamma}$) for each Generator Unit, u, in Imbalance Settlement Period, γ, shall be calculated by the relevant System Operator as follows:

$$FCLAF_{u\gamma} = Round(FTLAF_{u\gamma} \times FDLAF_{u\gamma})$$

where:

(a) Round(x) is a function that rounds x to 3 decimal places;

(b) $FTLAF_{u\gamma}$ is the Transmission Loss Adjustment Factor for Generator Unit, u, in Imbalance Settlement Period, γ; and

(c) $FDLAF_{u\gamma}$ is the Distribution Loss Adjustment Factor for Generator Unit, u, in Imbalance Settlement Period, γ. In cases where a Distribution Loss Adjustment Factor has been applied to a variable in advance of data submission in accordance with paragraph F.4.1.2, a value of one for the Distribution Loss Adjustment Factor shall be used for the calculation of the Combined Loss Adjustment Factor to be applied to that variable.

F.4.2.11 The Combined Loss Adjustment Factor ($FCLAF_{v\gamma}$) for each Supplier Unit, v, in Imbalance Settlement Period, γ, shall be set equal to 1.

F.4.2.12 The Combined Loss Adjustment Factor ($FCLAF_{u\gamma}$) for each Demand Side Unit, u, in Imbalance Settlement Period, γ, shall be set equal to 1.

F.4.2.13 The Market Operator shall calculate the Combined Loss Adjustment Factor ($FCLAF_{u\gamma}$) for each Trading Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$If \sum_{u \in s} qCR_u \neq 0, then$$

$$FCLAF_{u\gamma} = \frac{\sum_{u \in s} FCLAF_{u\gamma} \times qCR_u}{\sum_{u \in s} qCR_u}$$

$$Else$$

$$FCLAF_{u\gamma} = Max\big(\{FCLAF_{u\gamma}\} \,\forall\, u \in s\big)$$

where:

(a) qCR_u is the Registered Capacity of Generator Unit, u;

(b) $FCLAF_{u\gamma}$ is the Combined Loss Adjustment Factor for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $\sum_{u \in s}$ is a summation over all Generator Units, u, not including the Trading Unit, in the Trading Site, s, to which the Trading Unit is registered; and

(d)   The expression $Max\big(\{FCLAF_{u\gamma}\} \,\forall\, u \in s\big)$ denotes the highest Combined Loss Adjustment Factor (FCLAF$_{u\gamma}$) of each Generator Unit, u, not including the Trading Unit, in the Trading Site, s, to which the Trading Unit is registered, in Imbalance Settlement Period, γ.

F.4.2.14   The Market Operator shall calculate the Combined Loss Adjustment Factor (FCLAF$_{\Omega\gamma}$) for each Capacity Market Unit, Ω, in each Imbalance Settlement Period, γ, as follows:

$$If \sum_{u \in \Omega} qCR_u \neq 0, then$$

$$FCLAF_{\Omega\gamma} = \frac{\sum_{u \in \Omega} FCLAF_{u\gamma} \times qCR_u}{\sum_{u \in \Omega} qCR_u}$$

$$Else$$

$$FCLAF_{\Omega\gamma} = Max\big(\{FCLAF_{u\gamma}\} \,\forall\, u \in \Omega\big)$$

where:

(a) qCR_u is the Registered Capacity of Generator Unit, u;

(b) $FCLAF_{u\gamma}$ is the Combined Loss Adjustment Factor for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $\sum_{u \in \Omega}$ is a summation over all Generator Units, u, in the Capacity Market Unit, Ω; and

(d)   The expression $Max\big(\{FCLAF_{u\gamma}\} \,\forall\, u \in \Omega\big)$ denotes the highest Combined Loss Adjustment Factor (FCLAF$_{u\gamma}$) of each Generator Unit, u, in the Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.4.3   **Application of Loss Adjustment Factors**

F.4.3.1   In this Code, the term 'Loss-Adjusted' applied to any variable, or the inclusion of the letters 'LF' at the end of any variable term, denotes that a value is to be calculated at the Trading Boundary, through application of the relevant Combined Loss Adjustment Factor as determined under section F.4.2.

F.4.3.2   Where the Market Operator is required to calculate or determine a Loss-Adjusted variable which relates to a Generator Unit, u, other than an Interconnector Error Unit or an Interconnector Residual Capacity Unit, and each Supplier Unit, v, in respect of an Imbalance Settlement Period, γ, and where XXX_γ is the variable before the application of Transmission Losses and Distribution Losses, it shall apply the following calculation:

$$XXXLF_\gamma = XXX_\gamma \times FCLAF_\gamma$$

where:

(a) $XXXLF_\gamma$ is the relevant Loss-Adjusted variable to be determined; and

(b) $FCLAF_\gamma$ is the Combined Loss Adjustment Factor for Generator Unit, u, or Supplier Unit, v, in Imbalance Settlement Period, γ, determined under section F.4.2.

F.4.3.3   Where the Market Operator is required to calculate a Loss-Adjusted variable which relates to an Interconnector Error Unit or Interconnector Residual Capacity Unit, in respect of an Imbalance Settlement Period, γ, and where $XXX_{u\gamma}$ is the variable before application of Transmission Losses and Distribution Losses, it shall apply the following calculation:

$$If\ XXX \geq 0\ then$$
$$XXXLF_{u\gamma} = XXX_{u\gamma} \times FCLAF_{l\gamma}$$
$$else$$
$$XXXLF_{u\gamma} = \frac{XXX_{u\gamma}}{FCLAF_{l\gamma}}$$

where:

(a) $XXXLF_{u\gamma}$ is the relevant Loss-Adjusted variable to be determined; and

(b) $FCLAF_{l\gamma}$ is the Combined Loss Adjustment Factor for the relevant Interconnector, I, in Imbalance Settlement Period, γ, determined under section F.4.2.

F.5   IMBALANCE COMPONENT PAYMENTS AND CHARGES

F.5.1   **Setting of Imbalance Payment or Charge Parameters**

F.5.1.1   If requested by the Regulatory Authorities, the Market Operator shall report to the Regulatory Authorities proposing the following parameters to be used in the calculation of Imbalance Payments and Charges for that Year:

(a)   The value, or description of the methodology for determining the value, of the Imbalance Weighting Factor ($WFIMB_\gamma$) in each Imbalance Settlement Period, γ, for Year, y.

F.5.1.2   The Market Operator's report must set out any relevant research or analysis carried out by the Market Operator and the justification for the specific values, or sources for values, or methodology proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values or methodologies from those proposed and must set out the arguments for and against such alternatives.

F.5.1.3   The Market Operator shall publish the approved value for, or methodology for determining, the parameter referred to in paragraph F.5.1.1, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' determination.

F.5.1.4   The duration of the Aggregated Settlement Period, α, shall be the period determined by the Regulatory Authorities from time to time. The Market Operator shall publish the approved duration of the Aggregated Settlement Period within 5 Working Days of receipt of the Regulatory Authorities' determination.

F.5.1.5   If the Regulatory Authorities determine a revised duration for the Aggregated Settlement Period, α, under paragraph F.5.1.4, the revised duration takes effect at a time specified by the Regulatory Authorities in their determination (which must not be earlier than six Months from the date of the determination).

F.5.2   **Calculation of Ex-Ante Quantities**

F.5.2.1   When the Aggregated Settlement Period Duration is shorter than or equal to the Imbalance Settlement Period Duration, the provisions in paragraphs F.5.2.2 to F.5.2.4 shall apply.

F.5.2.2   The Market Operator shall calculate the Ex-Ante Quantity (QEX_γ) for each Supplier Unit, v, and each Generator Unit, u, other than an Assetless Unit, registered under paragraph B.8.1.2(d) or paragraph B.8.1.2(e) or paragraph B.8.2.3, an Interconnector Error Unit or an Interconnector Residual Capacity Unit, in each Imbalance Settlement Period, γ, as follows:

$$QEX_\gamma = \sum_x \left(qTDA_{xh} \times Min(DTDA_x, DISP) \right) + \sum_x \left(qTID_{xh} \times Min(DTID_x, DISP) \right)$$

where:

(a) $qTDA_{xh}$ is the Day-ahead Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Day-ahead Trading Period, h;

(b) $qTID_{xh}$ is the Intraday Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Intraday Trading Period, h;

(c)   DISP is the Imbalance Settlement Period Duration;

(d) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x;

(e) $DTID_x$ is the Intraday Trade Duration of Trade, x; and

(f) $\sum_x$ is a summation over the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part.

F.5.2.3   The Market Operator shall calculate the Ex-Ante Quantity (QEX_{lh}) for each Interconnector, l, to be allocated into each Imbalance Settlement Period, γ, as follows:

$$QEX_{l\gamma}$$
$$= \sum_x \left(qICSDA_{xlh} \times Min(DTDA_x, DISP) \right)$$
$$+ \sum_x \left(qICSID_{xlh} \times Min(DTICIDMIN, DISP) \right)$$

where:

(a) $qICSDA_{xlh}$ is the Day-ahead Interconnector Schedule Quantity for Trade, x, for Interconnector, l, in Day-ahead Trading Period, h;

(b) $qICSID_{xlh}$ is the Intraday Interconnector Schedule Quantity for Trade, x, for Interconnector, l, in Intraday Interconnector Trading Period, h;

(c) $\sum_x$ is a summation over the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Interconnector Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part;

(d)   DISP is the Imbalance Settlement Period Duration;

(e) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x; and

(f)   DTICIDMIN is the shortest Intraday Interconnector Trade Duration offered in the intraday market.

F.5.2.4   The Market Operator shall calculate the Ex-Ante Quantity ($QEX_{u\gamma}$) for each Generator Unit, u, that is an Interconnector Error Unit or Interconnector Residual Capacity Unit, in each Imbalance Settlement Period, γ, as follows:

$$QEX_{u\gamma} = QEX_{l\gamma}$$

where:

(a) $QEX_{l\gamma}$ is the Ex-Ante Quantity for Interconnector, l, relevant to the Interconnector Error Unit or Interconnector Residual Capacity Unit, u, in Imbalance Settlement Period, γ.

F.5.2.5 When the Aggregated Settlement Period Duration is greater than the Imbalance Settlement Period Duration, the provisions in paragraphs F.5.2.6 to F.5.2.9 shall apply.

F.5.2.6 For Supplier Units, v, or Generator Units, u, other than an Assetless Unit, registered under paragraph B.8.1.2(d) or paragraph B.8.1.2(e) or paragraph B.8.2.3, an Interconnector Error Unit or an Interconnector Residual Capacity Unit, that do not have any Day-ahead Trade Quantities with a Day-ahead Trade Duration, or Intraday Trade Quantities with an Intraday Trade Duration, longer than the Imbalance Settlement Period Duration, the Market Operator shall calculate the Ex-Ante Quantity for each of those Generator Units, u, and each of those Supplier Units, v, in each Imbalance Settlement Period, γ, as follows:

$$QEX_\gamma = \sum_{x\ where\ h\leq\gamma} \left(qTDA_{xh} \times Min(DTDA_x, DISP)\right) + \sum_{x\ where\ h\leq\gamma} \left(qTID_{xh} \times Min(DTID_x, DISP)\right)$$

where:

(a) $qTDA_{xh}$ is the Day-ahead Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Day-ahead Trading Period, h;

(b) $qTID_{xh}$ is the Intraday Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Intraday Trading Period, h;

(c) DISP is the Imbalance Settlement Period Duration;

(d) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x;

(e) $DTID_x$ is the Intraday Trade Duration of Trade, x; and

(f) $\sum_{x\ where\ h\leq\gamma}$ is a summation over the quantities for each Trade, x, whose Day-ahead Trade Duration or Intraday Trade Duration, as the case may be, was less than or equal to the Imbalance Settlement Period Duration.

F.5.2.7 For Supplier Units, v, or Generator Units, u, other than an Assetless Unit, registered under paragraph B.8.1.2(d) or paragraph B.8.1.2(e) or paragraph B.8.2.3, an Interconnector Error Unit or an Interconnector Residual Capacity Unit, that have any Day-ahead Trade Quantities with a Day-ahead Trade Duration, or Intraday Trade Quantities with an Intraday Trade Duration, longer than the Imbalance Settlement Period Duration:

(a) For each Day-ahead Trade Quantity ($qTDA_{xh}$) which has a Day-ahead Trade Duration, and each Intraday Trade Quantity ($qTID_{xh}$) which has an Intraday Trade Duration, longer than the Aggregated Settlement Period Duration, the Market Operator shall calculate the quantity of each Trade, x, for each

Supplier Unit, v, and each Generator Unit, u, to be allocated into each Aggregated Settlement Period, α, as follows:

$$QTDA_{x\alpha} = qTDA_{xh} \times DAGSP$$

$$QTID_{x\alpha} = qTID_{xh} \times DAGSP$$

(b)   The Market Operator shall calculate the Ex-Ante Quantity (QEX$_v$) for each Supplier Unit, v, and each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$QEX_\gamma$$

$$= \left(QMLF_\gamma \right.$$

$$- \frac{WFIMB_\gamma}{\sum_{all\ \gamma\ \in\ \alpha} WFIMB_\gamma} \left(\left(\sum_{all\ \gamma\ \in\ \alpha} QMLF_\gamma \right) \right.$$

$$- \left(\sum_{x\ where\ h=\alpha} QTDA_{xh} + \sum_{x\ where\ h=\alpha} QTID_{xh} \right) \bigg) \bigg)$$

$$+ \sum_{x\ where\ h\leq\gamma} \left(qTDA_{xh} \times Min(DTDA_x, DISP) \right)$$

$$+ \sum_{x\ where\ h\leq\gamma} \left(qTID_{xh} \times Min(DTID_x, DISP) \right)$$

where:

(i)   DAGSP is the Aggregated Settlement Period Duration;

(ii)   DTDA$_x$ is the Day-ahead Trade Duration of Trade, x;

(iii)   DTID$_x$ is the Intraday Trade Duration of Trade, x;

(iv)   QTID$_{x\alpha}$ is the Intraday Trade Quantity for Trade, x, for Supplier Unit, v, or Generator Unit, u, in the Aggregated Settlement Period, α, relevant to Trade x;

(v)   qTID$_{xh}$ is the Intraday Trade Quantity for Trade, x, for Supplier Unit, v, or Generator Unit, u, in the Intraday Trading Period, h;

(vi)   QTDA$_{xa}$ is the Day-ahead Trade Quantity for Trade, x, for Supplier Unit, v, or Generator Unit, u, in the Aggregated Settlement Period, α, relevant to Trade x;

(vii)   qTDA$_{xh}$ is the Day-ahead Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Day-ahead Trading Period, h;

(viii)   WFIMB$_y$ is the Imbalance Weighting Factor for Imbalance Settlement Period, γ;

(ix)   QMLF$_y$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, or Generator Unit, u, in Imbalance Settlement Period, γ;

(x) $\sum_{all\ \gamma\ \in\ \alpha}$ is a summation over the quantities for each Imbalance Settlement Period, γ, within the Aggregated Settlement Period, α;

(xi) $\sum_{x\ where\ h=\ \alpha}$ is a summation over the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Aggregated Settlement Period, α, falls in whole or in part; and whose Day-ahead Trade Duration or Intraday Trade Duration, as the case may be, is no shorter than the Aggregated Settlement Period Duration; and

(xii) $\sum_{x\ where\ h\leq\ \gamma}$ is a summation over the quantities for each Trades, x, whose Day-ahead Trade Duration or Intraday Trade Duration, as the case may be, was less than or equal to the Imbalance Settlement Period Duration to the extent that the same Trade has not already been included in the summation set out in paragraph F.5.2.7(b)(xi).

F.5.2.8   For Interconnectors, l, that do not have any Day-ahead Interconnector Schedule Quantities with a Day-ahead Trade Duration, or Intraday Interconnector Schedule Quantities with an Intraday Interconnector Trade Duration, longer than the Imbalance Settlement Period Duration, the Market Operator shall calculate the Ex-Ante Quantity for each Generator Unit, u, which is an Interconnector Error Unit and an Interconnector Residual Capacity Unit, relevant to Interconnector, l, in each Imbalance Settlement Period, γ, as follows:

$$QEX_{u\gamma}$$
$$= \sum_x \left(qICSDA_{xlh} \times Min(DTDA_x, DISP)\right)$$
$$+ \sum_x \left(qICSID_{xlh} \times Min(DTICIDMIN, DISP)\right)$$

where:

(a)   qICSDA$_{xlh}$ is the Day-ahead Interconnector Schedule Quantity for Trade, x, for Interconnector, l, relevant to the Interconnector Error Unit or Interconnector Residual Capacity Unit, u, in Day-ahead Trading Period, h;

(b)   qICSID$_{xlh}$ is the Intraday Interconnector Schedule Quantity for Trade, x, for Interconnector, l, relevant to the Interconnector Error Unit or Interconnector Residual Capacity Unit, u, in Intraday Interconnector Trading Period, h;

(c)   DISP is the Imbalance Settlement Period Duration;

(d) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x;

(e)   DTICIDMIN is the shortest Intraday Interconnector Trade Duration offered in the intraday market; and

(f) $\sum_x$ is a summation over the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Interconnector Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part.

F.5.2.9   For Interconnectors, l, that have any Day-ahead Interconnector Schedule Quantities with a Day-ahead Trade Duration, or Intraday Interconnector Schedule Quantities with an Intraday Interconnector Trade Duration, longer than the Imbalance Settlement Period Duration:

(a)   For each Day-ahead Interconnector Schedule Quantity ($qICSDA_{xlh}$) which has a Day-ahead Trade Duration, and each Intraday Interconnector Schedule Quantity ($qICSID_{xlh}$) which has an Intraday Interconnector Trade Duration, longer than the Aggregated Settlement Period Duration, the Market Operator shall calculate the quantity of each Trade, x, for each Interconnector, l, to be allocated into each Aggregated Settlement Period, α, as follows:

$$QICSDA_{xl\alpha} = qICSDA_{xlh} \times DAGSP$$

$$QICSID_{xl\alpha} = qICSID_{xlh} \times DAGSP$$

(b)   The Market Operator shall calculate the Ex-Ante Quantity (QEX_{uy}) for each Generator Unit, u, which is an Interconnector Error Unit and an Interconnector Residual Capacity Unit, relevant to Interconnector, l, in each Imbalance Settlement Period, γ, as follows:

$QEX_{u\gamma}$

$$= \left(QMLF_{l\gamma} \right.$$

$$- \frac{WFIMB_\gamma}{\sum_{all\ \gamma\ \in\ \alpha} WFIMB_\gamma} \left(\left(\sum_{all\ \gamma\ \in\ \alpha} QMLF_{l\gamma} \right) \right.$$

$$\left. \left. - \left(\sum_{x\ where\ h=\ \alpha} QICSDA_{xlh} + \sum_{x\ where\ h=\ \alpha} QICSID_{xlh} \right) \right) \right)$$

$$+ \sum_{x\ where\ h\le\ \gamma} \left(qICSDA_{xlh} \times Min(DTDA_x, DISP) \right)$$

$$+ \sum_{x\ where\ h\le\ \gamma} \left(qICSID_{xlh} \times Min(DTICIDMIN, DISP) \right)$$

where:

(i) $QICSDA_{xh}$ or $qICSDA_{xlh}$ is the Day-ahead Interconnector Schedule Quantity for Trade, x, for Interconnector, l, in Day-ahead Trading Period, h;

(ii) $QICSID_{xlh}$ or $qICSID_{xlh}$ is the Intraday Interconnector Schedule Quantity for Trade, x, for Interconnector, l, in Intraday Interconnector Trading Period, h;

(iii)   DAGSP is the Aggregated Settlement Period Duration;

(iv) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x;

(v)   DTICIDMIN is the shortest Intraday Interconnector Trade Duration offered in the intraday market;

(vi) $WFIMB_\gamma$ is the Imbalance Weighting Factor for Imbalance Settlement Period, γ;

(vii) $QMLF_{l\gamma}$ is the Loss-Adjusted Metered Quantity for Interconnector, l, in Imbalance Settlement Period, γ;

(viii) $\sum_{all\ \gamma\ \in\ \alpha}$ is a summation over the quantities for each Imbalance Settlement Period, γ, within the Aggregated Settlement Period, α;

(ix) $\sum_{x\ where\ h=\ \alpha}$ is a summation over the quantities for each Trade, x, from the day-ahead market or intraday market, as the case may be, within whose Day-ahead Trading Period or Intraday Interconnector Trading Period, h, as the case may be, the Aggregated Settlement Period, α, falls in whole or in part; and whose Day-ahead Trade Duration or Intraday Interconnector Trade Duration, as the case may be, is no shorter than the Aggregated Settlement Period Duration; and

(x) $\sum_{x \text{ where } h \leq \gamma}$ is a summation over the quantities for each Trade, x, whose Day-ahead Trade Duration or Intraday Interconnector Trade Duration, as the case may be, was less than or equal to the Imbalance Settlement Period Duration to the extent that the same Trade has not already been included in the summation set out in paragraph F.5.2.9(b)(ix).

F.5.2.10 The Market Operator shall calculate the Ex-Ante Quantity ($QEX_{u'\gamma}$) for each Assetless Unit, u', registered in respect of a SEM NEMO in accordance with paragraph B.8.1.2(d), in each Imbalance Settlement Period, γ, as follows:

$$QEX_{u'\gamma}$$

$$= \left(\sum_{u \text{ and } v \in u'} \left(\sum_x \left(qTDA_{xh} \times Min(DTDA_x, DISP) \right) \right. \right.$$
$$+ \sum_x \left(qTID_{xh} \times Min(DTID_x, DISP) \right) \Bigg)$$
$$+ \sum_{u \in u'} \left(\sum_x \left(qEMADA_{xuh} \times Min(DTDA_x, DISP) \right) \right.$$
$$+ \left. \left. \sum_x \left(qEMAID_{xuh} \times Min(DTICIDMIN, DISP) \right) \right) \right) \times -1$$

where:

(a) $qTDA_{xh}$ is the Day-ahead Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Day-ahead Trading Period, h;

(b) $qTID_{xh}$ is the Intraday Trade Quantity for Trade, x, for Generator Unit, u, or Supplier Unit, v, in Intraday Trading Period, h;

(c)   DISP is the Imbalance Settlement Period Duration;

(d) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x;

(e) $DTID_x$ is the Intraday Trade Duration of Trade, x;

(f) $\sum_x$ is a summation over the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period, Intraday Interconnector Trading Period, or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part, submitted in accordance with section F.2.2 by the Scheduling Agent for the Participant, and the Scheduling Agent for the SEM NEMO, represented by Assetless Unit, u';

(g) $qEMADA_{xuh}$ is the Day-ahead Market Area Exchange Quantity for Trade, x, for Assetless Unit, u, registered in accordance with paragraph B.8.1.2(e) in respect of the same SEM NEMO as that represented by the Assetless Unit, u', in Intraday Interconnector Trading Period, h;

(h) $qEMAID_{xuh}$ is the Intraday Market Area Exchange Quantity for Trade, x, for Assetless Unit, u, registered in accordance with paragraph B.8.1.2(e) in

respect of the same SEM NEMO as that represented by the Assetless Unit, u',
in Intraday Interconnector Trading Period, h;

(i)   DTICIDMIN is the shortest Intraday Interconnector Trade Duration offered in
the intraday market;

(j) $\sum_{u \, and \, v \, \in u'}$ is a summation over all Generator Units, u, excluding
Interconnector Residual Capacity Units or Interconnector Error Units, and
Supplier Units, v, registered in respect of all Participants for whom the
Assetless Unit, u', is registered in respect of the SEM NEMO which acts as a
Scheduling Agent which submits Contracted Quantities for that Participant in
accordance with section F.2.2; and

(k) $\sum_{u \, \in u'}$ is a summation over all Assetless Units, u, registered in accordance
with paragraph B.8.1.2(e) in respect of the same SEM NEMO as that
represented by the Assetless Unit, u'.

F.5.2.11 For the purposes of further uses in this code, Ex-Ante Quantities (QEX_γ and $QEX_{u'\gamma}$)
calculated in section F.5.2 shall be read as $QEX_{u\gamma}$ where they relate to quantities for a
Generator Unit, and be read as $QEX_{v\gamma}$ where they relate to quantities for a Supplier
Unit.

F.5.3 Calculation of Imbalance Component Payments and Charges

F.5.3.1 Except as provided in paragraph F.5.3.3, the Market Operator shall calculate the
Imbalance Component Payment or Charge ($CIMB_{u\gamma}$) for each Generator Unit (other
than an Interconnector Error Unit or an Interconnector Residual Capacity Unit), u, in
each Imbalance Settlement Period, γ, as follows:

$$CIMB_{u\gamma} = PIMB_\gamma \times \left(QMLF_{u\gamma} - QEX_{u\gamma} \right)$$

where:

(a) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ,
calculated in accordance with Chapter E (Imbalance Pricing);

(b) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in
Imbalance Settlement Period, γ; and

(c) $QEX_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement
Period, γ.

F.5.3.2 The Market Operator shall calculate the Imbalance Component Payment or Charge
($CIMB_{v\gamma}$) for each Supplier Unit, v, in Imbalance Settlement Period, γ, as follows:

$$CIMB_{v\gamma} = PIMB_\gamma \times \left(QMLF_{v\gamma} - QEX_{v\gamma} \right)$$

where:

(a) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ,
calculated in accordance with Chapter E (Imbalance Pricing);

(b) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(c) $QEX_{v\gamma}$ is the Ex-Ante Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ.

F.5.3.3 The Market Operator shall calculate the Imbalance Component Payment or Charge ($CIMB_{u\gamma}$) for each Pumped Storage Unit or Battery Storage Unit, u, in each Imbalance Settlement Period, γ, for which it is in Pumping Mode (as determined in paragraph F.2.1.3) or in Charging Mode (as determined in paragraph F.2.1.4), as the case may be, as follows:

$$CIMB_{u\gamma}$$

$$= PIMB_\gamma \times \left(\sum_o \sum_i \left(QAOLF_{uoi\gamma} \right. \right.$$
$$- Max\left(QAOBIAS_{uoi\gamma}, QAOUNDEL_{uoi\gamma} \right) \Big)$$
$$+ \sum_o \sum_i \left(QABLF_{uoi\gamma} - Min\left(QABBIAS_{uoi\gamma}, QABUNDEL_{uoi\gamma} \right) \right) \Bigg)$$

where:

(a) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(b) $\sum_o$ is a summation over all Bid Offer Acceptances, o;

(c) $\sum_i$ is a summation over all Bands, i;

(d) $QAOLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(e) $QABLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(f) $QAOUNDEL_{uoi\gamma}$ is the Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(g) $QABUNDEL_{uoi\gamma}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(h) $QAOBIAS_{uoi\gamma}$ is the Biased Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(i) $QABBIAS_{uoi\gamma}$ is the Biased Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.5.3.4 The Market Operator shall calculate the Imbalance Component Payment or Charge ($CIMB_{u\gamma}$) for each Interconnector Residual Capacity Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$CIMB_{u\gamma} = PIMB_\gamma \times \left(\sum_o \sum_i (QAOLF_{uoi\gamma}) + \sum_o \sum_i (QABLF_{uoi\gamma}) \right)$$

where:

(a) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(b) $\sum_o$ is a summation over all Bid Offer Acceptances, o;

(c) $\sum_i$ is a summation over all Bands, i;

(d) $QAOLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Offer Quantity for Interconnector Residual Capacity Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(e) $QABLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Bid Quantity for Interconnector Residual Capacity Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.5.3.5 The Market Operator shall calculate the Imbalance Component Payment or Charge ($CIMB_{u\gamma}$) for each Interconnector Error Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$
\begin{aligned}
CIMB_{u\gamma} \\
= PIMB_\gamma \\
\times \left(QMLF_{u\gamma} - QEX_{u\gamma} - \left(\sum_o \sum_i (QAOLF_{uoi\gamma}) + \sum_o \sum_i (QABLF_{uoi\gamma}) \right) \right)
\end{aligned}
$$

where:

(a) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(b) $\sum_o$ is a summation over all Bid Offer Acceptances, o;

(c) $\sum_i$ is a summation over all Bands, i;

(d) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(e) $QEX_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(f) $QAOLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Offer Quantity for Interconnector Residual Capacity Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(g) $QABLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Bid Quantity for Interconnector Residual Capacity Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.6 PREMIUM AND DISCOUNT COMPONENT QUANTITIES AND PAYMENTS

F.6.1 Application to Imbalance Settlement Period and Imbalance Pricing Period

F.6.1.1 The provisions in sections F.6.2 and F.6.3 are applied to two different timeframes. For the purposes of calculating the Imbalance Price applicable to an Imbalance Pricing Period in accordance with Chapter E (Imbalance Pricing), sections F.6.2 and F.6.3 are applied using the Imbalance Pricing Period, φ, instead of the generalised Period, h. For the purposes of calculating the settlement quantities applicable to an Imbalance Settlement Period, sections F.6.2 and F.6.3 are applied using the Imbalance Settlement Period, γ, instead of the generalised Period, h.

F.6.1.2 The provisions in this Chapter shall be based on the data available to the Market Operator at the time of applying those provisions to the Imbalance Pricing Period in calculating the Imbalance Price, or the time of applying those provisions to the Imbalance Settlement Period in calculating the settlement quantities, as applicable.

F.6.2 Calculation of Accepted Bid Quantities and Accepted Offer Quantities

F.6.2.1 The Market Operator shall calculate the Accepted Offer Quantities and Accepted Bid Quantities for the purposes of the Imbalance Pricing process and for the purposes of the Settlement process, as set out in paragraphs F.6.2.2 to F.6.2.7, except in the case of an Interconnector Error Unit or an Interconnector Residual Capacity Unit, where the relevant System Operator shall submit those values under paragraph F.2.4.8.

F.6.2.2 The Market Operator shall calculate two values for the Accepted Bid Offer Quantity ($qBOA_{uoih}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Period, h, calculating separately one value for all Incs resulting from the Bid Offer Acceptance and one value for all Decs resulting from the Bid Offer Acceptance, as follows:

(a) For i > 0:

$$qBOA_{uoih}(t)$$
$$= Max\{Min\{qDA_{uoh}(t), qBOUR_{uih}(t)\}, qBOUR_{u(i-1)h}(t)\}$$
$$- Max\{Min\{qDA_{u(o-1)h}(t), qBOUR_{uih}(t)\}, qBOUR_{u(i-1)h}(t)\}$$

(b) For i < 0:

$$qBOA_{uoih}(t)$$
$$= Min\{Max\{qDA_{uoh}(t), qBOLR_{uih}(t)\}, qBOLR_{u(i+1)h}(t)\}$$
$$- Min\{Max\{qDA_{u(o-1)h}(t), qBOLR_{uih}(t)\}, qBOLR_{u(i+1)h}(t)\}$$

F.6.2.3 When calculating the value for the Accepted Bid Offer Quantity ($qBOA_{uoih}(t)$) for the Incs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uoh}(t) = Max\left(qD_{uoh}(t), qDA_{u(o-1)h}(t)\right)$$

$$qDA_{u(o-1)h}(t) = qD_{u(o-1)h}(t)$$

$$qD_{u(o=0)h}(t) = qFPN_{uh}(t)$$

$$qBOUR_{u(i=0)h}(t) = 0$$

$$qBOLR_{u(i=0)h}(t) = 0$$

F.6.2.4   When calculating the value for the Accepted Bid Offer Quantity ($qBOA_{uoih}(t)$) for the Decs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uoh}(t) = Min\left(qD_{uoh}(t), qDA_{u(o-1)h}(t)\right)$$

$$qDA_{u(o-1)h}(t) = Min\left(qD_{u(o-1)h}(t), qAVAILO_{uh}(t)\right)$$

$$qD_{u(o=0)h}(t) = qFPN_{uh}(t)$$

$$qBOUR_{u(i=0)h}(t) = 0$$

$$qBOLR_{u(i=0)h}(t) = 0$$

F.6.2.5   For the purposes of paragraphs F.6.2.2 to F.6.2.4:

(a) $qD_{uoh}(t)$ is the Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Period, h;

(b) $qDA_{uoh}(t)$ is the Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Period, h;

(c) $qBOUR_{uih}(t)$ is the Bid Offer Upper Range Quantity as a function of time for Generator Unit, u, for Band, i, in Period, h;

(d) $qBOLR_{uih}(t)$ is the Bid Offer Lower Range Quantity as a function of time for Generator Unit, u, for Band, i, in Period, h;

(e) $qFPN_{uh}(t)$ is the Final Physical Notification Quantity as a function of time for Generator Unit, u, in Period, h;

(f) $qAVAILO_{uh}(t)$ is the Outturn Availability Quantity as a function of time for Generator Unit, u, in Period, h;

(g) $(o - 1)$ is for the previous Bid Offer Acceptance in respect of the same Period, h;

(h) $(i - 1)$ is for the previous Band when considering Bands in the positive direction $(i > 0)$;

(i) $(i + 1)$ is for the previous Band when considering Bands in the negative direction $(i < 0)$; and

(j) $(o = 0)$ or $(i = 0)$ is for the 0th value for the relevant aspect (i.e. the implicit default value before an explicit Bid Offer Acceptance, o; the value for Band, i, where $i = 0$).

F.6.2.6   The Market Operator shall calculate the Accepted Offer Quantity ($qAO_{uoih}(t)$) as a function of time, and the Accepted Bid Quantity ($qAB_{uoih}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Period, h, separately for the Incs and Decs, as follows:

$$qAO_{uoih}(t) = Max(qBOA_{uoih}(t) \ for \ Incs, 0)$$

$$qAB_{uoih}(t) = Min(qBOA_{uoih}(t) \ for \ Decs, 0)$$

where:

(a) $qBOA_{uoih}(t)$ is the Accepted Bid Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Period, h.

F.6.2.7   The Market Operator shall calculate the Accepted Offer Quantity (QAO_{uoih}) and the Accepted Bid Quantity (QAB_{uoih}) for Generator Unit u, in period h, by integrating the associated function of time Accepted Offer Quantity ($qAO_{uoih}(t)$) and Accepted Bid Quantity ($qAB_{uoih}(t)$) with respect to time across the Period, h.

F.6.3   Determination of Accepted Bid and Accepted Offer Prices

F.6.3.1   Except in the case of an Interconnector Error Unit or an Interconnector Residual Capacity Unit, the Bid Offer Price (PBO_{uoih}) for each Accepted Bid Quantity and each Accepted Offer Quantity shall be:

(a)   For each Accepted Offer Quantity, QAO_{uoih}, the Incremental Price in the Band, i, provided in the relevant Commercial Offer Data set as determined in sections F.3.2 and F.3.3; and

(b)   For each Accepted Bid Quantity, QAB_{uoih}, the Decremental Price in the Band, i, provided in the relevant Commercial Offer Data set as determined in sections F.3.2 and F.3.3.

F.6.3.2   The Bid Offer Price (PBO_{uoih}) for each Accepted Bid Quantity and Accepted Offer Quantity, for each Bid Offer Acceptance, o, relevant to an Interconnector Residual Capacity Unit, u, shall be the values submitted by the System Operator for the relevant Interconnector, l, in accordance with paragraph F.2.4.8.

F.6.4 **Calculation of Trade in the Opposite Direction to the TSO Quantities**

F.6.4.1 The following provisions of section F.6.4 do not apply to an Interconnector Error Unit or Interconnector Residual Capacity Unit.

F.6.4.2 Where the Regulatory Authorities have given notice to the Market Operator of a requirement to include $QAOTOTSO_{uoi\gamma}$ and $QABTOTSO_{uoi\gamma}$ in the calculation of Premium and Discount Component Payments, the Market Operator shall, from the time the notice takes effect, calculate $QAOTOTSO_{uoi\gamma}$ and $QABTOTSO_{uoi\gamma}$ in accordance with the procedure set out in paragraphs F.6.4.6 to F.6.4.12.

F.6.4.3 Where the Regulatory Authorities have not given a notice under paragraph F.6.4.2, or have withdrawn a notice under that paragraph, the Market Operator shall set the values of $QAOTOTSO_{uoi\gamma}$ and $QABTOTSO_{uoi\gamma}$ to zero.

F.6.4.4 A notice under paragraph F.6.4.2, or a withdrawal under that paragraph, shall take effect at the beginning of the Trading Day which is the later of:

(a) That specified in the notice or withdrawal; and

(b) The expiration of two months after the notice was received by the Market Operator.

F.6.4.5 Following receipt of a notice or withdrawal of a notice by the Regulatory Authorities under paragraph F.6.4.2, the Market Operator shall promptly publish such notice or notice of withdrawal.

F.6.4.6 The Market Operator shall calculate two values for the Without Trade Opposite TSO Accepted Bid Offer Quantity ($qBOAWTOTSO_{uoi\gamma}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Period, h, calculating separately one value for all Incs resulting from the Bid Offer Acceptance and one value for all Decs resulting from the Bid Offer Acceptance, as follows:

(a) For i > 0:

$$qBOAWTOTSO_{uoi\gamma}(t)$$
$$= Max\{Min\{qDA_{uo\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}$$
$$- Max\{Min\{qDA_{u(o-1)\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}$$

(b) For i < 0:

$$qBOAWTOTSO_{uoi\gamma}(t)$$
$$= Min\{Max\{qDA_{uo\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}$$
$$- Min\{Max\{qDA_{u(o-1)\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}$$

F.6.4.7 When calculating the value for the Without Trade Opposite TSO Accepted Bid Offer Quantity ($qBOAWTOTSO_{uoi\gamma}(t)$) for the Incs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uo\gamma}(t) = Max\left(qD_{uo\gamma}(t), qDA_{u(o-1)\gamma}(t)\right)$$

$$qDA_{u(o-1)\gamma}(t) = qDAWTOTSO_{u(o-1)\gamma}(t)$$

$If\ qD_{uo\gamma}(t) \geq qPN_{uo\gamma}(t), then$

$$qDAWTOTSO_{u(o-1)\gamma}(t) = Max\left(qD_{u(o-1)\gamma}(t), qPN_{uo\gamma}(t)\right)$$

$else$

$$qDAWTOTSO_{u(o-1)\gamma}(t) = qD_{u(o-1)\gamma}(t)$$

$$qD_{u(o=0)\gamma}(t) = qDWTOTSO_{u(o=0)\gamma}(t)$$

$If\ qD_{uo\gamma}(t) \geq qPN_{uo\gamma}(t), then$

$$qDWTOTSO_{u(o=0)\gamma}(t) = Max\left(qPN_{uo\gamma}(t), qFPN_{u\gamma}(t)\right)$$

$else$

$$qDWTOTSO_{u(o=0)\gamma}(t) = qFPN_{u\gamma}(t)$$

$$qPN_{u(o=0)\gamma}(t) = 0$$

$$qBOUR_{u(i=0)\gamma}(t) = 0$$

$$qBOLR_{u(i=0)\gamma}(t) = 0$$

F.6.4.8   When calculating the value for the Without Trade Opposite TSO Accepted Bid Offer Quantity (qBOAWTOTSO$_{uoiy}$(t)) for the Decs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uo\gamma}(t) = Min\left(qD_{uo\gamma}(t), qDA_{u(o-1)\gamma}(t)\right)$$

$$qDA_{u(o-1)\gamma}(t) = qDAWTOTSO_{u(o-1)\gamma}(t)$$

$If\ qD_{uo\gamma}(t) \leq qPN_{uo\gamma}(t), then$

$$qDAWTOTSO_{u(o-1)\gamma}(t) = Min\left(qD_{u(o-1)\gamma}(t), qPN_{uo\gamma}(t), qAVAILO_{u\gamma}(t)\right)$$

else

$$qDAWTOTSO_{u(o-1)\gamma}(t) = Min\left(qD_{u(o-1)\gamma}(t), qAVAILO_{u\gamma}(t)\right)$$

$$qD_{u(o=0)\gamma}(t) = qDWTOTSO_{u(o=0)\gamma}(t)$$

$$If\ qD_{uo\gamma}(t) \leq qPN_{uo\gamma}(t),\ then$$

$$qDWTOTSO_{u(o=0)\gamma}(t) = Min\left(qPN_{uo\gamma}(t), qFPN_{u\gamma}(t)\right)$$

else

$$qDWTOTSO_{u(o=0)\gamma}(t) = qFPN_{u\gamma}(t)$$

$$qPN_{u(o=0)\gamma}(t) = 0$$

$$qBOUR_{u(i=0)\gamma}(t) = 0$$

$$qBOLR_{u(i=0)\gamma}(t) = 0$$

F.6.4.9   For the purposes of paragraphs F.6.4.6 to F.6.4.8:

(a) $qD_{uo\gamma}(t)$ is the Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(b) $qDA_{uo\gamma}(t)$ is the Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(c) $qDWTOTSO_{uo\gamma}(t)$ is the Without Trade Opposite TSO Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(d) $qDAWTOTSO_{uo\gamma}(t)$ is the Without Trade Opposite TSO Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(e) $qBOUR_{ui\gamma}(t)$ is the Bid Offer Upper Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

(f) $qBOLR_{ui\gamma}(t)$ is the Bid Offer Lower Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

(g) $qFPN_{u\gamma}(t)$ is the Final Physical Notification Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

(h) $qPN_{uo\gamma}(t)$ is the Physical Notification Quantity as a function of time for Generator Unit, u, being the last valid Physical Notification Quantity submitted by the relevant Participant before the Bid Offer Acceptance Time of Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(i) $qAVAILO_{u\gamma}(t)$ is the Outturn Availability Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

(j)   (o − 1) is for the previous Bid Offer Acceptance in respect of the same Imbalance Settlement Period;

(k)   (i − 1) is for the previous Band when considering Bands in the positive direction (i > 0);

(l)   (i + 1) is for the previous Band when considering Bands in the negative direction (i < 0); and

(m)   (o = 0) or (i = 0) is for the 0th value for the relevant aspect (i.e. the implicit default value before an explicit Bid Offer Acceptance, o; the value for Band, i, where i = 0).

F.6.4.10   The Market Operator shall calculate the Without Trade Opposite TSO Accepted Offer Quantity ($qAOWTOTSO_{uoi\gamma}(t)$) as a function of time, and the Without Trade Opposite TSO Accepted Bid Quantity ($qABWTOTSO_{uoi\gamma}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$qAOWTOTSO_{uoi\gamma}(t) = Max\big(qBOAWTOTSO_{uoi\gamma}(t)\ for\ Incs, 0\big)$$

$$qABWTOTSO_{uoi\gamma}(t) = Min\big(qBOAWTOTSO_{uoi\gamma}(t)\ for\ Decs, 0\big)$$

where:

(a) $qBOAWTOTSO_{uoi\gamma}(t)$ is the Without Trade Opposite TSO Accepted Bid Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.6.4.11   The Market Operator shall calculate the Trade Opposite TSO Accepted Offer Quantity ($qAOTOTSO_{uoi\gamma}(t)$) as a function of time, and the Trade Opposite TSO Accepted Bid Quantity ($qABTOTSO_{uoi\gamma}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$qAOTOTSO_{uoi\gamma}(t) = Max\big(qAO_{uoi\gamma}(t) - qAOWTOTSO_{uoi\gamma}(t), 0\big)$$

$$qABTOTSO_{uoi\gamma}(t) = Min\big(qAB_{uoi\gamma}(t) - qABWTOTSO_{uoi\gamma}(t), 0\big)$$

where:

(a) $qAO_{uoi\gamma}(t)$ is the Accepted Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(b) $qAB_{uoi\gamma}(t)$ is the Accepted Bid Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(c) $qAOWTOTSO_{uoi\gamma}(t)$ is the Without Trade Opposite TSO Accepted Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(d) $qABWTOTSO_{uoi\gamma}(t)$ is the Without Trade Opposite TSO Accepted Bid Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.6.4.12   The Market Operator shall calculate the Trade Opposite TSO Accepted Offer Quantity ($QAOTOTSO_{uoi\gamma}$), and the Trade Opposite TSO Accepted Bid Quantity ($QABTOTSO_{uoi\gamma}$), for Generator Unit u, for the Imbalance Settlement Period, γ, by integrating the associated function of time quantities Trade Opposite TSO Accepted Offer Quantity ($qAOTOTSO_{uoi\gamma}(t)$) and Trade Opposite TSO Accepted Bid Quantity ($qABTOTSO_{uoi\gamma}(t)$) with respect to time across the Imbalance Settlement Period, γ.

F.6.5   Calculation of Non-Firm Decremental Quantities

F.6.5.1   The following provisions of section F.6.5 do not apply to an Interconnector Error Unit or Interconnector Residual Capacity Unit.

F.6.5.2   The Market Operator shall determine the Firm Access Quantity ($qFAQ_{u\gamma}(t)$) as a function of time for each Generator Unit, u, in Trading Site, s, with Non-Firm Access in Imbalance Settlement Period, γ, as follows:

$$QFPNNF_{s\gamma} = Max\left(\sum_{u \in s} QFPN_{u\gamma} + \sum_{v \in s} QM_{v\gamma} - \left(qFAQ_{s\gamma} \times DISP\right), 0\right)$$

$$If \sum_{u \in s}\sum_{o}\sum_{i} QAB_{uoi\gamma} < 0, then$$

$$qFAQ_{u\gamma}(t) = \frac{Max\left(QFPN_{u\gamma} - QFPNNF_{s\gamma}\left(\frac{\sum_{o}\sum_{i} QAB_{uoi\gamma}}{\sum_{u \in s}\sum_{o}\sum_{i} QAB_{uoi\gamma}}\right), 0\right)}{DISP}$$

$$Else$$

$$qFAQ_{u\gamma}(t) = \frac{QFPN_{u\gamma}}{DISP}$$

where:

(a) $QFPNNF_{s\gamma}$ is the Non-Firm Final Physical Notification Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(b) $QFPN_{u\gamma}$ is the Final Physical Notification Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $QM_{v\gamma}$ is the Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(d)   QFAQ$_{s\gamma}$ is the Firm Access Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(e)   QAB$_{uoi\gamma}$ is the Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(f) $\sum_o$ is a summation over all Bid Offer Acceptances, o;

(g) $\sum_i$ is a summation over all Bands, i;

(h) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s;

(i) $\sum_{v \in s}$ is the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2; and

(j)   DISP is the Imbalance Settlement Period Duration.

F.6.5.3   The Market Operator shall calculate the value of the Non-Firm Accepted Bid Offer Quantity (qBOANF$_{uoi\gamma}$(t)) as a function of time, for each Generator Unit, u, for all Decs resulting from each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

(a)   For i > 0:

$$qBOANF_{uoi\gamma}(t)$$
$$= Max\{Min\{qDA_{uo\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}$$
$$- Max\{Min\{qDA_{u(o-1)\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}$$

(b)   For i < 0:

$$qBOANF_{uoi\gamma}(t)$$
$$= Min\{Max\{qDA_{uo\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}$$
$$- Min\{Max\{qDA_{u(o-1)\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}$$

F.6.5.4   When calculating the value for the qBOANF$_{uoi\gamma}$(t), the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uo\gamma}(t) = qDANF_{uo\gamma}(t)$$

$$qDANF_{uo\gamma}(t) = Min\left(Max\left(qD_{uo\gamma}(t), qFAQ_{u\gamma}(t)\right), qDA_{u(o-1)\gamma}(t)\right)$$

$$qDA_{u(o-1)\gamma}(t) = Min\left(qD_{u(o-1)\gamma}(t), qAVAILO_{u\gamma}(t)\right)$$

$$qD_{u(o=0)\gamma}(t) = qFPN_{u\gamma}(t)$$

$$qBOUR_{u(i=0)\gamma}(t) = 0$$

$$qBOLR_{u(i=0)\gamma}(t) = 0$$

F.6.5.5   For the purposes of paragraphs F.6.5.2 to F.6.5.4:

    (a) $qD_{uo\gamma}(t)$ is the Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

    (b) $qDA_{uo\gamma}(t)$ is the Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

    (c) $qDANF_{uo\gamma}(t)$ is the Non-Firm Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

    (d) $qFAQ_{u\gamma}(t)$ is the Firm Access Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

    (e) $qBOUR_{ui\gamma}(t)$ is the Bid Offer Upper Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

    (f) $qBOLR_{ui\gamma}(t)$ is the Bid Offer Lower Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

    (g) $qFPN_{u\gamma}(t)$ is the Final Physical Notification Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

    (h) $qAVAILO_{u\gamma}(t)$ is the Outturn Availability Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

    (i)   (o − 1) is for the previous Bid Offer Acceptance in respect of the same Imbalance Settlement Period;

    (j)   (i − 1) is for the previous Band when considering Bands in the positive direction (i > 0);

    (k)   (i + 1) is for the previous Band when considering Bands in the negative direction (i < 0); and

    (l)   (o = 0) or (i = 0) is for the 0th value for the relevant aspect (i.e. the implicit default value before an explicit Bid Offer Acceptance, o; the value for Band, i, where i = 0).

F.6.5.6   The Market Operator shall calculate the Non-Firm Accepted Bid Quantity ($qABNF_{uoi\gamma}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$qABNF_{uoi\gamma}(t) = Min\big(qBOANF_{uoi\gamma}(t),0\big)$$

where:

(a) qBOANF$_{uoi\gamma}$(t) is the Non-Firm Accepted Bid Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.6.5.7 The Market Operator shall calculate the Non-Firm Accepted Bid Quantity (QABNF$_{uoi\gamma}$) as an integrated quantity for the Imbalance Settlement Period γ, for Generator Unit u, for Bid Offer Acceptance, o, for Band, i, for the Imbalance Settlement Period, γ, by integrating the associated function of time the quantity Non-Firm Accepted Bid Quantity (qABNF$_{uoi\gamma}$(t)) with respect to time across the Imbalance Settlement Period, γ.

F.6.6 **Calculation of Undelivered Quantities**

F.6.6.1 The following provisions of section F.6.6 do not apply to an Interconnector Error Unit.

F.6.6.2 The Market Operator shall calculate the Undelivered Quantity (QUNDEL$_{u\gamma}$) for each Generator Unit, u, in Imbalance Settlement Period, γ, as follows:

$$QUNDEL_{u\gamma} = QMLF_{u\gamma} - QDLF_{u\gamma}$$

where:

(a) QMLF$_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ; and

(b) QDLF$_{u\gamma}$ is the Loss-Adjusted Dispatch Quantity for the Generator Unit, u, in Imbalance Settlement Period, γ.

F.6.6.3 Where the Undelivered Quantity has a positive value, the Market Operator shall determine which of the Accepted Bid Quantities were not delivered, in whole or in part, for each Generator Unit, u, in Imbalance Settlement Period, γ, in accordance with paragraphs F.6.6.4 to F.6.6.6.

F.6.6.4 The Market Operator shall derive a ranked set of all Accepted Bid Quantities for Generator Unit, u, in Imbalance Settlement Period, γ, in order of increasing price. The Accepted Bid Quantity with the lowest price shall be allocated a position number k = 1, the next lowest priced Accepted Bid Quantity a position number k = 2 and so on until all Accepted Bid Quantities have been allocated a position number. Where two or more Accepted Bid Quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.6.6.5 The Market Operator shall calculate the Undelivered Accepted Bid Quantity (QABUNDEL$_{uoi\gamma k}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in ascending order of each position, k, in the ranked set, in Imbalance Settlement Period, γ, as follows:

$$QABUNDEL_{uoi\gamma k} = Min\big(Max\big(QABLF_{uoi\gamma k}, -QUNDELR_{u\gamma(k-1)}\big), 0\big)$$

$$QUNDELR_{u\gamma k} = QUNDELR_{u\gamma(k-1)} + QABUNDEL_{uoi\gamma k}$$

$$QUNDELR_{u\gamma(k=0)} = QUNDEL_{u\gamma}$$

where:

(a) $QABLF_{uoi\gamma k}$ is the Loss-Adjusted Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(b) $QUNDELR_{u\gamma k}$ is the Remaining Undelivered Quantity for Generator Unit, u, for the calculations in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(c) $QUNDEL_{u\gamma}$ is the Undelivered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d) (k – 1) is for the previous position in the ranked set; and

(e) (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.6.6.6 The Market Operator shall calculate the Undelivered Accepted Bid Quantity ($QABUNDEL_{uoi\gamma}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QABUNDEL_{uoi\gamma} = QABUNDEL_{uoi\gamma k}$$

where:

(a) $QABUNDEL_{uoi\gamma k}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.6.6.7 Where the Undelivered Quantity has a negative value, the Market Operator shall determine which of the Accepted Offer Quantities were not delivered, in whole or in part, for each Generator Unit, u, in Imbalance Settlement Period, γ, in accordance with paragraphs F.6.6.8 to F.6.6.10.

F.6.6.8 The Market Operator shall derive a ranked set of all Accepted Offer Quantities for Generator Unit, u, in Imbalance Settlement Period, γ, in order of decreasing price. The Accepted Offer Quantity with the highest price shall be allocated a position number k = 1, the next highest priced Accepted Offer Quantity a position number n = 2 and so on until all Accepted Offer Quantities have been allocated a position number. Where two or more Accepted Offer Quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.6.6.9 The Market Operator shall calculate the Undelivered Accepted Offer Quantity ($QAOUNDEL_{uoi\gamma k}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for

each Band, i, in ascending order of each position, k, in the ranked set, in Imbalance Settlement Period, γ, as follows:

$$QAOUNDEL_{uoi\gamma k} = Max\big(Min(QAOLF_{uoi\gamma k}, -QUNDELR_{u\gamma(k-1)}), 0\big)$$

$$QUNDELR_{u\gamma k} = QUNDELR_{u\gamma(k-1)} + QAOUNDEL_{uoi\gamma k}$$

$$QUNDELR_{u\gamma(k=0)} = QUNDEL_{u\gamma}$$

where:

(a) $QAOLF_{uoi\gamma k}$ is the Loss-Adjusted Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(b) $QUNDELR_{u\gamma k}$ is the Remaining Undelivered Quantity for Generator Unit, u, for the calculations in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(c) $QUNDEL_{u\gamma}$ is the Undelivered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d)   (k – 1) is for the previous position in the ranked set; and

(e)   (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.6.6.10   The Market Operator shall calculate the Undelivered Accepted Offer Quantity ($QAOUNDEL_{uoi\gamma}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QAOUNDEL_{uoi\gamma} = QAOUNDEL_{uoi\gamma k}$$

where:

(a) $QAOUNDEL_{uoi\gamma k}$ is the Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k. in the ranked set, in Imbalance Settlement Period, γ.

F.6.7   Calculation of Biased Quantities

F.6.7.1   The following provisions of section F.6.7 do not apply to any Generator Unit which is registered as part of an Autoproducer Site.

F.6.7.2   The following provisions of section F.6.7 do not apply to an Interconnector Error Unit.

F.6.7.3   The Market Operator shall calculate the Biased Quantity ($QBIAS_{u\gamma}$) for each Generator Unit, u, in Imbalance Settlement Period, γ, as follows:

$$QBIAS_{u\gamma} = QEX_{u\gamma} - QFPNLF_{u\gamma}$$

where:

(a) $QEX_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ, as calculated under section F.5.2; and

(b) $QFPNLF_{u\gamma}$ is the Loss-Adjusted Final Physical Notification Quantity for the Generator Unit, u, in Imbalance Settlement Period, γ.

F.6.7.4   Where the Biased Quantity has a positive value, the Market Operator shall determine which of the Accepted Offer Quantities were biased, in whole or in part, for each Generator Unit, u, in Imbalance Settlement Period, γ, in accordance with paragraphs F.6.7.5 to F.6.7.7.

F.6.7.5   The Market Operator shall derive a ranked set of all Accepted Offer Quantities for Generator Unit, u, in Imbalance Settlement Period, γ, in order of increasing price. The Accepted Offer Quantity with the lowest price shall be allocated a position number k = 1, the next lowest priced Accepted Offer Quantity a position number k = 2 and so on until all Accepted Offer Quantities have been allocated a position number. Where two or more Accepted Offer Quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.6.7.6   The Market Operator shall calculate the Biased Accepted Offer Quantity ($QAOBIAS_{uoi\gamma k}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in ascending order of each position, k, in the ranked set, in Imbalance Settlement Period, γ, as follows:

$$QAOBIAS_{uoi\gamma k} = Max\big(Min\big(QAOLF_{uoi\gamma k}, QBIASR_{u\gamma(k-1)}\big), 0\big)$$

$$QBIASR_{u\gamma k} = QBIASR_{u\gamma(k-1)} - QAOBIAS_{uoi\gamma k}$$

$$QBIASR_{u\gamma(k=0)} = QBIAS_{u\gamma}$$

where:

(a) $QAOLF_{uoi\gamma k}$ is the Loss-Adjusted Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(b) $QBIASR_{u\gamma k}$ is the Remaining Biased Quantity for Generator Unit, u, for the calculations in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(c) $QBIAS_{u\gamma}$ is the Biased Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d)   (k – 1) is for the previous position in the ranked set; and

(e)   (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.6.7.7   The Market Operator shall calculate the Biased Accepted Offer Quantity (QAOBIAS$_{uoiγ}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QAOBIAS_{uoiγ} = QAOBIAS_{uoiγk}$$

where:

(a)   QAOBIAS$_{uoiγk}$ is the Biased Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.6.7.8   Where the Biased Quantity has a negative value, the Market Operator shall determine which of the Accepted Bid Quantities were biased, in whole or in part, for each Generator Unit, u, in Imbalance Settlement Period, γ, in accordance with paragraphs F.6.7.9 to F.6.7.11.

F.6.7.9   The Market Operator shall derive a ranked set of all Accepted Bid Quantities for Generator Unit, u, in Imbalance Settlement Period, γ, in order of decreasing price. The Accepted Bid Quantity with the highest price shall be allocated a position number n = 1, the next highest priced Accepted Bid Quantity a position number n = 2 and so on until all Accepted Bid Quantities have been allocated a position number. Where two or more Accepted Bid Quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.6.7.10   The Market Operator shall calculate the Biased Accepted Bid Quantity (QABBIAS$_{uoiγk}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in ascending order of each position, k, in the ranked set, in Imbalance Settlement Period, γ, as follows:

$$QABBIAS_{uoiγk} = Min\big(Max\big(QABLF_{uoiγk}, QBIASR_{uγ(k-1)}\big), 0\big)$$

$$QBIASR_{uγk} = QBIASR_{uγ(k-1)} - QABBIAS_{uoiγk}$$

$$QBIASR_{uγ(k=0)} = QBIAS_{uγ}$$

where:

(a) QABLF~uoiγk~ is the Loss-Adjusted Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(b) QBIASR~uγk~ is the Remaining Biased Quantity for Generator Unit, u, for the calculations in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(c) QBIAS~uγ~ is the Biased Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d) (k − 1) is for the previous position in the ranked set; and

(e) (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.6.7.11 The Market Operator shall calculate the Biased Accepted Bid Quantity (QABBIAS~uoiγ~) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QABBIAS_{uoi\gamma} = QABBIAS_{uoi\gamma k}$$

where:

(a) QABBIAS~uoiγk~ is the Biased Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.6.8 **Calculation of Premium and Discount Component Payments**

F.6.8.1 Paragraph F.6.8.2 does not apply to any Unit which is:

(a) An Assetless Unit;

(b) A Trading Unit; or

(c) A Generator Unit which is not Dispatchable and not Controllable.

F.6.8.2 The Market Operator shall calculate Premium and Discount Component Payments for each Generator Unit, u, and each Imbalance Settlement Period, γ, as follows:

$$
\begin{aligned}
CPREMIUM_{u\gamma} \\
= \sum_{o} \sum_{i} \Big(Max\big(PBO_{uoi\gamma} - PIMB_{\gamma}, 0\big) \\
\times \Big(QAOLF_{uoi\gamma} \\
- Max\big(QAOOPOLF_{uoi\gamma}, QAOBIAS_{uoi\gamma}, QAOUNDEL_{uoi\gamma}, QAOTOTSOLF_{uoi\gamma}\big)\Big)\Big)
\end{aligned}
$$

$$CDISCOUNT_{u\gamma}$$
$$= \sum_o \sum_i \left(Min\left(PBO_{uoi\gamma} - PIMB_\gamma, 0\right) \right.$$
$$\times \left(QABLF_{uoi\gamma} \right.$$
$$- Min\left(QABBPOLF_{uoi\gamma}, QABBIAS_{uoi\gamma}, QABUNDEL_{uoi\gamma}, QABNFLF_{uoi\gamma}, QABCURLLF_{uoi\gamma}, \right.$$
$$\left. \left. \left. QABTOTSOLF_{uoi\gamma}\right)\right)\right)$$

where:

(a) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(b) $PBO_{uoi\gamma}$ is the Bid Offer Price for each Accepted Bid Quantity and Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, determined in accordance with section F.6.3;

(c) $\sum_o$ is a summation over all Bid Offer Acceptances, o;

(d) $\sum_i$ is a summation over all Bands, i;

(e) $QAOLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.1;

(f) $QABLF_{uoi\gamma}$ is the Loss-Adjusted Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.1;

(g) $QAOTOTSOLF_{uoi\gamma}$ is the Loss-Adjusted Trade Opposite TSO Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.4;

(h) $QABTOTSOLF_{uoi\gamma}$ is the Loss-Adjusted Trade Opposite TSO Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.4;

(i) $QABNFLF_{uoi\gamma}$ is the Loss-Adjusted Non-Firm Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.5;

(j) $QAOUNDEL_{uoi\gamma}$ is the Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.6;

(k) $QABUNDEL_{uoi\gamma}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.6;

(l) $QAOBIAS_{uoi\gamma}$ is the Biased Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.7;

(m) QABBIAS$_{uoi\gamma}$ is the Biased Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.6.7;

(n) QABCURLLF$_{uoi\gamma}$ is the Loss-Adjusted Curtailment Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.8.1;

(o) QAOOPOLF$_{uoi\gamma}$ is the Loss-Adjusted Offer Price Only Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.7.1; and

(p) QABBPOLF$_{uoi\gamma}$ is the Loss-Adjusted Bid Price Only Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, calculated in accordance with section F.7.1.

F.7 ACCEPTED OFFERS BELOW PHYSICAL NOTIFICATION, AND ACCEPTED BIDS ABOVE PHYSICAL NOTIFICATION, QUANTITIES, PAYMENTS AND CHARGES

F.7.1 Calculation of Accepted Offers Below Physical Notification and Accepted Bids Above Physical Notification Quantities

F.7.1.1 The following provisions of section F.7 do not apply to any Unit which is:

(a) An Assetless Unit;

(b) A Trading Unit;

(c) An Interconnector Error Unit;

(d) An Interconnector Residual Capacity Unit; or

(e) A Generator Unit which is not Dispatchable and not Controllable.

F.7.1.2 The Market Operator shall calculate two values for the Price Only Accepted Bid Offer Quantity (qBOAPO$_{uoi\gamma}$(t)) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, calculating separately one value for all Incs resulting from the Bid Offer Acceptance and one value for all Decs resulting from the Bid Offer Acceptance as follows:

(a) For i > 0:

$$qBOAPO_{uoi\gamma}(t)$$
$$= Max\{Min\{qDA_{uo\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}$$
$$- Max\{Min\{qDA_{u(o-1)\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}$$

(b) For i < 0:

$$qBOAPO_{uoi\gamma}(t)$$
$$= Min\{Max\{qDA_{uo\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}$$
$$- Min\{Max\{qDA_{u(o-1)\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}$$

F.7.1.3   When calculating the value for the Price Only Accepted Bid Offer Quantity (qBOAPO$_{uoi\gamma}$(t)) for the Incs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uo\gamma}(t) = qDAPO_{uo\gamma}(t)$$

$$qDAPO_{uo\gamma}(t) = Min\left(Max\left(qD_{uo\gamma}(t),\ qDA_{u(o-1)\gamma}(t)\right), qFPN_{u\gamma}(t)\right)$$

$$qDA_{u(o-1)\gamma}(t) = qD_{u(o-1)\gamma}(t)$$

$$qD_{u(o=0)\gamma}(t) = qFPN_{u\gamma}(t)$$

$$qBOUR_{u(i=0)\gamma}(t) = 0$$

$$qBOLR_{u(i=0)\gamma}(t) = 0$$

F.7.1.4   When calculating the value for the Price Only Accepted Bid Offer Quantity (qBOAPO$_{uoi\gamma}$(t)) for the Decs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uo\gamma}(t) = qDAPO_{uo\gamma}(t)$$

$$qDAPO_{uo\gamma}(t) = Max\left(Min\left(qD_{uo\gamma}(t),\ qDA_{u(o-1)\gamma}(t)\right), qFPN_{u\gamma}(t)\right)$$

$$qDA_{u(o-1)\gamma}(t) = Min\left(qD_{u(o-1)\gamma}(t), qAVAILO_{u\gamma}(t)\right)$$

$$qD_{u(o=0)\gamma}(t) = qFPN_{u\gamma}(t)$$

$$qBOUR_{u(i=0)\gamma}(t) = 0$$

$$qBOLR_{u(i=0)\gamma}(t) = 0$$

F.7.1.5   For the purposes of paragraphs F.7.1.2 to F.7.1.4:

(a) $qD_{uo\gamma}(t)$ is the Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(b) $qDA_{uo\gamma}(t)$ is the Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(c) $qDAPO_{uo\gamma}(t)$ is the Price Only Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(d) $qBOUR_{ui\gamma}(t)$ is the Bid Offer Upper Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

(e) $qBOLR_{ui\gamma}(t)$ is the Bid Offer Lower Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

(f) $qFPN_{u\gamma}(t)$ is the Final Physical Notification Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

(g) $qAVAILO_{u\gamma}(t)$ is the Outturn Availability Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

(h)   (o − 1) is for the previous Bid Offer Acceptance in respect of the same Imbalance Settlement Period;

(i)   (i − 1) is for the previous Band when considering Bands in the positive direction (i > 0);

(j)   (i + 1) is for the previous Band when considering Bands in the negative direction (i < 0); and

(k)   (o = 0) or (i = 0) is for the 0th value for the relevant aspect (i.e. the implicit default value before an explicit Bid Offer Acceptance, o; the value for Band, i, where i = 0).

F.7.1.6   The Market Operator shall calculate the Offer Price Only Accepted Offer Quantity ($qAOOPO_{uoi\gamma}(t)$) as a function of time, and the Bid Price Only Accepted Bid Quantity ($qABBPO_{uoi\gamma}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$qAOOPO_{uoi\gamma}(t) = Max\big(qBOAPO_{uoi\gamma}(t)\ for\ Incs, 0\big)$$

$$qABBPO_{uoi\gamma}(t) = Min\big(qBOAPO_{uoi\gamma}(t)\ for\ Decs, 0\big)$$

where:

(a) $qBOAPO_{uoi\gamma}(t)$ is the Price Only Accepted Bid Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.7.1.7 The Market Operator shall calculate the Offer Price Only Accepted Offer Quantity (QAOOPO$_{uoiγ}$) as an integrated period quantity, and the Bid Price Only Accepted Bid Quantity (QABBPO$_{uoiγ}$) for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, by integrating the associated function of time Offer Price Only Accepted Offer Quantity (qAOOPO$_{uoiγ}$(t)) and Bid Price Only Accepted Bid Quantity qABBPO$_{uoiγ}$(t)) over the Imbalance Settlement Period, γ.

F.7.2 **Calculation of Accepted Offers Below Physical Notification and Accepted Bids Above Physical Notification Payments and Charges**

F.7.2.1 The Market Operator shall calculate the Offer Price Only Accepted Offer Payment or Charge (CAOOPO$_{uγ}$) and the Bid Price Only Accepted Bid Payment or Charge (CABBPO$_{uγ}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$CAOOPO_{uγ}$$
$$= \sum_{o} \sum_{i} \left(\left(PBO_{uoiγ} - PIMB_γ \right) \right.$$
$$\left. \times Max\left(QAOOPOLF_{uoiγ} - QAOUNDEL_{uoiγ}, 0 \right) \right)$$

$$CABBPO_{uγ}$$
$$= \sum_{o} \sum_{i} \left(\left(PBO_{uoiγ} - PIMB_γ \right) \right.$$
$$\left. \times Min\left(QABBPOLF_{uoiγ} - Min\left(QABCURLLF_{uoiγ}, QABUNDEL_{uoiγ} \right), 0 \right) \right)$$

where:

(a) PIMB$_γ$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(b) PBO$_{uoiγ}$ is the Bid Offer Price for each Accepted Bid Quantity and Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(c) $\sum_{o}$ is a summation over all Bid Offer Acceptances, o;

(d) $\sum_{i}$ is a summation over all Bands, i;

(e) QAOOPOLF$_{uoiγ}$ is the Loss-Adjusted Offer Price Only Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(f) QABBPOLF$_{uoiγ}$ is the Loss-Adjusted Bid Price Only Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(g) QAOUNDEL$_{uoiγ}$ is the Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(h)   QABCURLLF$_{uoi\gamma}$ is the Loss-Adjusted Curtailment Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(i)   QABUNDEL$_{uoi\gamma}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.8   CURTAILMENT QUANTITIES, PRICES, PAYMENTS AND CHARGES

F.8.1   Calculation of Curtailment Quantities

F.8.1.1   The following provisions of section F.8 do not apply to any Unit which is:

(a)   An Assetless Unit;

(b)   A Trading Unit;

(c)   An Interconnector Error Unit;

(d)   An Interconnector Residual Capacity Unit; or

(e)   A Generator Unit which is not Dispatchable and not Controllable.

F.8.1.2   The Market Operator shall calculate the Curtailment Accepted Bid Offer Quantity (qBOACURL$_{uoi\gamma}$(t)) as a function of time for each Generator Unit, u, for all Decs resulting from each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

(a)   For i > 0:

$$
\begin{aligned}
qBOACURL_{uoi\gamma}(t) \\
= Max\{Min\{qDA_{uo\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\} \\
- Max\{Min\{qDA_{u(o-1)\gamma}(t), qBOUR_{ui\gamma}(t)\}, qBOUR_{u(i-1)\gamma}(t)\}
\end{aligned}
$$

(b)   For i < 0:

$$
\begin{aligned}
qBOACURL_{uoi\gamma}(t) \\
= Min\{Max\{qDA_{uo\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\} \\
- Min\{Max\{qDA_{u(o-1)\gamma}(t), qBOLR_{ui\gamma}(t)\}, qBOLR_{u(i+1)\gamma}(t)\}
\end{aligned}
$$

F.8.1.3   When calculating the value for the qBOACURL$_{uoi\gamma}$(t) for the Decs resulting from the Bid Offer Acceptance, the Market Operator shall calculate the relevant variables as follows:

$$qDA_{uo\gamma}(t) = qDACURL_{uo\gamma}(t)$$

If DI for o is associated with a CURL Instruction Combination Code in accordance with

Appendix O: "*Instruction Profiling Calculations*", *then*

$$qDACURL_{uo\gamma}(t) = Min\left(qD_{uo\gamma}(t), qDA_{u(o-1)\gamma}(t)\right)$$

else

$$qDACURL_{uo\gamma}(t) = qDA_{u(o-1)\gamma}(t)$$

$$qDA_{u(o-1)\gamma}(t) = Min\left(qD_{u(o-1)\gamma}(t), qAVAILO_{u\gamma}(t)\right)$$

$$qD_{u(o=0)\gamma}(t) = qFPN_{u\gamma}(t)$$

$$qBOUR_{u(i=0)\gamma}(t) = 0$$

$$qBOLR_{u(i=0)\gamma}(t) = 0$$

where:

(a) $qD_{uo\gamma}(t)$ is the Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(b) $qDA_{uo\gamma}(t)$ is the Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(c) $qDACURL_{uo\gamma}(t)$ is the Curtailment Adjusted Dispatch Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, in Imbalance Settlement Period, γ;

(d) $qBOUR_{ui\gamma}(t)$ is the Bid Offer Upper Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

(e) $qBOLR_{ui\gamma}(t)$ is the Bid Offer Lower Range Quantity as a function of time for Generator Unit, u, for Band, i, in Imbalance Settlement Period, γ;

(f) $qFPN_{u\gamma}(t)$ is the Final Physical Notification Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

(g) $qAVAILO_{u\gamma}(t)$ is the Outturn Availability Quantity as a function of time for Generator Unit, u, in Imbalance Settlement Period, γ;

(h)   (o − 1) is for the previous Bid Offer Acceptance in respect of the same Imbalance Settlement Period;

(i)   (i − 1) is for the previous Band when considering Bands in the positive direction (i > 0);

(j)   (i + 1) is for the previous Band when considering Bands in the negative direction (i < 0); and

(k)   (o = 0) or (i = 0) is for the 0th value for the relevant aspect (i.e. the implicit default value before an explicit Bid Offer Acceptance, o; the value for Band, i, where i = 0).

F.8.1.4   The Market Operator shall calculate the Curtailment Accepted Bid Quantity ($qABCURL_{uoi\gamma}(t)$) as a function of time, for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$qABCURL_{uoi\gamma}(t) = Min\big(qBOACURL_{uoi\gamma}(t) \; for \; Decs, 0\big)$$

where:

(a) $qBOACURL_{uoi\gamma}(t)$ is the Curtailment Accepted Bid Offer Quantity as a function of time for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.8.1.5   The Market Operator shall calculate the Curtailment Accepted Bid Quantity ($QABCURL_{uoi\gamma}$) as an integrated quantity for the Imbalance Settlement Period γ, by integrating the associated function of time version of the Curtailment Accepted Bid Quantity ($qABCURL_{uoi\gamma}(t)$) with respect to time across the Imbalance Settlement Period, γ.

F.8.2   Calculation of Curtailment Prices

F.8.2.1   The Market Operator shall calculate the Curtailment Price ($PCURL_{u\gamma}$) for each Generator Unit, u, which has an active Dispatch Instruction which is associated with a CURL Instruction Combination Code in accordance with Appendix O: "Instruction Profiling Calculations", in Imbalance Settlement Period, γ, in accordance with the Curtailment Price process in section E.6.

F.8.3   Calculation of Curtailment Payments and Charges

F.8.3.1   The Market Operator shall calculate the Curtailment Payment or Charge ($CCURL_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$CCURL_{u\gamma}$$
$$= \sum_{o}\sum_{i}\Big(\big(PCURL_{u\gamma} - PIMB_{\gamma}\big)$$
$$\times Min\big(QABCURLLF_{uoi\gamma} - Min\big(QABBIAS_{uoi\gamma}, QABUNDEL_{uoi\gamma}\big), 0\big)\Big)$$

where:

(a) $PIMB_{\gamma}$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(b) $PCURL_{u\gamma}$ is the Curtailment Price for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $\sum_{o}$ is a summation over all Bid Offer Acceptances, o;

(d) $\sum_{i}$ is a summation over all Bands, i;

(e) $QABCURLLF_{uoi\gamma}$ is the Loss-Adjusted Curtailment Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(f)   QABUNDEL$_{uoiy}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(g)   QABBIAS$_{uoiy}$ is the Biased Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.9   UNINSTRUCTED IMBALANCE QUANTITIES AND CHARGES

F.9.1   Setting of Uninstructed Imbalance Parameters

F.9.1.1   The following provisions of section F.9 do not apply to any Unit which is:

(a)   An Assetless Unit;

(b)   A Trading Unit;

(c)   A Generator Unit which is not Dispatchable and not Controllable; or

(d)   An Interconnector Residual Capacity Unit.

F.9.1.2   If requested by the Regulatory Authorities, the System Operators shall report to the Regulatory Authorities at least four months before the start of the Year, proposing values for the following parameters to be used in the calculation of Uninstructed Imbalances for that Year:

(a)   The Engineering Tolerance (TOLENG) (where $0 \leq$ TOLENG ≤ 1);

(b)   The MW Tolerance (TOLMW$_t$) (where $0 \leq$ TOLMW$_t$) for each Trading Day, t;

(c)   The System per Unit Regulation Factor (FUREG);

(d)   The Discount for Over Generation Factor (FDOG$_{uy}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, such that $0 \leq$ FDOG$_{uy} \leq 1$; and

(e)   The Premium for Under Generation Factor (FPUG$_{uy}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, such that $0 \leq$ FPUG$_{uy} \leq 1$.

F.9.1.3   The System Operators' report must set out any relevant research or analysis carried out by the System Operators and any justification for the specific values proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

F.9.1.4   The System Operators shall, in accordance with Appendix K "Other Market Data Transactions", provide to the Market Operator at least two months prior to the start of each Year or within 5 Working Days of receipt of approval by the Regulatory Authorities, whichever is the later, the Uninstructed Imbalance Parameters Data Transaction, which comprises a complete set of Uninstructed Imbalance Parameters that have been approved by the Regulatory Authorities for that Year.

F.9.1.5   The Market Operator shall publish the approved value(s) for each Uninstructed Imbalance Parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months before the start of the Year to which they shall apply, whichever is the later.

F.9.2   **Calculation of Uninstructed Imbalance Tolerance Quantities**

F.9.2.1   The following provisions of section F.9.2 do not apply to any Unit which is an Interconnector Error Unit.

F.9.2.2   For each Trading Day, each System Operator shall submit to the Market Operator the System Characteristics Data, consisting of values of Nominal System Frequency ($FRQNOR_\gamma$) and Average System Frequency ($FRQAVG_\gamma$) for each Imbalance Settlement Period, γ, in that Trading Day, in accordance with Appendix K "Other Market Data Transactions".

F.9.2.3   The Market Operator shall calculate the Tolerance Bands for over generation and under generation for each Generator Unit for each Imbalance Settlement Period with reference to system frequency and the frequency characteristics of the Generator Unit in accordance with paragraphs F.9.2.4 and F.9.2.5.

F.9.2.4   The Market Operator shall calculate the Engineering Limit Quantity ($qLIMENG_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$qLIMENG_{u\gamma} = Max\left(\left|\frac{QD_{u\gamma}}{DISP}\right| \times TOLENG, TOLMW_t\right)$$

where:

(a) $QD_{u\gamma}$ is the Dispatch Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(b)   TOLENG is the Engineering Tolerance;

(c)   DISP is the Imbalance Settlement Period Duration; and

(d) $TOLMW_t$ is the MW Tolerance for the relevant Imbalance Settlement Period, γ, within Trading Day, t.

F.9.2.5   The Market Operator shall calculate the Tolerance for Over Generation ($TOLOG_{u\gamma}$) and Tolerance for Under Generation ($TOLUG_{u\gamma}$) as positive values, expressed in MW, for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$If\ FRQAVG_\gamma\ \leq FRQNOR_\gamma, then$$

$$TOLOG_{u\gamma} = \left(\frac{(FRQNOR_\gamma - FRQAVG_\gamma) \times qCR_u}{FUREG\ \times FRQNOR_\gamma}\right) + qLIMENG_{u\gamma}$$

$$TOLUG_{u\gamma} =\ qLIMENG_{u\gamma}$$

$$else$$

$$TOLOG_{u\gamma} =\ qLIMENG_{u\gamma}$$

$$TOLUG_{u\gamma} = \left(\frac{(FRQAVG_\gamma - FRQNOR_\gamma) \times qCR_u}{FUREG\ \times FRQNOR_\gamma}\right) + qLIMENG_{u\gamma}$$

where:

(a)   FRQAVG$_\gamma$ is the Average System Frequency in Imbalance Settlement Period, γ;

(b)   FRQNOR$_\gamma$ is the Nominal System Frequency in Imbalance Settlement Period, γ;

(c)   qCR$_u$ is the Registered Capacity of Generator Unit, u;

(d)   FUREG is the System per Unit Regulation Factor; and

(e)   qLIMENG$_{u\gamma}$ is the Engineering Limit Quantity for Generator Unit, u, in Imbalance Settlement Period, γ.

F.9.3   Calculation of Uninstructed Imbalance Quantities

F.9.3.1   The following provisions of F.9.3 do not apply to any Unit which is an Interconnector Error Unit.

F.9.3.2   The Market Operator shall calculate the Outside Tolerance Undelivered Quantity (QUNDELOTOL$_{u\gamma}$) for each Generator Unit, u, in Imbalance Settlement Period, γ, as follows:

$$If \left(QMLF_{u\gamma} - QDLF_{u\gamma} \right) < 0, then$$

$$QUNDELOTOL_{u\gamma} = Min \left(\left(QMLF_{u\gamma} - QDLF_{u\gamma} \right) + TOLUGLF_{u\gamma}, 0 \right)$$

$$If \left(QMLF_{u\gamma} - QDLF_{u\gamma} \right) > 0, then$$

$$QUNDELOTOL_{u\gamma} = Max \left(\left(QMLF_{u\gamma} - QDLF_{u\gamma} \right) - TOLOGLF_{u\gamma}, 0 \right)$$

where:

(a)   QMLF$_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(b)   QDLF$_{u\gamma}$ is the Loss-Adjusted Dispatch Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(c)   TOLUGLF$_{u\gamma}$ is the Loss-Adjusted Tolerance for Under Generation for Generator Unit, u, in Imbalance Settlement Period, γ; and

(d)   TOLOGLF$_{u\gamma}$ is the Loss-Adjusted Tolerance for Over Generation for Generator Unit, u, in Imbalance Settlement Period, γ.

F.9.3.3   Where the Outside Tolerance Undelivered Quantity has a positive value, the Market Operator shall determine which of the Undelivered Accepted Bid Quantities were outside of tolerance, in whole or in part, for each Generator Unit, u, in Imbalance Settlement Period, γ, in accordance with paragraphs F.9.3.4 to F.9.3.7.

F.9.3.4   The Market Operator shall derive a ranked set of all Undelivered Accepted Bid Quantities for Generator Unit, u, in Imbalance Settlement Period, γ, in order of increasing price. The Undelivered Accepted Bid Quantity with the lowest price shall be allocated a position number k = 1, the next lowest priced Undelivered Accepted Bid Quantity a position number k = 2 and so on until all Undelivered Accepted Bid

Quantities have been allocated a position number. Where two or more Undelivered Accepted Bid Quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.9.3.5 The Market Operator shall calculate the Outside Tolerance Undelivered Accepted Bid Quantity (QABUNDELOTOL$_{uoi\gamma k}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in ascending order of each position, k, in the ranked set, in Imbalance Settlement Period, γ, as follows:

$$QABUNDELOTOL_{uoi\gamma k} = Min\big(Max\big(QABUNDEL_{uoi\gamma k}, -QUNDELOTOLR_{u\gamma(k-1)}\big), 0\big)$$

$$QUNDELOTOLR_{u\gamma k} = QUNDELOTOLR_{u\gamma(k-1)} + QABUNDELOTOL_{uoi\gamma k}$$

$$QUNDELOTOLR_{u\gamma(k=0)} = QUNDELOTOL_{u\gamma}$$

where:

(a)   QABUNDEL$_{uoi\gamma k}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(b)   QUNDELOTOLR$_{u\gamma k}$ is the Remaining Outside Tolerance Undelivered Quantity for Generator Unit, u, for the calculations in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(c)   QUNDELOTOL$_{u\gamma}$ is the Outside Tolerance Undelivered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d)   (k – 1) is for the previous position in the ranked set; and

(e)   (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k= 1), for which there is no previous position.

F.9.3.6 The Market Operator shall calculate the Outside Tolerance Undelivered Accepted Bid Quantity (QABUNDELOTOL$_{uoi\gamma}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QABUNDELOTOL_{uoi\gamma} = QABUNDELOTOL_{uoi\gamma k}$$

where:

(a)   QABUNDELOTOL$_{uoi\gamma k}$ is the Outside Tolerance Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.9.3.7 The Market Operator shall determine the Outside Tolerance Undelivered Accepted Offer Quantity (QAOUNDELOTOL_{uoiγ}) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QAOUNDELOTOL_{uoi\gamma} = 0$$

F.9.3.8 Where the Outside Tolerance Undelivered Quantity has a negative value, the Market Operator shall determine which of the Undelivered Accepted Offer Quantities were outside of tolerance, in whole or in part, for each Generator Unit, u, in Imbalance Settlement Period, γ, in accordance with paragraphs F.9.3.9 to F.9.3.12.

F.9.3.9 The Market Operator shall derive a ranked set of all Undelivered Accepted Offer Quantities for Generator Unit, u, in Imbalance Settlement Period, γ, in order of decreasing price. The Undelivered Accepted Offer Quantity with the highest price shall be allocated a position number k = 1, the next highest priced Undelivered Accepted Offer Quantity a position number k = 2 and so on until all Undelivered Accepted Offer Quantities have been allocated a position number. Where two or more Undelivered Accepted Offer Quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.9.3.10 The Market Operator shall calculate the Outside Tolerance Undelivered Accepted Offer Quantity (QAOUNDELOTOL_{uoiγk}) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in ascending order of each position, k, in the ranked set, in Imbalance Settlement Period, γ, as follows:

$$QAOUNDELOTOL_{uoi\gamma k} = Max\big(Min\big(QAOUNDEL_{uoi\gamma k}, -QUNDELOTOLR_{u\gamma(k-1)}\big), 0\big)$$

$$QUNDELOTOLR_{u\gamma k} = QUNDELOTOLR_{u\gamma(k-1)} + QAOUNDELOTOL_{uoi\gamma k}$$

$$QUNDELOTOLR_{u\gamma(k=0)} = QUNDELOTOL_{u\gamma}$$

where:

(a) QAOUNDEL_{uoiγk} is the Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(b) QUNDELOTOLR_{uγk} is the Remaining Outside Tolerance Undelivered Quantity for Generator Unit, u, for the calculations in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(c) QUNDELOTOL_{uγ} is the Outside Tolerance Undelivered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d) (k – 1) is for the previous position in the ranked set; and

(e)   (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.9.3.11   The Market Operator shall calculate the Outside Tolerance Undelivered Accepted Offer Quantity (QAOUNDELOTOL$_{uoiγ}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QAOUNDELOTOL_{uoiγ} = QAOUNDELOTOL_{uoiγk}$$

where:

(a)   QAOUNDELOTOL$_{uoiγk}$ is the Outside Tolerance Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in the position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.9.3.12   The Market Operator shall determine Outside Tolerance Undelivered Accepted Bid Quantity (QABUNDELOTOL$_{uoiγ}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QABUNDELOTOL_{uoiγ} = 0$$

F.9.3.13   Where the Outside Tolerance Undelivered Quantity has a zero value, the Market Operator shall determine the Outside Tolerance Undelivered Accepted Offer Quantity (QAOUNDELOTOL$_{uoiγ}$) and Outside Tolerance Undelivered Accepted Bid Quantity (QABUNDELOTOL$_{uoiγn}$) for each Generator Unit, u, for each Bid Offer Acceptance, o, for each Band, i, in Imbalance Settlement Period, γ, as follows:

$$QAOUNDELOTOL_{uoiγ} = 0$$

$$QABUNDELOTOL_{uoiγ} = 0$$

F.9.3.14   The price for each Outside Tolerance Undelivered Accepted Offer Quantity and Outside Tolerance Undelivered Accepted Bid Quantity (PBO$_{uoiγ}$) shall be the same as the price for the Accepted Bid Quantity and Accepted Offer Quantity to which they are related through belonging to the same Generator Unit, u, and Bid Offer Acceptance, o, and Band, i, and Imbalance Settlement Period, γ.

F.9.4   **Calculation of Uninstructed Imbalance Charges**

F.9.4.1   Subject to paragraph F.9.4.2, the Market Operator shall calculate the Uninstructed Imbalance Charge (CUNIMB$_{uγ}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$CUNIMB_{u\gamma}$

$$
\begin{aligned}
= \ & Min(QUNDELOTOL_{u\gamma}, 0) \times \left((FPUG_{u\gamma} \times PIMB_\gamma) \right) \\
& + Max(QUNDELOTOL_{u\gamma}, 0) \times \left(-(FDOG_{u\gamma} \times PIMB_\gamma) \right) \\
& + \sum_o \sum_i -FDOG_{u\gamma} \\
& \times \left(Min(PBO_{uoi\gamma} - PIMB_\gamma, 0) \times (QABUNDELOTOL_{uoi\gamma}) \right) \\
& + \sum_o \sum_i -FPUG_{u\gamma} \\
& \times \left(Max(PBO_{uoi\gamma} - PIMB_\gamma, 0) \times (QAOUNDELOTOL_{uoi\gamma}) \right)
\end{aligned}
$$

where:

(a) $QUNDELOTOL_{u\gamma}$ is the Outside Tolerance Undelivered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ.

(b) $QAOUNDELOTOL_{uoi\gamma}$ is the Outside Tolerance Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

(c) $QABUNDELOTOL_{uoi\gamma}$ is the Outside Tolerance Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

(d) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(e) $PBO_{uoi\gamma}$ is the Bid Offer Price for each Outside Tolerance Undelivered Accepted Bid Quantity and Outside Tolerance Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(f) $\sum_o$ is a summation over all Bid Offer Acceptances, o;

(g) $\sum_i$ is a summation over all Bands, i;

(h) $FPUG_{u\gamma}$ is the Premium for Under Generation Factor for Generator Unit, u, in Imbalance Settlement Period, γ; and

(i) $FDOG_{u\gamma}$ is the Discount for Over Generation Factor for Generator Unit, u, in Imbalance Settlement Period, γ.

F.9.4.2   When a Pumped Storage Unit or Battery Storage, u, is in Pumping Mode or Charging Mode, as the case may be, for an Imbalance Settlement Period, γ, or any part thereof, the Market Operator shall calculate the Uninstructed Imbalance Charge ($CUNIMB_{u\gamma}$) for that Pumped Storage Unit or Battery Storage Unit, u, in that Imbalance Settlement Period, γ, as having a value of zero.

F.10   INFORMATION IMBALANCE QUANTITIES AND CHARGES

F.10.1   Setting of Information Imbalance Parameters

F.10.1.1   The following provisions of section F.10 do not apply to any Unit which is:

(a)   An Assetless Unit;

(b)   A Trading Unit;

(c)   An Interconnector Error Unit;

(d)   An Interconnector Residual Capacity Unit;

(e)   A Unit which has Priority Dispatch, which is not Dispatchable; or

(f)   A Generator Unit which is not Dispatchable and not Controllable.

F.10.1.2   If requested by the Regulatory Authorities, the System Operators shall report to the Regulatory Authorities at least 4 months before the start of the Year, proposing values for the following parameters to be used in the calculation of Information Imbalance Charges for that Year:

(a)   The Information Imbalance Quantity Weighting Factor (WFQII$_{u\beta\gamma}$) for each Generator Unit, u, for each PN Submission Period, β, in respect of Imbalance Settlement Period, γ, for Year, y;

(b)   The Information Imbalance Tolerance (TOLII$_{u\beta\gamma}$) for each Generator Unit, u, for each PN Submission Period, β, in respect of Imbalance Settlement Period, γ, for Year, y; and

(c)   The Information Imbalance Price (PII$_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ.

F.10.1.3   The System Operators' report must set out any relevant research or analysis carried out by the System Operators and the justification or sources for the specific values proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

F.10.1.4   The System Operators shall provide the the parameters referred to in paragraph F.10.1.2 to the Market Operator at least two months prior to the start of each Year or within 5 Working Days of approval of the parameters by the Regulatory Authorities, whichever is the later.

F.10.1.5   The Market Operator shall publish the approved value(s) for each such parameter within 5 Working Days of receipt of the Regulatory Authorities' determination from the System Operators in accordance with paragraph F.10.1.4 or two months before the start of the year to which they shall apply, whichever is the later.

F.10.2   **Calculation of Information Imbalance Quantities**

F.10.2.1   The Market Operator shall calculate the Information Imbalance Quantity (QII$_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$QII_{u\gamma} = \sum_{\beta \ relevant \ to \ \gamma} Max\big(|QPN_{u\beta\gamma} - QFPN_{u\gamma}| - TOLII_{u\beta\gamma}, 0\big) \times WFQII_{u\beta\gamma}$$

where:

(a)   QPN$_{u\beta\gamma}$ is the last valid Physical Notification Quantity for Generator Unit, u, in PN Submission Period, β, in respect of Imbalance Settlement Period, γ.

(b) $\sum_{\beta \, relevant \, to \, \gamma}$ is a summation over all PN Submission Periods, β, in respect of Imbalance Settlement Period, γ.

(c) $QFPN_{u\gamma}$ is the Final Physical Notification Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d) $WFQII_{u\beta\gamma}$ is the Information Imbalance Quantity Weighting Factor for Generator Unit, u, for PN Submission Period, β, in respect of Imbalance Settlement Period, γ; and

(e) $TOLII_{u\beta\gamma}$ is the Information Imbalance Tolerance for Generator Unit, u, for PN Submission Period, β, in respect of Imbalance Settlement Period, γ.

F.10.3   Calculation of Information Imbalance Charges

F.10.3.1   The Market Operator shall calculate the Information Imbalance Charge ($CII_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$CII_{u\gamma} = PII_{u\gamma} \times QIILF_{u\gamma}$$

where:

(a) $QIILF_{u\gamma}$ is the Loss-Adjusted Information Imbalance Quantity for Generator Unit, u, in Imbalance Settlement Period, γ; and

(b) $PII_{u\gamma}$ is the Information Imbalance Price for Generator Unit, u, in Imbalance Settlement Period, γ.

F.11   FIXED COST PAYMENTS AND CHARGES

F.11.1   Determination of Periods of Physical Operation and Market Operation

F.11.1.1   The following provisions of section F.11 do not apply to any Unit which is:

(a)   An Assetless Unit;

(b)   A Trading Unit;

(c)   An Interconnector Error Unit;

(d)   An Interconnector Residual Capacity Unit;

(e)   A Unit which has Priority Dispatch, which is not Dispatchable; or

(f)   A Generator Unit which is not Dispatchable and not Controllable.

F.11.1.2   The Market Operator shall determine the start and end of each Period of Physical Operation for each Generator Unit, u, in each Billing Period, b, as follows:

(a)   A Period of Physical Operation shall start at:

       (i)   The time where the value for the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement Period, γ, of the Generator Unit, u, rises from zero; or

       (ii)   The start of a Billing Period, if the value for the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement

Period, γ, of the Generator Unit, u, was a positive number at the end of the immediately preceding Billing Period;

(b)   A Period of Physical Operation shall end at the earlier of:

    (i)   The time where the value for the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement Period, γ, of the Generator Unit, u, becomes zero after previously being a positive number greater than zero; and

    (ii)   The end of a Billing Period.

F.11.1.3   The Market Operator shall determine the start and end of each Period of Market Operation for each Generator Unit, u, in each Billing Period, b, as follows:

(a)   A Period of Market Operation shall start at:

    (i)   The time where the value for the Final Physical Notification Quantity ($qFPN_{u\gamma}(t)$) of the Generator Unit, u, rises from zero; or

    (ii)   The start of a Billing Period, if the value for the Final Physical Notification Quantity ($qFPN_{u\gamma}(t)$) of the Generator Unit, u, was a positive number at the end of the immediately preceding Billing Period;

(b)   A Period of Market Operation shall end at the earlier of:

    (i)   The time where the value for the Final Physical Notification Quantity ($qFPN_{u\gamma}(t)$) of the Generator Unit, u, becomes zero after previously being a positive number greater than zero; and

    (ii)   The end of a Billing Period.

F.11.1.4   The Market Operator shall determine the Initial Condition of Period of Physical Operation and the Initial Condition of Period of Market Operation for each Generator Unit, u, in each Billing Period, b, as follows:

(a)   If the value for the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o, of the Generator Unit, u, was a positive number at the start of the Billing Period and at the end of the immediately preceding Billing Period, the Initial Condition of Period of Physical Operation shall have a state of "on" for that Generator Unit in that Billing Period. Otherwise, the Initial Condition of Period of Physical Operation shall have a state of "off";

(b)   If the value for the Final Physical Notification Quantity $qFPN_{u\gamma}(t)$ of the Generator Unit, u, was a positive number at the start of the Billing Period and at the end of the immediately preceding Billing Period, the Initial Condition of Period of Market Operation shall have a state of "on" for that Generator Unit in that Billing Period. Otherwise, the Initial Condition of Period of Market Operation shall have a state of "off".

F.11.2   **Determination of No Load Costs and Start Up Costs Payable and Recoverable**

F.11.2.1   In each of the following circumstances the Start Up Costs ($CSU_{u\gamma}$) payable for each Generator Unit, u, in each Imbalance Settlement Period, γ, shall have a value of zero for each Imbalance Settlement Period, γ, falling wholly within the Period of Physical Operation, or in which the Period of Physical Operation starts or ends, as follows:

(a)   When all Accepted Offer Quantities and Accepted Bid Quantities within the Period of Physical Operation are priced on the basis of the Simple Bid Offer Data as determined in section F.3.3;

(b)   For the first Period of Physical Operation in the Billing Period only, if the Initial Condition of Period of Physical Operation has a state of "on" and the Initial Condition of Period of Market Operation has a state of "off" in the Billing Period; and

(c)   When the Metered Quantity ($QM_{u\gamma}$) for the Generator Unit, u, has a value of zero for all Imbalance Settlement Periods, γ, falling wholly within the Period of Physical Operation, or in which the Period of Physical Operation starts or ends.

F.11.2.2   In all circumstances not listed in paragraphs F.11.2.1, for any Bid Offer Acceptance, o, within the Period of Physical Operation which is associated with a Synchronise Dispatch Instruction and for which Complex Bid Offer Data is to be used in accordance with section F.3.3:

(a) $CSU_{u\gamma}$ for the first Imbalance Settlement Period, γ, within the Period of Physical Operation shall have a value equal to the value of the Start Cost submitted in accordance with Chapter D (Balancing Market Data Submission) relating to the Warmth State at the time of the start time of the Period of Physical Operation for the Generator Unit as part of the applicable Complex Bid Offer Data if:

(i)   The Final Physical Notification Quantity ($qFPN_{u\gamma}(t)$) for the Generator Unit, u, has a value of zero for all times within the Period of Physical Operation;

(ii)   For the first Period of Physical Operation in the Billing Period only, the Initial Condition of Period of Physical Operation has a state of "off" and the Initial Condition of Period of Market Operation has a state of "on" in the Billing Period; or

(iii)   The start of the Period of Physical Operation and the end of the previous Period of Physical Operation are within the same Period of Market Operation;

(iv)   In all circumstances not listed in paragraph F.11.2.2(a)(i) to (iii), $CSU_{u\gamma}$ for the first Imbalance Settlement Period, γ, within the Period of Physical Operation shall have a value of zero.

(b) $CSU_{u\gamma}$ shall have a value of zero for each other Imbalance Settlement Period, γ, falling wholly within the Period of Physical Operation, or in which the Period of Physical Operation starts or ends.

F.11.2.3   The Market Operator shall determine all No Load Costs ($CNL_{u\gamma}$) payable for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

(a) $CNL_{u\gamma}$ shall have a value of zero for each Imbalance Settlement Period, γ, falling wholly within the Period of Physical Operation or in which the Period of Physical Operation starts or ends, where:

(i)   The Final Physical Notification Quantity ($qFPN_{u\gamma}(t)$) for the Generator Unit, u, has a non-zero value for any time within that Imbalance Settlement Period; and

(ii) The Metered Quantity (QM_{uy}) for the Generator Unit, u, has a value of zero for that Imbalance Settlement Period, γ.

(b) In all circumstances not listed in paragraph F.11.2.3(a):

(i) Where, in accordance with section F.3.3, Complex Bid Offer Data is to be used in respect of the first Bid Offer Acceptance, o, in an Imbalance Settlement Period, γ, falling wholly within the Period of Physical Operation, or in which the Period of Physical Operation starts or ends, CNL_{uy} shall have a value equal to the No Load Cost submitted in accordance with Chapter D (Balancing Market Data Submission) for the Generator Unit as part of the applicable Complex Bid Offer Data, multiplied by the Imbalance Settlement Period Duration (DISP); and

(ii) Where, in accordance with section F.3.3, Simple Bid Offer Data is to be used in respect of the first Bid Offer Acceptance, o, in an Imbalance Settlement Period, γ, falling wholly within the Period of Physical Operation, or in which the Period of Physical Operation starts or ends, CNL_{uy} shall have a value of zero.

F.11.2.4 The Market Operator shall determine the Recoverable Start Up Costs ($CSUR_{uy}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, within the Period of Market Operation as follows:

(a) $CSUR_{uy}$ for the first Imbalance Settlement Period, γ, within the Period of Market Operation shall have a value equal to value of the Start Cost submitted in accordance with Chapter D (Balancing Market Data Submission) relating to the Warmth State at the start time of the Period of Market Operation submitted for the Generator Unit as part of the most recently submitted valid Complex Bid Offer Data as at the Bid Offer Acceptance Time in respect of the first Bid Offer Acceptance, o, for which Complex Bid Offer Data is to be used in accordance with section F.3.3, in that Imbalance Settlement Period, γ, if:

(i) The Dispatch Quantity ($qD_{uoy}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement Period, γ, for the Generator Unit, u, has a value of zero for all times within the Period of Market Operation;

(ii) For the first Period of Market Operation in the Billing Period only, the Initial Condition of Period of Physical Operation has a state of "on" and the Initial Condition of Period of Market Operation has a state of "off" in the Billing Period; or

(iii) The start of the Period of Market Operation and the end of the previous Period of Market Operation are within the same Period of Physical Operation;

(iv) In all circumstances not listed in paragraph F.11.2.4(a)(i) to (iii), and for the first Period of Market Operation in the Billing Period only if the Initial Condition of Period of Physical Operation has a state of "off" and the Initial Condition of Period of Market Operation has a state of "on" in the Billing Period, $CSUR_{uy}$ for the first Imbalance Settlement Period, γ, within the Period of Market Operation shall have a value of zero.

(b) $CSUR_{uy}$ shall have a value of zero for each other Imbalance Settlement Period, γ, falling wholly within the Period of Market Operation, or in which the Period of Market Operation starts or ends.

F.11.2.5 The Market Operator shall determine all Recoverable No Load Costs ($CNLR_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

(a) $CNLR_{u\gamma}$ shall have a value of zero for each Imbalance Settlement Period, γ, falling wholly within the Period of Market Operation or in which the Period of Market Operation starts or ends, where the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement Period, γ, for the Generator Unit, u, has a non-zero value for any time within that Imbalance Settlement Period.

(b)   In all circumstances not listed in paragraph F.11.2.5(a):

(i) $CNLR_{u\gamma}$ shall have a value equal to the No Load Cost submitted in accordance with Chapter D (Balancing Market Data Submission) for the Generator Unit as part of the most recently submitted valid Complex Bid Offer Data as at the Bid Offer Acceptance Time in respect of the first Bid Offer Acceptance, o, in an Imbalance Settlement Period, γ, falling wholly within the Period of Market Operation, or in which the Period of Market Operation starts or ends, multiplied by the Imbalance Settlement Period Duration (DISP); or

(ii)   Where, in accordance with section F.3.3, Simple Bid Offer Data is to be used in respect of the first Bid Offer Acceptance, o, in an Imbalance Settlement Period, γ, falling wholly within the Period of Market Operation, or in which the Period of Market Operation starts or ends, $CNLR_{u\gamma}$ shall have a value of zero.

F.11.2.6 For the purposes of calculations under this Code the Market Operator shall calculate each value of Start Up Costs ($CSU_{u\gamma}$) for each Demand Side Unit, u, from the relevant value of Shut Down Cost ($CSD_{u\gamma}$) for the relevant Imbalance Settlement Period, γ, for that Demand Side Unit. The Market Operator shall set all values of No Load Costs ($CNL_{u\gamma}$) for Demand Side Units u to be zero for all Imbalance Settlement Periods, γ.

F.11.3 **Determination of Contiguous Operating Periods**

F.11.3.1 The Market Operator shall determine the start and end of each Contiguous Operating Period, k, for each Generator Unit, u, in each Billing Period, b, as follows:

(a)   Subject to paragraph F.11.3.1(c), the start of a Contiguous Operating Period, k, shall be:

(i)   The start of the Imbalance Settlement Period, γ, during which the value for the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement Period, γ, of the Generator Unit, u, rises from zero; or

(ii)   The start of the first Imbalance Settlement Period, γ, within a Billing Period, if the value for the Dispatch Quantity ($QD_{u\gamma}$) of the Generator Unit, u, was greater than zero at the end of the last Imbalance Settlement Period in the preceding Billing Period.

(b)   Subject to paragraph F.11.3.1(c), the end of a Contiguous Operating Period, k, shall be the earlier of:

(i)   The end of the Imbalance Settlement Period, γ, during which the value for the Dispatch Quantity ($qD_{uo\gamma}(t)$) for the final Bid Offer Acceptance, o,

in Imbalance Settlement Period, γ, of the Generator Unit, u, falls to zero; and

(ii) The end of the last Imbalance Settlement Period, γ, within a Billing Period.

(c) A Contiguous Operating Period, k, shall not end where the value for the Dispatch Quantity ($qD_{uoγ}(t)$) for the final Bid Offer Acceptance, o, in Imbalance Settlement Period, γ, of the Generator Unit, u, falls to zero but then rises from zero within the same Imbalance Settlement Period, but shall be treated as continuing during the period in which the value is zero.

F.11.4 Calculation of Fixed Costs Payments and Charges

F.11.4.1 The Market Operator shall calculate the Make-Whole Payment Operating Cost ($COCMWP_{uk}$) for each Generator Unit, u, for each Contiguous Operating Period, k, in each Billing Period, b, as follows:

$$COCMWP_{uk}$$

$$= \sum_{γ \in k} \left(CNL_{uγ} + CSU_{uγ} \right.$$
$$+ \sum_{o} \sum_{i} \left(PBO_{uoiγ} \times \left(QAOLF_{uoiγ} - QAOUNDEL_{uoiγ} \right) \right)$$
$$+ \left. \sum_{o} \sum_{i} \left(PBO_{uoiγ} \times \left(QABLF_{uoiγ} - QABUNDEL_{uoiγ} \right) \right) \right)$$

where:

(a) $CNL_{uγ}$ is the No Load Cost for Generator Unit, u, in Imbalance Settlement Period, γ;

(b) $CSU_{uγ}$ is the Start Up Cost for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $\sum_{o}$ is a summation over all Bid Offer Acceptances, o;

(d) $\sum_{i}$ is a summation over all Bands, i;

(e) $\sum_{γ \in k}$ is a summation over all Imbalance Settlement Periods, γ, in the Contiguous Operating Period, k;

(f) $PBO_{uoiγ}$ is the Bid Offer Price for each Accepted Bid Quantity and Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(g) $QAOLF_{uoiγ}$ is the Loss-Adjusted Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(h) $QABLF_{uoiγ}$ is the Loss-Adjusted Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(i)   QAOUNDEL$_{uoi\gamma}$ is the Undelivered Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(j)   QABUNDEL$_{uoi\gamma}$ is the Undelivered Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.11.4.2   The Market Operator shall calculate the Make-Whole Payment Revenue (CREVMWP$_{uk}$) for each Generator Unit, u, for each Contiguous Operating Period, k, in each Billing Period, b, as follows:

$$CREVMWP_{uk}$$
$$= \sum_{\gamma \in k} \left(CIMB_{u\gamma} + CPREMIUM_{u\gamma} + CDISCOUNT_{u\gamma} + CAOOPO_{u\gamma} \right.$$
$$\left. + CABBPO_{u\gamma} + CCURL_{u\gamma} \right)$$

where:

(a) $\sum_{\gamma \in k}$ is a summation over all Imbalance Settlement Periods, γ, within the Contiguous Operating Period, k;

(b)   CIMB$_{u\gamma}$ is the Imbalance Component Payment or Charge for Generator Unit, u, in Imbalance Settlement Period, γ;

(c)   CPREMIUM$_{u\gamma}$ is the Premium Component Payment for Generator Unit, u, in Imbalance Settlement Period, γ;

(d)   CDISCOUNT$_{u\gamma}$ is the Discount Component Payment for Generator Unit, u, in Imbalance Settlement Period, γ;

(e)   CAOOPO$_{u\gamma}$ is the Offer Price Only Accepted Offer Payment or Offer Price Only Accepted Offer Charge for Generator Unit, u, in Imbalance Settlement Period, γ;

(f)   CABBPO$_{u\gamma}$ is the Bid Price Only Accepted Bid Payment or Bid Price Only Accepted Bid Charge, γ; and

(g)   CCURL$_{u\gamma}$ is the Curtailment Payment or Charge for Generator Unit, u, in Imbalance Settlement Period, γ.

F.11.4.3   The Market Operator shall calculate the Make-Whole Payment (CMWP$_{uk}$) for each Generator Unit, u, for each Contiguous Operating Period, k, in each Billing Period, b, as follows:

$$CMWP_{uk} = Max(COCMWP_{uk} - CREVMWP_{uk}, 0)$$

where:

(a)   COCMWP$_{uk}$ is the Make-Whole Payment Operating Cost for Generator Unit, u, in Contiguous Operating Period, k; and

(b)　CREVMWP$_{uk}$ is the Make-Whole Payment Revenue for Generator Unit, u, in Contiguous Operating Period, k.

F.11.4.4　The Market Operator shall calculate the Fixed Cost Payment or Charge (CFC$_{ub}$) for each Generator Unit, u, in each Billing Period, b, as follows:

$$CFC_{ub} = \sum_{k \in b} CMWP_{uk} - \sum_{\gamma \in b}\left(CNLR_{u\gamma} + CSUR_{u\gamma}\right)$$

where:

(a)　$\sum_{k \in b}$ is a summation over all Contiguous Operating Periods, k, within the Billing Period, b;

(b)　$\sum_{\gamma \in b}$ is a summation over all Imbalance Settlement Periods, γ, within the Billing Period, b;

(c)　CMWP$_{uk}$ is the Make-Whole Payment for Generator Unit, u, in Contiguous Operating Period, k;

(d)　CNLR$_{u\gamma}$ is the Recoverable No Load Cost for Generator Unit, u, in Imbalance Settlement Period, γ; and

(e)　CSUR$_{u\gamma}$ is the Recoverable Start Up Cost for Generator Unit, u, in Imbalance Settlement Period, γ.

F.12　IMPERFECTIONS CHARGES

F.12.1　Setting of Imperfections Charges Parameters

F.12.1.1　The Market Operator shall report to the Regulatory Authorities at least 4 months before the start of the Year, proposing values for the following parameters to be used in the calculation of Imperfections Charges for that Year:

(a)　The Imperfections Price (PIMP$_y$) in €/MWh for Year, y; and

(b)　The Imperfections Charge Factor (FCIMP$_\gamma$) for each Imbalance Settlement Period, γ, in Year, y.

F.12.1.2　The Market Operator's report must set out any relevant research or analysis carried out by the Market Operator and the justification for the specific values proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

F.12.1.3　The Market Operator shall publish the approved value(s) for each such parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months before the start of the Year to which they shall apply, whichever is the later.

F.12.1.4　The Market Operator may, of its own accord or in response to a request from the Regulatory Authorities, make additional interim reports to the Regulatory Authorities during the Year, proposing revisions to the Imperfections Charge Factor in the event that the values as originally proposed do not provide for the adequate recovery of anticipated costs and such under recovery is such that it is not appropriate to include as an adjustment in subsequent Years.

F.12.1.5 The Market Operator shall publish the approved revised Imperfections Charge Factor, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' determination.

F.12.2 **Calculation of Imperfections Charges**

F.12.2.1 The purpose of the Imperfections Charge is to recover the anticipated Dispatch Balancing Costs (less Other System Charges), Fixed Cost Payments and Charges, any net imbalance between Trading Payments, Trading Charges, Capacity Payments and Capacity Charges over the Year, with adjustments for previous Years as appropriate.

F.12.2.2 The Market Operator shall calculate the Imperfections Charge ($CIMP_{v\gamma}$) for each Supplier Unit, v, that is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CIMP_{v\gamma} = QMLF_{v\gamma} \times PIMP_y \times FCIMP_\gamma$$

where:

(a) $PIMP_y$ is the Imperfections Price for Year, y;

(b) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(c) $FCIMP_\gamma$ is the Imperfections Charge Factor for Imbalance Settlement Period, γ.

F.12.2.3 The Market Operator shall calculate the Imperfections Charge ($CIMP_{v\gamma}$) for each Trading Site Supplier Unit, v, in each Imbalance Settlement Period, γ, as follows:

$$CIMP_{v\gamma} = Min\left(\sum_{u \in s} QMLF_{u\gamma} + \sum_{v \in s} QMLF_{v\gamma}, 0\right) \times PIMP_y \times FCIMP_\gamma$$

where:

(a) $PIMP_y$ is the Imperfections Price for Year, y;

(b) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(c) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s, relevant to the Trading Site Supplier Unit;

(e) $\sum_{v \in s}$ is the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2; and

(f) $FCIMP_\gamma$ is the Imperfections Charge Factor for Imbalance Settlement Period, γ.

F.13   TESTING CHARGES

F.13.1   Setting Testing Tariffs

F.13.1.1 If requested by the Regulatory Authorities, the relevant System Operator shall report to the Regulatory Authorities proposing values for the Testing Tariffs at least four months before the start of the Year to which they shall apply. The System Operator's report must set out the justification for the specific values proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

F.13.1.2 Each System Operator shall provide to the Market Operator at least two months prior to the start of each Year or within 5 Working Days of approval of the Testing Tariffs by the Regulatory Authorities, whichever is the later, the Testing Tariff Data Transaction, which comprises a complete set of Testing Tariffs that have been approved by the Regulatory Authorities for each Generator Unit that is registered within its Jurisdiction, for each Imbalance Settlement Period in the Year, y, in accordance with Appendix K "Other Market Data Transactions".

F.13.1.3 The Market Operator shall publish the approved Testing Tariffs for each parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months before the start of the Year to which they shall apply, whichever is the later.

F.13.1.4 The relevant System Operator may update the Testing Tariffs within the Year to which they apply subject to the prior approval of the Regulatory Authorities. If the Testing Tariffs are so updated, the relevant System Operator shall provide the updated Testing Tariff Data Transaction to the Market Operator within 5 Working Days of approval by the Regulatory Authorities.

F.13.1.5 The Market Operator shall publish each Year the schedule of Testing Tariffs and the detailed tariff methodology and periodically in the event that the Tariffs are updated within a Year.

F.13.2   Calculation of Testing Charges

F.13.2.1 The Market Operator shall calculate the Testing Charge ($CTEST_{u\gamma}$) for each Generator Unit, u, except for any Interconnector Error Unit, u, in each Imbalance Settlement Period, γ, for which it is Under Test as follows:

$$CTEST_{u\gamma} = - Max(QMLF_{u\gamma}, 0) \times PTESTTARIFF_{u\gamma}$$

where:

(a) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, Under Test in Imbalance Settlement Period, γ; and

(b) $PTESTTARIFF_{u\gamma}$ is the Testing Tariff Price for Generator Unit, u, Under Test in Imbalance Settlement Period, γ, as set out in the schedule of Testing Tariffs.

F.13.2.2 The Market Operator shall calculate the Testing Charge ($CTEST_{u\gamma}$) for each Interconnector Error Unit, u, in each Imbalance Settlement Period, γ, for which it is Under Test as follows:

$$If\ QMLF_{u\gamma} > 0\ then$$

$$CTEST_{u\gamma} = -\ Max\left(QMLF_{u\gamma}, 0\right) \times PTESTTARIFF_{u\gamma}$$

$$else$$

$$CTEST_{u\gamma} = QMLF_{u\gamma} \times PTESTTARIFF_{u\gamma}$$

where:

(a) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Interconnector Error Unit, u, Under Test in Imbalance Settlement Period, γ; and

(b) $PTESTTARIFF_{u\gamma}$ is the Testing Tariff Price for Generator Unit, u, Under Test in Imbalance Settlement Period, γ, as set out in the schedule of Testing Tariffs.

F.14 RESIDUAL ERROR VOLUME CHARGES

F.14.1 Purpose

F.14.1.1 The purpose of the Residual Error Volume Charge is to recover costs in relation to the Loss-Adjusted Residual Error Volume which is the residual energy calculated when total Loss-Adjusted Metered Demand is deducted from total Loss-Adjusted Metered Generation for each Jurisdiction. The Residual Error Volume Price is intended to cover the anticipated net imbalance over the Year, with adjustments for previous Years as appropriate.

F.14.2 Setting Residual Error Volume Charges Parameters

F.14.2.1 The Market Operator shall report to the Regulatory Authorities at least 4 months before the start of the Year, proposing the following parameter to be used in the calculation of Residual Error Volume Charges for that Year:

(a) The Residual Error Volume Price (PREV$_y$) in €/MWh for Year, y.

F.14.2.2 The Market Operator's report must set out any relevant research or analysis carried out by the Market Operator and the justification for the value proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

F.14.2.3 The value of the Residual Meter Volume Interval Proportion (RMVIP$_{ey}$) for each Currency Zone, e, for Year, y, shall be determined by the Regulatory Authorities, four months in advance of the period to which the value relates.

F.14.2.4 The Market Operator shall publish the approved value for each such parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months before the start of the Year to which they shall apply, whichever is the later.

F.14.3 Calculation of Residual Error Volume Charges

F.14.3.1 The Market Operator shall calculate the Residual Error Volume Charge (CREV$_{v\gamma}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CREV_{v\gamma}$$
$$= \left(\left(1 - RMVIP_{ey} \right) \times \left(QMLF_{v\gamma} \times PREV_{y} \times FNIEP_{v\gamma} \right) \right)$$
$$+ \left(RMVIP_{ey} \times \left(QMLF_{v\gamma} \times PREV_{y} \times \left(1 - FNIEP_{v\gamma} \right) \right) \right)$$

where:

(a) $RMVIP_{ey}$ is the Residual Meter Volume Interval Proportion for Currency Zone e in year y;

(b) $PREV_{y}$ is the Residual Error Volume Price for Year, y;

(c) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(d) $FNIEP_{v\gamma}$ is the Non-Interval Energy Proportion Factor for Supplier Unit v, in Imbalance Settlement Period, γ.

F.15   CURRENCY ADJUSTMENT CHARGES

F.15.1   Purpose

F.15.1.1 The purpose of the Currency Adjustment Charge is to recover costs in relation to the anticipated variation between the dual currencies applied in the SEM over the Year, with adjustments for previous Years as appropriate where costs were under- or over-recovered.

F.15.2   Setting Currency Adjustment Charge Parameters

F.15.2.1 The Market Operator shall report to the Regulatory Authorities at least 4 months before the start of the Year, proposing the following parameters to be used in the calculation of Currency Adjustment Charges for that Year:

(a)   The Currency Cost Price (PCC_{y}) in €/MWh for Year, y; and

(b)   Values of the Currency Adjustment Charge Factor ($FCCA_{\gamma}$) for each Imbalance Settlement Period, γ, in Year, y.

F.15.2.2 The Market Operator's report must set out any relevant research or analysis carried out by the Market Operator and the justification for the specific values proposed. The report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

F.15.2.3 The Market Operator shall publish the approved value(s) for each such parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months before the start of the Year to which they shall apply, whichever is the later.

F.15.2.4 The Market Operator may, of its own accord or in response to a request from the Regulatory Authorities, make additional interim reports to the Regulatory Authorities during the Year, proposing revisions to the Currency Cost Charge Factor in the event that the parameters as originally proposed do not provide for the adequate recovery of anticipated costs and such under recovery is such that it is not appropriate to include as an adjustment in subsequent Years.

F.15.2.5 The Market Operator shall publish the approved revised Currency Cost Charge Factor, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' determination.

F.15.3 **Calculation of Currency Adjustment Charges**

F.15.3.1 The Market Operator shall calculate the Currency Adjustment Charge ($CCA_{v\gamma}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CCA_{v\gamma} = QMLF_{v\gamma} \times PCC_y \times FCCA_\gamma$$

where:

(a) PCC_y is the Currency Cost Price for Year, y;

(b) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(c) $FCCA_\gamma$ is the Currency Adjustment Charge Factor in Imbalance Settlement Period, γ.

F.16   STRIKE PRICE

F.16.1   **Setting of Strike Price Parameters**

F.16.1.1 If requested by the Regulatory Authorities, the System Operators shall report to the Regulatory Authorities, proposing the data source for, or methodology for determining, any of the following parameters to be used in the calculation of the Strike Price:

(a)   The Carbon Price ($PCARBON_m$) for Month, m;

(b)   The Natural Gas Fuel Price ($PFUELNG_m$) for Month, m; and

(c)   The Oil Fuel Price ($PFUELO_m$) for Month, m.

F.16.1.2 The System Operators' report under paragraph F.16.1.1 must set out the justification for the specific proposals and, if so requested by the Regulatory Authorities, include alternative proposals, setting out the arguments for and against such alternatives.

F.16.1.3 The System Operators shall provide to the Market Operator, within 5 Working Days of the Regulatory Authorities' approving a value, data source or methodology for a parameter referred to in paragraph F.16.1.1, the approved value, data source or methodology, in accordance with Appendix K "Other Market Data Transactions".

F.16.1.4 The Market Operator shall publish the approved value, data source or methodology for a parameter referred to in paragraph F.16.1.1, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' approval.

F.16.1.5 The values for the following parameters used in the calculation of the Strike Price may be determined from time to time by the Regulatory Authorities (or shall be determined by the Market Operator by applying a methodology determined by the Regulatory Authorities):

(a)   The Peaking Unit Theoretical Efficiency (FTHEORYPU$_y$) for Capacity Year, y;

(b)   The Natural Gas Carbon Intensity Factor (FCARBONING$_y$) for Capacity Year, y;

(c)   The Oil Carbon Intensity Factor (FCARBONIO$_y$) for Capacity Year, y; and

(d)   The Demand Side Unit Theoretical Price (PTHEORYDSU$_y$) for Capacity Year, y.

F.16.1.6   The Market Operator shall publish the approved value of, or methodology for, a parameter referred to in paragraph F.16.1.5, and the approved date and time on which it comes into effect, within 5 Working Days of receipt of the Regulatory Authorities' approval.

F.16.2   **Calculation of Strike Price**

F.16.2.1   The Market Operator shall calculate the Strike Price (PSTR$_m$) in Month, m, as follows:

$$
PSTR_m = Max\left(\frac{1}{FTHEORYPU_y} \times Max\left(PFUELNG_m + \left(PCARBON_m \times FCARBONING_y\right), PFUELO_m + \left(PCARBON_m \times FCARBONIO_y\right)\right), PTHEORYDSU_y\right)
$$

where:

(a)   FTHEORYPU$_y$ is the Peaking Unit Theoretical Efficiency for Capacity Year, y, determined in accordance with section F.16.1;

(b)   PFUELNG$_m$ is the Natural Gas Fuel Price for Month, m, determined in accordance with section F.16.1;

(c)   FCARBONING$_y$ is the Natural Gas Carbon Intensity Factor for Capacity Year, y, determined in accordance with section F.16.1;

(d)   PFUELO$_m$ is the Oil Fuel Price for Month, m, determined in accordance with section F.16.1;

(e)   FCARBONIO$_y$ is the Oil Carbon Intensity Factor for Capacity Year, y, in determined accordance with section F.16.1;

(f)   PCARBON$_m$ is the Carbon Price for Month, m, determined in accordance with section F.16.1; and

(g)   PTHEORYDSU$_y$ is the Demand Side Unit Theoretical Price for Capacity Year, y, determined in accordance with section F.16.1.

F.17 CAPACITY PAYMENTS

F.17.1 Calculation of Capacity Payments

F.17.1.1 The Market Operator shall calculate the Capacity Payment (CCP$_{\Omega\gamma}$) for each Capacity Market Unit, Ω, in each Imbalance Settlement Period, γ, as follows:

$$CCP_{\Omega\gamma} = \sum_{n \,\in\, \gamma, qCCOMMISS \,\neq 0} \left(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \right)$$

where:

(a) $qC_{\Omega n}$ is the Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(b) $PCP_{\Omega n}$ is the Capacity Payment Price payable to Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(c) $\sum_{n \,\in\, \gamma, qCCOMMISS \,\neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, and which has commissioned in accordance with the Capacity Market Code; and

(d) $ISPIY_y$ is the total number of Imbalance Settlement Periods in the Capacity Year, y.

F.17.1.2 The Market Operator shall calculate the Capacity Payment (CCP$_{\Omega c}$) for each Capacity Market Unit, Ω, in each Capacity Period, c, as follows:

$$CCP_{\Omega c} = \sum_{\gamma \,\in\, c} CCP_{\Omega\gamma}$$

where:

(a) $\sum_{\gamma \,\in\, c}$ is a summation over all Imbalance Settlement Periods, γ, within the Capacity Period, c; and

(b)   CCP$_{\Omega\gamma}$ is the Capacity Payment for each Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.17.2 Calculation of Total Capacity Payments

F.17.2.1 The Market Operator shall calculate the Total Capacity Payment (CCPTOT$_{pc}$) for each Participant, p, in each Capacity Period, c, as follows:

$$CCPTOT_{pc} = \sum_{\Omega \,\in\, p} CCP_{\Omega c}$$

where:

(a) $\sum_{\Omega \in p}$ is a summation over all the Capacity Market Units, Ω, of Participant, p; and

(b) $CCP_{\Omega c}$ is the Capacity Payment for Capacity Market Unit, Ω, in Capacity Period, c.

F.17.2.2   The Market Operator shall calculate the Total Capacity Payment ($CCPTOT_c$) in each Capacity Period, c, as follows:

$$CCPTOT_c = \sum_p CCPTOT_{pc}$$

where:

(a) $\sum_p$ is a summation over all Participants, p; and

(b) $CCPTOT_{pc}$ is the Total Capacity Payment for Participant, p, in Capacity Period, c.

F.18   DIFFERENCE CHARGES

F.18.1   Setting of Difference Charge Parameters

F.18.1.1   The System Operators shall determine the value of the Initial Primary Auction Capacity Payment Price ($PCPIPA_y$) for Capacity Year, y, to be the Auction Clearing Price for the first Capacity Auction completed for that Capacity Year in accordance with the Capacity Market Code.

F.18.2   Calculation of Obligated Capacity Quantities

F.18.2.1   The Market Operator shall calculate the Capacity Quantity Scaling Factor ($FSQC_\gamma$) in Imbalance Settlement Period, γ, as follows:

$$FSQC_\gamma = Min\left(\frac{\left|\sum_v Min(QMLF_{v\gamma}, 0)\right| + (qCREQAR_y \times DISP)}{\sum_\Omega \sum_{n \in \gamma, qCCOMMISS \neq 0}(qCLF_{\Omega n}) \times DISP}, \frac{\sum_\Omega \sum_{n \in \gamma, qCCOMMISS \neq 0}(qCLF_{\Omega n}) \times DISP}{qCREQ_y \times DISP}, 1\right)$$

where:

(a) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(b) $qCREQ_y$ is the Required Capacity Quantity in Capacity Year, y, determined in accordance with the Capacity Market Code;

(c) $qCREQAR_y$ is the Reserve Adjustment Capacity Quantity, in Capacity Year, y, determined in accordance with the Capacity Market Code;

(d)   DISP is the Imbalance Settlement Period Duration.

(e) $qCLF_{\Omega n}$ is the Loss-Adjusted Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(f) $\sum_v$ is a summation over all Supplier Units, v;

(g) $\sum_{\Omega}$ is a summation over all Capacity Market Units, Ω; and

(h) $\sum_{n \in \gamma, qCCOMMISS \neq 0}$ is a summation across all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, and which has commissioned in accordance with the Capacity Market Code.

F.18.2.2   The Market Operator shall calculate The Net Capacity Quantity ($QCNET_{\Omega\gamma}$) for each Capacity Market Unit, Ω, in Imbalance Settlement Period, γ, as follows:

$$QCNET_{\Omega\gamma} = \sum_{n \in \gamma} qCLF_{\Omega n} \times DISP$$

where:

(a) $qCLF_{\Omega n}$ is the Loss-Adjusted Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(b)   DISP is the Imbalance Settlement Period Duration; and

(c) $\sum_{n \in \gamma}$ is a summation across all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ.

F.18.2.3   The Market Operator shall calculate the Above De-Rated Capacity Factor ($FCADERATE_{\Omega\gamma}$) for each Capacity Market Unit, Ω, in each Imbalance Settlement Period, γ, as follows:

(a)   If $QCNET_{\Omega\gamma} > (qCDERATEGLF_{\Omega\gamma}$ x DISP), then $FCADERATE_{\Omega\gamma} = 1$;

(b)   If $QCNET_{\Omega\gamma} \leq (qCDERATEGLF_{\Omega\gamma}$ x DISP), then $FCADERATE_{\Omega\gamma} = FDERATE_{\Omega}$.

where:

(c) $qCDERATEGLF_{\Omega\gamma}$ is the Loss-Adjusted Gross De-Rated Capacity Quantity for a Capacity Market Unit, Ω, in an Imbalance Settlement Period, γ, determined in accordance with the Capacity Market Code;

(d) $QCNET_{\Omega\gamma}$ is the Net Capacity Quantity for a Capacity Market Unit, Ω, in an Imbalance Settlement Period, γ; and

(e)   DISP is the Imbalance Settlement Period Duration.

F.18.2.4   The Market Operator shall calculate the Obligated Capacity Quantity ($QCOB_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in Imbalance Settlement Period, γ, as follows:

$QCOB_{\Omega\gamma}$

$$= Min\left(QCNET_{\Omega\gamma} \times FSQC_{\gamma}, qCCOMMISSLF_{\Omega\gamma} \times FDERATE_{\Omega} \times \frac{FCADERATE_{\Omega\gamma}}{FDERATE_{\Omega}} \times DISP\right)$$

where:

(a) $QCNET_{\Omega\gamma}$ is the Net Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b) $FSQC_{\gamma}$ is the Capacity Quantity Scaling Factor in Imbalance Settlement Period, γ;

(c)   DISP is the Imbalance Settlement Period Duration;

(d) $qCCOMMISSLF_{\Omega\gamma}$ is the Loss-Adjusted Commissioned Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ, determined in accordance with the Capacity Market Code;

(e) $FDERATE_{\Omega}$ is the De-Rating Factor for Capacity Market Unit, Ω; and

(f) $FCADERATE_{\Omega\gamma}$ is the Above De-Rated Capacity Factor for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.2.5   The Market Operator shall calculate the Obligated Capacity Quantity ($QCOB_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in Imbalance Settlement Period, γ, as follows:

$QCOB_{s\gamma}$

$$= Min\left(\sum_{\Omega \in s} QCNET_{\Omega\gamma} \times FSQC_{\gamma}, \sum_{\Omega \in s}\left(qCCOMMISSLF_{\Omega\gamma} \times FDERATE_{\Omega} \times \frac{FCADERATE_{\Omega\gamma}}{FDERATE_{\Omega}}\right) \times DISP\right)$$

where:

(a) $QCNET_{\Omega\gamma}$ is the Net Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b) $FSQC_{\gamma}$ is the Capacity Quantity Scaling Factor in Imbalance Settlement Period, γ;

(c)   DISP is the Imbalance Settlement Period Duration;

(d) $qCCOMMISSLF_{\Omega\gamma}$ is the Loss-Adjusted Commissioned Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ, determined in accordance with the Capacity Market Code;

(e) $\sum_{\Omega \in s}$ is a summation over all Capacity Market Units, Ω, in the Trading Site, s;

(f)   FDERATE$_\Omega$ is the De-Rating Factor for Capacity Market Unit, Ω; and

(g)   FCADERATE$_{\Omega\gamma}$ is the Above De-Rated Capacity Factor for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.3   Calculation of Stop-Loss Limits

F.18.3.1   The Market Operator shall calculate the Annual Stop-Loss Limit (CSLLA$_{\Omega b}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in Billing Period, b, as follows:

$$
\begin{aligned}
CSLLA_{\Omega b} &= \Bigg(\sum_{\gamma \in b' \leq b} \Bigg(\sum_{\substack{primary\ n \in \gamma, qCCOMMISS \neq 0}} Max\Big(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \\
&\quad \times FSLLA_n, 0 \Big) \\
&\quad + Max\Bigg(\sum_{\substack{secondary\ n \in \gamma, qCCOMMISS \neq 0}} \Big(qC_{\Omega n} \times Max(PCP_{\Omega n}, PCPIPA_y) \\
&\quad \times \frac{1}{ISPIY_y} \times FSLLA_n \Big), 0 \Bigg) \Bigg) \\
&\quad + \sum_{\gamma \in b' > b} \Bigg(\sum_{\substack{primary\ n \in \gamma, qCCOMMISS \neq 0}} Max\Big(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \\
&\quad \times FSLLA_n, 0 \Big) \\
&\quad + Max\Bigg(\sum_{\substack{secondary\ n \in \gamma, qCCOMMISS \neq 0}} \Big(qC_{\Omega n} \times Max(PCP_{\Omega n}, PCPIPA_y) \\
&\quad \times \frac{1}{ISPIY_y} \times FSLLA_n \Big), 0 \Bigg) \Bigg) \Bigg)
\end{aligned}
$$

where:

(a) $qC_{\Omega n}$ is the Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(b) $PCP_{\Omega n}$ is the Capacity Payment Price payable to Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(c) $PCPIPA_y$ is the Initial Primary Auction Capacity Payment Price for Capacity Year, y, determined in accordance with the Capacity Market Code;

(d) $\sum_{primary\ n\ \in\ \gamma,qCCOMMISS\ \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a primary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(e) $\sum_{secondary\ n\ \in\ \gamma,qCCOMMISS\ \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a secondary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(f) $ISPIY_y$ is the total number of Imbalance Settlement Periods in the Capacity Year, y;

(g) $\sum_{\gamma\ \in\ b'\leq b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year prior to and including the current Billing Period, b;

(h) $\sum_{\gamma\ \in\ b'>b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year after the current Billing Period, b; and

(i) $FSLLA_n$ is the Annual Stop-Loss Limit Factor for Contract Register Entry, n, determined in accordance with the Capacity Market Code.

F.18.3.2   The Market Operator shall calculate the Billing Period Stop-Loss Limit ($CSLLB_{\Omega b}$) for Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in Billing Period, b, as follows:

$CSLLB_{\Omega b}$

$$= \left(\sum_{\gamma \in b' \leq b} \left(\sum_{primary\ n \in \gamma, qCCOMMISS\, \neq 0} Max\left(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \right. \right. \right.$$

$$\left. \times FSLLA_n \times FSLLB_n, 0 \right)$$

$$+ Max\left(\sum_{secondary\ n \in \gamma, qCCOMMISS\, \neq 0} \left(qC_{\Omega n} \times Max\left(PCP_{\Omega n}, PCPIPA_y \right) \right. \right.$$

$$\left. \left. \left. \times \frac{1}{ISPIY_y} \times FSLLA_n \times FSLLB_n \right), 0 \right) \right)$$

$$+ \sum_{\gamma \in b' > b} \left(\sum_{primary\ n \in \gamma, qCCOMMISS\, \neq 0} Max\left(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \right. \right.$$

$$\left. \times FSLLA_n \times FSLLB_n, 0 \right)$$

$$+ Max\left(\sum_{secondary\ n \in \gamma, qCCOMMISS\, \neq 0} \left(qC_{\Omega n} \times Max\left(PCP_{\Omega n}, PCPIPA_y \right) \right. \right.$$

$$\left. \left. \left. \left. \times \frac{1}{ISPIY_y} \times FSLLA_n \times FSLLB_n \right), 0 \right) \right) \right)$$

where:

(a) $qC_{\Omega n}$ is the Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(b) $PCP_{\Omega n}$ is the Capacity Payment Price payable to Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(c) $PCPIPA_y$ is the Initial Primary Auction Capacity Payment Price for Capacity Year, y, determined in accordance with the Capacity Market Code;

(d) $\sum_{primary\ n \in \gamma, qCCOMMISS\, \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a primary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(e) $\sum_{secondary\ n \in \gamma, qCCOMMISS\, \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a secondary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(f) $ISPIY_y$ is the total number of Imbalance Settlement Periods in the Capacity Year, y;

(g) $\sum_{\gamma \in b' \le b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year prior to and including the current Billing Period, b;

(h) $\sum_{\gamma \in b' > b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year after the current Billing Period, b;

(i) $FSLLA_n$ is the Annual Stop-Loss Limit Factor for Contract Register Entry, n, determined in accordance with the Capacity Market Code; and

(j) $FSLLB_n$ is the Billing Period Stop-Loss Limit Factor Contract Register Entry, n, determined in accordance with the Capacity Market Code.

F.18.3.3 The Market Operator shall calculate the Annual Stop-Loss Limit ($CSLLA_{sb}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in Billing Period, b, as follows:

$$
\begin{aligned}
CSLLA_{sb} \\
= \Bigg(& \sum_{\Omega \in s} \sum_{\gamma \in b' \le b} \Bigg(\sum_{primary\ n \in \gamma, qCCOMMISS \ne 0} Max\Big(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \\
& \times FSLLA_n, 0 \Big) \\
& + Max\Bigg(\sum_{secondary\ n \in \gamma, qCCOMMISS \ne 0} \Big(qC_{\Omega n} \times Max(PCP_{\Omega n}, PCPIPA_y) \\
& \times \frac{1}{ISPIY_y} \times FSLLA_n \Big), 0 \Bigg) \Bigg) \\
& + \sum_{\Omega \in s} \sum_{\gamma \in b' > b} \Bigg(\sum_{primary\ n \in \gamma, qCCOMMISS \ne 0} Max\Big(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \\
& \times FSLLA_n, 0 \Big) \\
& + Max\Bigg(\sum_{secondary\ n \in \gamma, qCCOMMISS \ne 0} \Big(qC_{\Omega n} \times Max(PCP_{\Omega n}, PCPIPA_y) \\
& \times \frac{1}{ISPIY_y} \times FSLLA_n \Big), 0 \Bigg) \Bigg) \Bigg)
\end{aligned}
$$

where:

(a) $qC_{\Omega n}$ is the Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(b) $PCP_{\Omega n}$ is the Capacity Payment Price payable to Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(c) $PCPIPA_y$ is the Initial Primary Auction Capacity Payment Price for Capacity Year, y, determined in accordance with the Capacity Market Code;

(d) $\sum_{primary\, n\, \in\, \gamma, qCCOMMISS\, \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a primary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(e) $\sum_{secondary\, n\, \in\, \gamma, qCCOMMISS\, \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a secondary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(f) $ISPIY_y$ is the total number of Imbalance Settlement Periods in the Capacity Year, y;

(g) $\sum_{\Omega\, \in\, s}$ is a summation over all Capacity Market Units, Ω, in Trading Site, s;

(h) $\sum_{\gamma\, \in\, b' \leq b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year prior to and including the current Billing Period, b;

(i) $\sum_{\gamma\, \in\, b' > b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year after the current Billing Period, b; and

(j) $FSLLA_n$ is the Annual Stop-Loss Limit Factor for Contract Register Entry, n, determined in accordance with the Capacity Market Code.

F.18.3.4 The Market Operator shall calculate the Billing Period Stop-Loss Limit ($CSLLB_{sb}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in Billing Period, b, as follows:

$CSLLB_{sb}$

$$= \left(\sum_{\Omega \in s} \sum_{\gamma \in b' \leq b} \left(\sum_{primary\ n \in \gamma, qCCOMMISS \neq 0} Max\left(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \right.\right.\right.$$

$$\left. \times FSLLA_n \times FSLLB_n, 0 \right)$$

$$+ Max\left(\sum_{secondary\ n \in \gamma, qCCOMMISS \neq 0} \left(qC_{\Omega n} \times Max(PCP_{\Omega n}, PCPIPA_y) \right.\right.$$

$$\left.\left.\left. \times \frac{1}{ISPIY_y} \times FSLLA_n \times FSLLB_n \right), 0 \right) \right)$$

$$+ \sum_{\Omega \in s} \sum_{\gamma \in b' > b} \left(\sum_{primary\ n \in \gamma, qCCOMMISS \neq 0} Max\left(qC_{\Omega n} \times PCP_{\Omega n} \times \frac{1}{ISPIY_y} \right.\right.$$

$$\left. \times FSLLA_n \times FSLLB_n, 0 \right)$$

$$+ Max\left(\sum_{secondary\ n \in \gamma, qCCOMMISS \neq 0} \left(qC_{\Omega n} \times Max(PCP_{\Omega n}, PCPIPA_y) \right.\right.$$

$$\left.\left.\left.\left. \times \frac{1}{ISPIY_y} \times FSLLA_n \times FSLLB_n \right), 0 \right) \right) \right)$$

where:

(a) $qC_{\Omega n}$ is the Capacity Quantity for Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(b) $PCP_{\Omega n}$ is the Capacity Payment Price payable to Capacity Market Unit, Ω, for Contract Register Entry, n, determined in accordance with the Capacity Market Code;

(c) $PCPIPA_y$ is the Initial Primary Auction Capacity Payment Price for Capacity Year, y, determined in accordance with the Capacity Market Code;

(d) $\sum_{primary\ n \in \gamma, qCCOMMISS \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a primary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(e) $\sum_{secondary\ n \in \gamma, qCCOMMISS \neq 0}$ is a summation over all Contract Register Entries, n, for Capacity Market Unit, Ω, relevant in Imbalance Settlement Period, γ, with a secondary trade flag, in accordance with the Capacity Market Code, and which has commissioned (or has planned to commission) in accordance with the Capacity Market Code;

(f)   ISPIY$_y$ is the total number of Imbalance Settlement Periods in the Capacity Year, y;

(g) $\sum_{\Omega \in s}$ is a summation over all Capacity Market Units, Ω, in Trading Site, s;

(h) $\sum_{\gamma \in b' \leq b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year prior to and including the current Billing Period, b;

(i) $\sum_{\gamma \in b' > b}$ is a summation over all Imbalance Settlement Periods, γ, which are contained in the Billing Periods, b', in the Capacity Year after the current Billing Period, b;

(j)   FSLLA$_n$ is the Annual Stop-Loss Limit Factor for Contract Register Entry, n, determined in accordance with the Capacity Market Code; and

(k)   FSLLB$_n$ is the Billing Period Stop-Loss Limit Factor Contract Register Entry, n, determined in accordance with the Capacity Market Code.

F.18.4   Calculation of Day-ahead Difference Quantities and Charges

F.18.4.1 The following provisions of section F.18.4 do not apply to any Capacity Market Unit which represents:

(a)   A Demand Side Unit; or

(b)   An Interconnector.

F.18.4.2 The Market Operator shall calculate the Day-ahead Difference Quantity (QDIFFDA$_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in Imbalance Settlement Period, γ, as follows:

$$QDIFFDA_{\Omega\gamma} = Min\left(\sum_{u \in \Omega} \sum_{x} qTDA_{xuh} \times Min(DTDA_x, DISP), QCOB_{\Omega\gamma}, \sum_{u \in \Omega} QEX_{u\gamma} \right)$$

where:

(a)   qTDA$_{xuh}$ is the Day-ahead Trade Quantity for Day-ahead Trade, x, for Generator Unit, u, in Day-ahead Trading Period, h;

(b)   QCOB$_{\Omega\gamma}$ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(c)   DTDA$_x$ is the Day-ahead Trade Duration of Trade, x;

(d)   DISP is the Imbalance Settlement Period Duration;

(e)   QEX$_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(f) $\sum_{x}$ is a summation of the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part; and

(g) $\sum_{u \in \Omega}$ is a summation over all Generator Units, u, which comprise the Capacity Market Unit, Ω.

F.18.4.3 The Market Operator shall calculate the Day-ahead Difference Charge (CDIFFCDA$_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in Imbalance Settlement Period, γ, as follows:

$$CDIFFCDA_{\Omega\gamma} = Max\big(QDIFFDA_{\Omega\gamma}, 0\big) \times Min(0, PSTR_m - PTDA_{xuh})$$

where:

(a)   QDIFFDA$_{\Omega\gamma}$ is the Day-ahead Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b)   DISP is the length of the Imbalance Settlement Period in hours;

(c)   PTDA$_{xuh}$ is the Day-ahead Trade Price for any Trade, x, for any Generator Unit, u, which comprises the Capacity Market Unit, Ω, within whose Day-ahead Trading Period, h, the Imbalance Settlement Period, γ, falls in whole or in part; and

(d)   PSTR$_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ.

F.18.4.4 The Market Operator shall calculate the Day-ahead Difference Charge Metered Quantity (QMDIFFCDA$_{sy}$) for Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, u, in Imbalance Settlement Period, γ, as follows:

$$If \sum_{u \in s} \sum_{x} |qTDA_{xuh}| \neq 0, then$$

$$QMDIFFCDA_{s\gamma} = \sum_{v \in s} QMLF_{v\gamma}$$

$$else$$

$$QMDIFFCDA_{s\gamma} = 0$$

where:

(a)   qTDA$_{xuh}$ is the Day-ahead Trade Quantity for Day-ahead Trade, x, for Generator Unit, u, in Day-ahead Trading Period, h;

(b) $\sum_{v \in s}$ is the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2;

(c) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s;

(d) $\sum_{x}$ is a summation of the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part; and

(e) QMLF$_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Trading Site Supplier Unit, v, in Imbalance Settlement Period, γ.

F.18.4.5 The Market Operator shall calculate the Day-ahead Difference Quantity (QDIFFDA$_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, u, in Imbalance Settlement Period, γ, as follows:

$$QDIFFDA_{s\gamma}$$
$$= Min\left(\sum_{u \in s}\sum_{x} qTDA_{xuh} \times Min(DTDA_x, DISP)\right.$$
$$\left. - QMDIFFCDA_{s\gamma}, QCOB_{s\gamma}, \sum_{u \in s} QEX_{u\gamma}\right)$$

where:

(a) qTDA$_{xuh}$ is the Day-ahead Trade Quantity for Day-ahead Trade, x, for Generator Unit, u, in Day-ahead Trading Period, h;

(b) QCOB$_{s\gamma}$ is the Obligated Capacity Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(c) QMDIFFCDA$_{s\gamma}$ is the Day-ahead Difference Charge Metered Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(d) DTDA$_x$ is the Day-ahead Trade Duration of Trade, x;

(e) DISP is the Imbalance Settlement Period Duration;

(f) QEX$_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(g) $\sum_x$ is a summation of the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part; and

(h) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s.

F.18.4.6 The Market Operator shall calculate the Day-ahead Difference Charge (CDIFFCDA$_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, u, in Imbalance Settlement Period, γ, as follows:

$$CDIFFCDA_{s\gamma} = Max\left(QDIFFDA_{s\gamma}, 0\right) \times Min(0, PSTR_m - PTDA_{xuh})$$

where:

(a) QDIFFDA$_{s\gamma}$ is the Day-ahead Difference Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(b) DISP is the length of the Imbalance Settlement Period in hours;

(c)   PTDA$_{xuh}$ is the Day-ahead Trade Price for any Trade, x, for any Generator Unit, u, which comprises the Trading Site, s, within whose Day-ahead Trading Period, h, the Imbalance Settlement Period, γ, falls in whole or in part; and

(d)   PSTR$_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ.

F.18.5   Calculation of Within-day Difference Quantities and Charges

F.18.5.1 The following provisions of section F.18.5 do not apply to any Capacity Market Unit which represents:

(a)   A Demand Side Unit; or

(b)   An Interconnector.

F.18.5.2 For the purposes of calculating the Within-day Difference Quantities, the Market Operator shall calculate the Loss-Adjusted Accepted Offer Quantities (QAOLF'$_{uoiγ}$) and Loss-Adjusted Accepted Bid Quantities (QABLF'$_{uoiγ}$) to be used for each Generator Unit, u, in Imbalance Settlement Period, γ, as follows:

$$QAOLF'_{uoiγ} = QAOLF_{uoiγ} - Max\left(QAOOPOLF_{uoiγ}, QAOBIAS_{uoiγ}, QAOTOTSOLF_{uoiγ}\right)$$

$$QABLF'_{uoiγ} = 0$$

where:

(a)   QAOLF$_{uoiγ}$ is the Loss-Adjusted Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(b)   QABLF$_{uoiγ}$ is the Loss-Adjusted Accepted Bid Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(c)   QAOOPOLF$_{uoiγ}$ is the Loss-Adjusted Offer Price Only Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ;

(d)   QAOBIAS$_{uoiγ}$ is the Biased Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(e)   QAOTOTSOLF$_{uoiγ}$ is the Loss-Adjusted Trade Opposite TSO Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ.

F.18.5.3 The Market Operator shall derive a ranked set for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, and for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in Imbalance Settlement Period, γ, of all Loss-Adjusted Accepted Offer Quantities (QAOLF'$_{uoiγ}$), Loss-Adjusted Accepted Bid Quantities (QABLF'$_{uoiγ}$) and Intraday Trade Quantities (qTID$_{xuh}$) for all Generator Units, u, which comprise the Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, and for all Generator Units, u, in Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, within whose Imbalance Settlement Period, γ, or

Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period falls in whole or in part, in order of the time stamp of their Bid Offer Acceptance Time (in the case of Loss-Adjusted Accepted Offer Quantities and Loss-Adjusted Accepted Bid Quantities) or clearing time of the trade (in the case of Intraday Trade Quantities). The quantity with the earliest time stamp shall be allocated a position number k = 1, the quantity with the next earliest time stamp a position number k = 2, and so on until all quantities have been allocated a position number. Where two or more quantities have the same time stamp, they shall be ranked in order of increasing price where the quantity with the highest price shall be allocated a position number before the quantity with the lower price. Where two or more quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.18.5.4 The Market Operator shall derive a ranked set of Intraday Trade Quantities ($QTID_{u\gamma k}$) and Balancing Trade Quantities ($QTB_{u\gamma k}$) for all Generator Units, u, which comprise the Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, and for all Generator Units, u, in Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in Imbalance Settlement Period, γ, and determine the Intraday Trade Price ($PTID_{u\gamma k}$) or Balancing Trade Price ($PTB_{u\gamma k}$), using every quantity included in the ranked set derived in accordance with paragraph F.18.5.3, as follows:

If quantity at position, k, in the ranked set is $qTID_{xuhk}$, then:

$$QTID_{u\gamma k} = qTID_{xuhk} \times Min(DTID_x, DISP)$$

$$PTID_{u\gamma k} = PTID_{xuhk}$$

If quantity at position, k, in the ranked set is $QABLF'_{uoi\gamma k}$, then:

$$QTB_{u\gamma k} = QABLF'_{uoi\gamma k}$$

$$PTB_{u\gamma k} = Min(PBO_{uoi\gamma}, PIMB_\gamma)$$

If quantity at position, k, in the ranked set is $QAOLF'_{uoi\gamma k}$, then:

$$QTB_{u\gamma k} = QAOLF'_{uoi\gamma k}$$

$$PTB_{u\gamma k} = Max(PBO_{uoi\gamma}, PIMB_\gamma)$$

where:

(a) $qTID_{xuhk}$ is the Intraday Trade Quantity for Trade, x, for Generator Unit, u, in Intraday Trading Period, h, in the position, k, in the ranked set;

(b) $PTID_{xuhk}$ is the Intraday Trade Price for Trade, x, for Generator Unit, u, in Intraday Trading Period, h, in the position, k, in the ranked set;

(c) $DTID_x$ is the Intraday Trade Duration of Trade, x;

(d)   DISP is the Imbalance Settlement Period Duration;

(e) QAOLF'_{uoiyk} is the Loss-Adjusted Accepted Offer Quantity for the purposes of calculating Within-day Difference Charges for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, in the position, k, in the ranked set;

(f) QABLF'_{uoiyk} is the Loss-Adjusted Accepted Bid Quantity for the purposes of calculating Within-day Difference Charges for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ, in the position, k, in the ranked set;

(g) PBO_{uoiy} is the Bid Offer Price for each individual Accepted Bid Quantity and Accepted Offer Quantity for Generator Unit, u, for Bid Offer Acceptance, o, for Band, i, in Imbalance Settlement Period, γ; and

(h) PIMB_γ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

F.18.5.5 The Market Operator shall calculate the Within-day Trade Difference Quantity (QDIFFCTWD_{Ωγk}), the Within-day Trade Difference Charge (CDIFFCTWD_{Ωγk}), the Intraday Tracked Difference Quantity (QDIFFTRACKID_{Ωγk}) and the Balancing Tracked Difference Quantity (QDIFFTRACKB_{Ωγk}) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in ascending order of each position, k, in the ranked set derived in accordance with paragraph F.18.5.4, in Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACKID_{\Omega\gamma(k=0)} = QDIFFDA_{\Omega\gamma}$$

$$QDIFFTRACKB_{\Omega\gamma(k=0)} = QDIFFDA_{\Omega\gamma}$$

$If\ the\ quantity\ at\ position, k, is\ QTID_{u\gamma k} > 0, then$

$QDIFFCTWD_{\Omega\gamma k}$

$$= Min\left(\sum_{u \in \Omega} QEX_{u\gamma} - QDIFFTRACKID_{\Omega\gamma(k-1)}, QCOB_{\Omega\gamma} \right.$$
$$- QDIFFTRACKB_{\Omega\gamma(k-1)}, QDIFFDA_{\Omega\gamma} + \sum_{k' < k} QTID_{u\gamma k} + \sum_{k' < k} QTB_{u\gamma k}$$
$$\left. + QTID_{u\gamma k} - QDIFFTRACKB_{\Omega\gamma(k-1)} \right)$$

$$CDIFFCTWD_{\Omega\gamma k} = Max\left(QDIFFCTWD_{\Omega\gamma k}, 0\right) \times Min\left(0, PSTR_m - PTID_{u\gamma k}\right)$$

$else\ if\ the\ quantity\ at\ position, k, is\ QTB_{u\gamma k} > 0, then$

$QDIFFCTWD_{\Omega\gamma k}$

$$= Min\left(QCOB_{\Omega\gamma} - QDIFFTRACKB_{\Omega\gamma(k-1)}, QDIFFDA_{\Omega\gamma} + \sum_{k' < k} QTID_{u\gamma k} \right.$$
$$\left. + \sum_{k' < k} QTB_{u\gamma k} + QTB_{u\gamma k} - QDIFFTRACKB_{\Omega\gamma(k-1)} \right)$$

$$CDIFFCTWD_{\Omega\gamma k} = Max(QDIFFCTWD_{\Omega\gamma k}, 0) \times Min(0, PSTR_m - PTB_{u\gamma k})$$

else

$$QDIFFCTWD_{\Omega\gamma k} = 0$$

$QDIFFTRACKID_{\Omega\gamma k}$

$$= Min\left(Max\left(QDIFFTRACKID_{\Omega\gamma(k-1)}, QDIFFDA_{\Omega\gamma}\right.\right.$$

$$+ \sum_{k' \le k} QTID_{u\gamma k}\right), QCOB_{\Omega\gamma}, \sum_{u \in \Omega} QEX_{u\gamma}\right)$$

$QDIFFTRACKB_{\Omega\gamma k}$

$$= Min\left(Max\left(QDIFFTRACKB_{\Omega\gamma(k-1)}, Min\left(QDIFFDA_{\Omega\gamma}\right.\right.\right.$$

$$+ \sum_{k' \le k} QTID_{u\gamma k}, \sum_{u \in \Omega} QEX_{u\gamma}\right) + \sum_{k' \le k} QTB_{u\gamma k}\right), QCOB_{\Omega\gamma}\right)$$

where:

(a) $\sum_{k' \le k}$ is a summation over values across all positions in the ranked set prior to and including the current position, k, in the ranked set. Calculations for the first position, (k = 1), will not have a previous position, k', and the result for this sum shall be the value in the current position, k, in the ranked set;

(b) $\sum_{k' < k}$ is a summation over values across all positions in the ranked set prior to the current position, k, in the ranked set. Calculations for the first position, (k = 1), will not have a previous position, k', and the result for this sum shall be zero;

(c) $\sum_{u \in \Omega}$ is a summation over all Generator Units, u, which comprise the Capacity Market Unit, Ω;

(d) $QCOB_{\Omega\gamma}$ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(e) $QDIFFDA_{\Omega\gamma}$ is the Day-ahead Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(f) $QTID_{u\gamma k}$ is the Intraday Trade Quantity for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(g) $QTB_{u\gamma k}$ is the Balancing Trade Quantity for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(h) $QEX_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(i) $PTID_{uγk}$ is the Intraday Trade Price associated with the Intraday Trade Quantity ($QTID_{uγk}$) for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(j) $PTB_{uγk}$ is the Balancing Trade Price associated with the Balancing Trade Quantity ($QTB_{uγk}$) for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(k) $PSTR_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;

(l) (k − 1) is for the previous position in the ranked set; and

(m) (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.18.5.6 The Market Operator shall calculate the Within-day Difference Charge ($CDIFFCWD_{Ωγ}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCWD_{Ωγ} = \sum_{k} CDIFFCTWD_{Ωγk}$$

where:

(a) $\sum_{k}$ is a summation over all positions, k, in the ranked set; and

(b) $CDIFFCTWD_{Ωγk}$ is the Within-day Trade Difference Charge for Capacity Market Unit, Ω, in the position, k, in the ranked set, in Imbalance Settlement Period, γ, calculated in accordance with paragraph F.18.5.5.

F.18.5.7 The Market Operator shall determine the final Tracked Difference Quantity ($QDIFFTRACK_{Ωγ}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK_{Ωγ} = QDIFFTRACKB_{Ωγk}$$

where:

(a) $QDIFFTRACKB_{Ωγk}$ is the Balancing Tracked Difference Quantity calculated in accordance with paragraph F.18.5.5, for Capacity Market Unit, Ω, in the final position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.18.5.8 The Market Operator shall calculate the Within-day Difference Charge Metered Quantity ($QMDIFFCWD_{sγ}$) for Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, as follows:

$$If \sum_{u \in s} \sum_{x} |qTID_{xuh}| \neq 0 \ and \ \sum_{u \in s} \sum_{x} |qTDA_{xuh}| = 0, then$$

$$QMDIFFCWD_{s\gamma} = \sum_{v \in s} QMLF_{v\gamma}$$

else

$$QMDIFFCWD_{s\gamma} = 0$$

where:

(a) $qTDA_{xuh}$ is the Day-ahead Trade Quantity for Day-ahead Trade, x, for Generator Unit, u, in Day-ahead Trading Period, h;

(b) $qTID_{xuh}$ is the Intraday Trade Quantity for Day-ahead Trade, x, for Generator Unit, u, in Day-ahead Trading Period, h;

(c) $\sum_{v \in s}$ is the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2;

(d) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s;

(e) $\sum_{x}$ is a summation of the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part; and

(f) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Trading Site Supplier Unit, v, in Imbalance Settlement Period, γ.

F.18.5.9 The Market Operator shall calculate the Within-day Trade Difference Quantity ($QDIFFCTWD_{s\gamma k}$), the Within-day Trade Difference Charge ($CDIFFCTWD_{s\gamma k}$), the Intraday Tracked Difference Quantity ($QDIFFTRACKID_{s\gamma k}$), and the Balancing Tracked Difference Quantity ($QDIFFTRACKB_{s\gamma k}$), for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in ascending order of each position, k, in the ranked set derived in accordance with paragraph F.18.5.4, in Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACKID_{s\gamma(k=0)} = QDIFFDA_{s\gamma}$$

$$QDIFFTRACKB_{s\gamma(k=0)} = QDIFFDA_{s\gamma}$$

If the quantity at position, k, is $QTID_{u\gamma k} > 0,$ *then*

$QDIFFCTWD_{s\gamma k}$

$$= Min\left(\sum_{u \in s} QEX_{u\gamma} - QDIFFTRACKID_{s\gamma(k-1)}, QCOB_{s\gamma}\right.$$
$$- QDIFFTRACKB_{s\gamma(k-1)}, QDIFFDA_{s\gamma} + \sum_{k' < k} QTID_{u\gamma k} + \sum_{k' < k} QTB_{u\gamma k}$$
$$\left. + QTID_{u\gamma k} - QDIFFTRACKB_{s\gamma(k-1)}\right)$$

$$CDIFFCTWD_{s\gamma k} = Max(QDIFFCTWD_{s\gamma k}, 0) \times Min(0, PSTR_m - PTID_{u\gamma k})$$

$else\ if\ the\ quantity\ at\ position, k, is\ QTB_{u\gamma k} > 0, then$

$QDIFFCTWD_{s\gamma k}$

$$= Min\Bigg(QCOB_{s\gamma}$$

$$- QDIFFTRACKB_{s\gamma(k-1)}, QDIFFDA_{s\gamma} + \sum_{k' < k} QTID_{u\gamma k} + \sum_{k' < k} QTB_{u\gamma k}$$

$$+ QTB_{u\gamma k} - QDIFFTRACKB_{s\gamma(k-1)} \Bigg)$$

$$CDIFFCTWD_{s\gamma k} = Max(QDIFFCTWD_{s\gamma k}, 0) \times Min(0, PSTR_m - PTB_{u\gamma k})$$

$else$

$$QDIFFCTWD_{s\gamma k} = 0$$

$QDIFFTRACKID_{s\gamma k}$

$$= Min\Bigg(Max\Bigg(QDIFFTRACKID_{s\gamma(k-1)}, QDIFFDA_{s\gamma} - QMDIFFCWD_{s\gamma}$$

$$+ \sum_{k' \le k} QTID_{u\gamma k} \Bigg), QCOB_{s\gamma}, \sum_{u \in s} QEX_{u\gamma} \Bigg)$$

$QDIFFTRACKB_{s\gamma k}$

$$= Min\Bigg(Max\Bigg(QDIFFTRACKB_{s\gamma(k-1)}, Min\Bigg(QDIFFDA_{s\gamma}$$

$$- QMDIFFCWD_{s\gamma} + \sum_{k' \le k} QTID_{u\gamma k}, \sum_{u \in s} QEX_{u\gamma} \Bigg)$$

$$+ \sum_{k' \le k} QTB_{u\gamma k} \Bigg), QCOB_{s\gamma} \Bigg)$$

where:

(a) $\sum_{k' \le k}$ is a summation over values across all positions in the ranked set prior to and including the current position, k, in the ranked set. Calculations for the first position, (k = 1), will not have a previous position, k', and the result for this sum shall be the value in the current position, k, in the ranked set;

(b) $\sum_{k' < k}$ is a summation over values across all positions in the ranked set prior to the current position, k, in the ranked set. Calculations for the first position, (k = 1), will not have a previous position, k', and the result for this sum shall be zero;

(c) $\sum_{u \in s}$ is a summation over all Generator Units, u, in the Trading Site, s;

(d) $QMDIFFCWD_{s\gamma}$ is the Within-day Difference Charge Metered Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(e) $QCOB_{s\gamma}$ is the Obligated Capacity Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(f) $QDIFFDA_{s\gamma}$ is the Day-ahead Difference Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(g) $QTID_{u\gamma k}$ is the Intraday Trade Quantity for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(h) $QTB_{u\gamma k}$ is the Balancing Trade Quantity for Generator Unit, u, in the position, k, in the ranked set at rank, k, in Imbalance Settlement Period, γ;

(i) $QEX_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(j) $PTID_{u\gamma k}$ is the Intraday Trade Price associated with the Intraday Trade Quantity ($QTID_{u\gamma k}$) for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(k) $PTB_{u\gamma k}$ is the Balancing Trade Price associated with the Balancing Trade Quantity ($QTB_{u\gamma k}$) for Generator Unit, u, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(l) $PSTR_{m}$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;

(m)   (k − 1) is for the previous position in the ranked set; and

(n)   (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.18.5.10 The Market Operator shall calculate the Within-day Difference Charge ($CDIFFCWD_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCWD_{S\gamma} = \sum_{k} CDIFFCTWD_{S\gamma k}$$

where:

(a) $\sum_{k}$ is a summation over all positions, k, in the ranked set; and

(b) $CDIFFCTWD_{s\gamma k}$ is the Within-day Trade Difference Charge for Trading Site, s, in the position, k, in the ranked set, in Imbalance Settlement Period, γ, calculated in accordance with paragraph F.18.5.9.

F.18.5.11 The Market Operator shall determine the final Tracked Difference Quantity ($QDIFFTRACK_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK_{s\gamma} = QDIFFTRACKB_{s\gamma k}$$

where:

(a)   QDIFFTRACKB$_{s\gamma k}$ is the Balancing Tracked Difference Quantity calculated in accordance with paragraph F.18.5.9, for Trading Site, s, in the final position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.18.6   Calculation of System Service Difference Quantities

F.18.6.1   The following provisions of section F.18.6 do not apply to any Capacity Market Unit which represents:

(a)   A Demand Side Unit; or

(b)   An Interconnector.

F.18.6.2   For each Imbalance Pricing Period, φ, the System Operators shall determine a System Service Flag (FSS$_{u\varphi}$) for each Generator Unit, u, in respect of that Imbalance Pricing Period, φ, as set out in paragraph 2 of Appendix N: "Flagging and Tagging".

F.18.6.3   For each Imbalance Pricing Period, φ, the System Operators shall submit the System Service Flag (FSS$_{u\varphi}$) for all Generator Units, u, for that Imbalance Pricing Period, φ, to the Market Operator in accordance with Appendix K: "Other Market Data Transactions".

F.18.6.4   If the System Service Flag (FSS$_{u\varphi}$) for a Generator Unit has a value equal to zero for any Imbalance Pricing Period, φ, within the Imbalance Settlement Period, γ, the Market Operator shall set the System Service Flag (FSS$_{u\gamma}$) for that Generator Unit, u, in that Imbalance Settlement Period, γ, to a value equal to zero. Otherwise, the Market Operator shall set the System Service Flag (FSS$_{u\gamma}$) to a value equal to one for that Imbalance Settlement Period.

F.18.6.5   The Market Operator shall calculate the System Service Difference Quantity (QDIFFCSS$_{u\gamma}$) for each Generator Unit, u, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFCSS_{u\gamma} = Max\left(\left(qAA_{u\gamma} \times DISP\right) - Max\left(QEX_{u\gamma}, QD_{u\gamma}\right), 0\right) \times \left(1 - FSS_{u\gamma}\right)$$

where:

(a)   qAA$_{u\gamma}$ is the Actual Availability Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(b)   QEX$_{u\gamma}$ is the Ex-Ante Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(c)   QD$_{u\gamma}$ is the Dispatch Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(d)   DISP is the Imbalance Settlement Period Duration; and

(e)   FSS$_{u\gamma}$ is the System Service Flag for Generator Unit, u, in Imbalance Settlement Period, γ.

F.18.6.6 The Market Operator shall recalculate the Tracked Difference Quantity ($QDIFFTRACK_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK_{\Omega\gamma} = Min\left(QCOB_{\Omega\gamma}, QDIFFTRACK'_{\Omega\gamma} + \sum_{u \in \Omega} QDIFFCSS_{u\gamma} \right)$$

where:

(a) $QCOB_{\Omega\gamma}$ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b) $QDIFFTRACK'_{\Omega\gamma}$ is the Tracked Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ, calculated in accordance with section F.18.5;

(c) $QDIFFCSS_{u\gamma}$ is the System Service Difference Quantity for Generator Unit, u, in Imbalance Settlement Period, γ; and

(d) $\sum_{u \in \Omega}$ is a summation over all Generator Units, u, which comprise the Capacity Market Unit, Ω.

F.18.6.7 The Market Operator shall recalculate the Tracked Difference Quantity ($QDIFFTRACK_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK_{s\gamma} = Min\left(QCOB_{s\gamma}, QDIFFTRACK'_{s\gamma} + \sum_{u \in s} QDIFFCSS_{u\gamma} \right)$$

where:

(a) $QCOB_{s\gamma}$ is the Obligated Capacity Quantity for Trading Site, s, in Imbalance Settlement Period, γ;

(b) $QDIFFTRACK'_{s\gamma}$ is the Tracked Difference Quantity for Trading Site, s, in Imbalance Settlement Period, γ, calculated in accordance with section F.18.5;

(c) $QDIFFCSS_{u\gamma}$ is the System Service Difference Quantity for Generator Unit, u, in Imbalance Settlement Period, γ; and

(d) $\sum_{u \in s}$ is a summation over all Generator Units, u, in the Trading Site, s.

F.18.7   **Calculation of Non-performance Difference Quantities and Charges**

F.18.7.1 The Market Operator shall calculate the Non-performance Difference Quantity ($QDIFFCNP_{\Omega\gamma}$) for each Capacity Market Unit, Ω, that represents a Demand Side Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFCNP_{\Omega\gamma} = Max\left(QCOB_{\Omega\gamma} - QDIFFTRACK_{\Omega\gamma}, 0 \right) \times FNDDS_{\Omega\gamma}$$

where:

(a) $QCOB_{\Omega\gamma}$ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b) $FNDDS_{\Omega\gamma}$ is the Demand Side Non-Delivery Percentage for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ; and

(c) $QDIFFTRACK_{\Omega\gamma}$ is the final Tracked Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.7.2 The Market Operator shall calculate the Non-performance Difference Quantity ($QDIFFCNP_{\Omega\gamma}$) for each Capacity Market Unit, Ω, that is an Interconnector, in each Imbalance Settlement Period, γ, as follows:

$$If\ QMLF_{l\gamma} \geq 0, then$$

$$QDIFFCNP_{\Omega\gamma} = Max\big(Min\big(QCOB_{\Omega\gamma} - \big(qCMAMAXILF_{l\gamma} \times DISP\big), QCOB_{\Omega\gamma} - QMLF_{l\gamma}\big), 0\big)$$

$$else$$

$$QDIFFCNP_{\Omega\gamma} = 0$$

where:

(a) $QCOB_{\Omega\gamma}$ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b) $qCMAMAXILF_{l\gamma}$ is the Loss-Adjusted Maximum Import Capacity Market Availability Quantity for Interconnector, l, which comprises the Capacity Market Unit, Ω, in Imbalance Settlement Period, γ, submitted in accordance with section D.6.5;

(c) DISP is the Imbalance Settlement Period Duration; and

(d) $QMLF_{l\gamma}$ is the Loss-Adjusted Metered Quantity for Interconnector, l, in Imbalance Settlement Period, γ.

F.18.7.3 For all cases not covered by paragraphs F.18.7.1 and F.18.7.2, the Market Operator shall calculate the Non-performance Difference Quantity ($QDIFFCNP_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFCNP_{\Omega\gamma} = Max\big(QCOB_{\Omega\gamma} - QDIFFTRACK_{\Omega\gamma}, 0\big)$$

where:

(a) $QCOB_{\Omega\gamma}$ is the Obligated Capacity Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ; and

(b) $QDIFFTRACK_{\Omega\gamma}$ is the final Tracked Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.7.4 The Market Operator shall calculate the Non-performance Difference Charge ($CDIFFCNP_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCNP1_{\Omega\gamma} = QDIFFCNP_{\Omega\gamma} \times Min\big(0, PSTR_m - PIMB_\gamma\big)$$

$$CDIFFCNP2_{\Omega\gamma} = Max\left(CDIFFCNP1_{\Omega\gamma}, Min\big(-CSLLB_{\Omega b} - CDIFFCNPB_{\Omega(\gamma-1)}, 0\big)\right)$$

$$CDIFFCNP_{\Omega\gamma} = Max\left(CDIFFCNP2_{\Omega\gamma}, Min\big(-CSLLA_{\Omega b} - CDIFFCNPA_{\Omega(\gamma-1)}, 0\big)\right)$$

where:

(a) $PSTR_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;

(b) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(c) $CDIFFCNPA_{\Omega(\gamma-1)}$ is the Annual Cumulative Non-performance Difference Charge for Capacity Market Unit, Ω, in the previous Imbalance Settlement Period, $(\gamma - 1)$;

(d) $CDIFFCNPB_{\Omega(\gamma-1)}$ is the Billing Period Cumulative Non-performance Difference Charge for Capacity Market Unit, Ω, in the previous Imbalance Settlement Period, $(\gamma - 1)$;

(e) $CSLLB_{\Omega b}$ is the Billing Period Stop-Loss Limit for Capacity Market Unit, Ω, in Billing Period, b, determined in accordance with in section F.18.3;

(f) $CSLLA_{\Omega b}$ is the Annual Stop-Loss Limit for Capacity Market Unit, Ω, in Billing Period, b, determined in accordance with in section F.18.3;

(g) $CDIFFCNP1_{\Omega\gamma}$ and $CDIFFCNP2_{\Omega\gamma}$ are iterative variables required to calculate the final value for $CDIFFCNP_{\Omega\gamma}$; and

(h) $QDIFFCNP_{\Omega\gamma}$ is the Non-performance Difference Quantity for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.7.5 The Market Operator shall calculate the Billing Period Cumulative Non-performance Difference Charge ($CDIFFCNPB_{\Omega\gamma}$) to be zero in the last Imbalance Settlement Period, γ, of each Billing Period, b, and the Annual Cumulative Non-performance Difference Charge ($CDIFFCNPA_{\Omega\gamma}$) to be zero in the last Imbalance Settlement Period, γ, of each Capacity Year, y, for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, and in each other Imbalance Settlement Period, γ, in the Capacity Year, y, as follows:

$$CDIFFCNPB_{\Omega\gamma} = CDIFFCNPB_{\Omega(\gamma-1)} + CDIFFCNP_{\Omega\gamma}$$

$$CDIFFCNPA_{\Omega\gamma} = CDIFFCNPA_{\Omega(\gamma-1)} + CDIFFCNP_{\Omega\gamma}$$

where:

(a) $CDIFFCNPA_{\Omega(\gamma-1)}$ is the Annual Cumulative Non-performance Difference Charge for Capacity Market Unit, Ω, in the previous Imbalance Settlement Period, $(\gamma - 1)$;

(b) $CDIFFCNPB_{\Omega(\gamma-1)}$ is the Billing Period Cumulative Non-performance Difference Charge for Capacity Market Unit, Ω, in the previous Imbalance Settlement Period, $(\gamma - 1)$; and

(c) $CDIFFCNP_{\Omega\gamma}$ is the Non-performance Difference Charge for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.7.6   For all cases not covered by paragraphs F.18.7.1, F.18.7.2 and F.18.7.3, the Market Operator shall calculate the Non-performance Difference Quantity ($QDIFFCNP_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFCNP_{s\gamma} = Max\big(QCOB_{s\gamma} - QDIFFTRACK_{s\gamma}, 0\big)$$

where:

(a) $QCOB_{s\gamma}$ is the Obligated Capacity Quantity for Trading Site, s, in Imbalance Settlement Period, γ; and

(b) $QDIFFTRACK_{s\gamma}$ is the final Tracked Difference Quantity for Trading Site, s, in Imbalance Settlement Period, γ.

F.18.7.7   The Market Operator shall calculate the Non-performance Difference Charge ($CDIFFCNP_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCNP1_{s\gamma} = QDIFFCNP_{s\gamma} \times Min\big(0, PSTR_m - PIMB_\gamma\big)$$

$$CDIFFCNP2_{s\gamma} = Max\left(CDIFFCNP1_{s\gamma}, Min\big(- CSLLB_{sb} - CDIFFCNPB_{s(\gamma-1)}, 0\big)\right)$$

$$CDIFFCNP_{s\gamma} = Max\left(CDIFFCNP2_{s\gamma}, Min\big(- CSLLA_{sb} - CDIFFCNPA_{s(\gamma-1)}, 0\big)\right)$$

where:

(a) $PSTR_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;

(b) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(c) $CDIFFCNPA_{s(\gamma-1)}$ is the Annual Cumulative Non-performance Difference Charge for Trading Site, s, in the previous Imbalance Settlement Period, (γ – 1);

(d) $CDIFFCNPB_{s(\gamma-1)}$ is the Billing Period Cumulative Non-performance Difference Charge for Trading Site, s, in the previous Imbalance Settlement Period, (γ – 1);

(e) $CSLLB_{sb}$ is the Billing Period Stop-Loss Limit for Trading Site, s, in Billing Period, b, determined in accordance with in section F.18.3;

(f) $CSLLA_{sb}$ is the Annual Stop-Loss Limit for Trading Site, s, in Billing Period, b, determined in accordance with in section F.18.3;

(g) $CDIFFCNP1_{s\gamma}$ and $CDIFFCNP2_{s\gamma}$ are iterative variables required to calculate the final value for $CDIFFCNP_{s\gamma}$; and

(h) $QDIFFCNP_{s\gamma}$ is the Non-performance Difference Quantity for Trading Site, s, in Imbalance Settlement Period, γ.

F.18.7.8   The Market Operator shall calculate the Billing Period Cumulative Non-performance Difference Charge ($CDIFFCNPB_{s\gamma}$) to be zero in the last Imbalance Settlement Period, γ, of each Billing Period, b, and the Annual Cumulative Non-performance Difference Charge ($CDIFFCNPA_{s\gamma}$) to be zero in the last Imbalance Settlement Period, γ, of each Capacity Year, y, for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, and in each other Imbalance Settlement Period, γ, in the Capacity Year, y, as follows:

$$CDIFFCNPB_{s\gamma} = CDIFFCNPB_{s(\gamma-1)} + CDIFFCNP_{s\gamma}$$

$$CDIFFCNPA_{s\gamma} = CDIFFCNPA_{s(\gamma-1)} + CDIFFCNP_{s\gamma}$$

where:

(a) $CDIFFCNPA_{s(\gamma-1)}$ is the Annual Cumulative Non-performance Difference Charge for Trading Site, s, in the previous Imbalance Settlement Period, (γ – 1);

(b) $CDIFFCNPB_{s(\gamma-1)}$ is the Billing Period Cumulative Non-performance Difference Charge for Trading Site, s, in the previous Imbalance Settlement Period, (γ – 1); and

(c) $CDIFFCNP_{s\gamma}$ is the Non-performance Difference Charge for Trading Site, s, in Imbalance Settlement Period, γ.

F.18.8   **Calculation of Total Difference Charges**

F.18.8.1   The Market Operator shall calculate the Total Difference Charge ($CDIFFCTOT_{\Omega\gamma}$) for each Capacity Market Unit, Ω, which does not represent an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCTOT_{\Omega\gamma} = CDIFFCDA_{\Omega\gamma} + CDIFFCWD_{\Omega\gamma} + CDIFFCNP_{\Omega\gamma}$$

where:

(a) $CDIFFCDA_{\Omega\gamma}$ is the Day-ahead Difference Charge for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ;

(b) $CDIFFCWD_{\Omega\gamma}$ is the Within-day Difference Charge for Capacity Market Unit, Ω, for Imbalance Settlement Period, γ; and

(c) $CDIFFCNP_{\Omega\gamma}$ is the Non-performance Difference Charge for Capacity Market Unit, Ω, for Imbalance Settlement Period, γ.

F.18.8.2 The Market Operator shall calculate the Total Difference Charge ($CDIFFCTOT_{s\gamma}$) for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCTOT_{s\gamma} = CDIFFCDA_{s\gamma} + CDIFFCWD_{s\gamma} + CDIFFCNP_{s\gamma}$$

where:

(a) $CDIFFCDA_{s\gamma}$ is the Day-ahead Difference Charge for Trading Site, s, in Imbalance Settlement Period, γ;

(b) $CDIFFCWD_{s\gamma}$ is the Within-day Difference Charge for Trading Site, s, for Imbalance Settlement Period, γ; and

(c) $CDIFFCNP_{s\gamma}$ is the Non-performance Difference Charge for Trading Site, s, for Imbalance Settlement Period, γ.

F.18.8.3 The Market Operator shall assign the value of the Total Difference Charge for each Trading Site, s, which is associated with a Capacity Market Unit, Ω, which represents an Autoproducer Unit, to one of the Capacity Market Units in the Trading Site, and assign a value of zero to the other Capacity Market Units in the Trading Site.

F.18.8.4 The Market Operator shall calculate the Total Difference Charge ($CDIFFCTOT_{p\gamma}$) for each Participant, p, in each Imbalance Settlement Period, γ, as follows:

$$CDIFFCTOT_{p\gamma} = \sum_{\Omega \in p} CDIFFCTOT_{\Omega\gamma}$$

where:

(a) $\sum_{\Omega \in p}$ is a summation over all Capacity Market Units, Ω, of Participant, p; and

(b) $CDIFFCTOT_{\Omega\gamma}$ is the Total Difference Charge for Capacity Market Unit, Ω, in Imbalance Settlement Period, γ.

F.18.8.5 The Market Operator shall calculate the Daily Total Difference Charge ($CDIFFCTOTD_{d}$) in each Settlement Day, d, as follows:

$$CDIFFCTOTD_d = \sum_{\gamma \in d} \sum_p CDIFFCTOT_{p\gamma}$$

where:

(a) $\sum_{\gamma \in d}$ is a summation over all Imbalance Settlement Periods, γ, within Settlement Day, d;

(b) $\sum_p$ is a summation over all Participants, p; and

(c) CDIFFCTOT$_{p\gamma}$ is the Total Difference Charge for Participant, p, in Imbalance Settlement Period, γ.

F.19   CAPACITY CHARGES

F.19.1   Setting Capacity Charge Parameters

F.19.1.1 The purpose of the Capacity Charge is to recover the anticipated Capacity Payments over the Capacity Year, with adjustments for previous Capacity Years as appropriate, on the basis of the share of consumption of each supplier in the periods forming the charge base for the Capacity Year. The purpose of the Difference Payment Socialisation Charge for a Capacity Year is to recover the anticipated amount by which the total Difference Payments paid to Suppliers in the Capacity Year will exceed the expected total Difference Charges paid in respect of Capacity Market Units in that Capacity Year, with adjustments for previous Capacity Years as appropriate.

F.19.1.2 The Market Operator shall report to the Regulatory Authorities at least four months before the start of the Capacity Year (or, if the final Capacity Auction for the Capacity Year is conducted later than five months before the start of the Capacity Year, in accordance with the Capacity Market Code, the Market Operator shall report to the Regulatory Authorities as soon as reasonably practicable following the results of that Capacity Auction becoming available and at least 1 month before the start of the Capacity Year), proposing the following parameters to be used in the calculation of Capacity Charges for that Capacity Year:

(a) The Supplier Capacity Charge Price (PCCSUP$_y$) in €/MWh for Capacity Year, y;

(b) The Difference Payment Socialisation Multiplier (FSOCDIFFP$_y$) for Capacity Year, y; and

(c) The Annual Capacity Charge Exchange Rate (XRCCA$_y$) for Capacity Year, y.

F.19.1.3 The Market Operator's report must set out the basis on which the specific values proposed have been calculated.

F.19.1.4 The Market Operator shall publish the approved value for each parameter referred to in paragraph F.19.1.2 within 5 Working Days of receipt of the Regulatory Authorities' approval or two months before the start of the Capacity Year to which they shall apply, whichever is the later.

F.19.1.5   The Market Operator may, of its own accord or in response to a request from the Regulatory Authorities, make additional interim reports to the Regulatory Authorities during the Capacity Year, proposing revisions to the Supplier Capacity Charge Price or the Difference Payment Socialisation Multiplier in the event that the values as originally proposed do not provide for the adequate recovery of anticipated Capacity Payments or the full recovery of the anticipated Difference Payments, and the under recovery is such that it is not appropriate to include as an adjustment in subsequent Capacity Years. Paragraph F.19.1.3 applies to a report under this paragraph.

F.19.1.6   If the Regulatory Authorities approve a revised Supplier Capacity Charge Price or Difference Payment Socialisation Multiplier following a report under paragraph F.19.1.5, then the Market Operator shall publish the approved value(s) for each such parameter, and the approved date and time on which they come into effect, within 5 Working Days of receipt of the Regulatory Authorities' determination.

F.19.1.7   The Imbalance Settlement Periods, γ, in a Capacity Year, y, which comprise the charge base shall be determined by the Regulatory Authorities (or shall be determined by the Market Operator by applying a methodology determined by the Regulatory Authorities) at least 6 months before the start of the Capacity Year. These shall form the basis for the values of the Capacity Charge Metered Quantity Factor ($FQMCC_\gamma$).

F.19.1.8   If the Regulatory Authorities have not made a determination under paragraph F.19.1.7 at least six months before the start of a Capacity Year, then the charge base for the previous Capacity Year shall continue to apply (with any necessary modifications).

F.19.1.9   The Market Operator shall publish the approved periods forming the charge base for a Capacity Year within 5 Working Days of receipt of the Regulatory Authorities' determination or six months before the start of the Capacity Year to which they shall apply, whichever is the later.

F.19.2   **Calculation of Capacity Charges**

F.19.2.1   The Market Operator shall calculate the Capacity Charge ($CCC_{v\gamma}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CCC_{v\gamma} = QMLF_{v\gamma} \times FQMCC_\gamma \times PCCSUP_y$$

where:

(a) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(b) $PCCSUP_y$ is the Supplier Capacity Charge Price in Capacity Year, y; and

(c) $FQMCC_\gamma$ is the Capacity Charge Metered Quantity Factor in Imbalance Settlement Period, γ.

F.19.2.2   The Market Operator shall calculate the Capacity Charge ($CCC_{v\gamma}$) for each Supplier Unit, v, which is a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CCC_{v\gamma} = Min\left(\sum_{u \in s} QMLF_{u\gamma} + \sum_{v \in s} QMLF_{v\gamma}, 0\right) \times FQMCC_{\gamma} \times PCCSUP_{y}$$

where:

(a) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(b) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $PCCSUP_{y}$ is the Supplier Capacity Charge Price in Capacity Year, y;

(d) $FQMCC_{\gamma}$ is the Capacity Charge Metered Quantity Factor in Imbalance Settlement Period, γ;

(e) $\sum_{u \in s}$ means the value for all Generator Units, u, in Trading Site, s, relevant to the Trading Site Supplier Unit; and

(f) $\sum_{v \in s}$ means the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2.

F.19.2.3 The Market Operator shall calculate the Capacity Charge (CCC$_{vc}$) for each Supplier Unit, v, in each Capacity Period, c, as follows:

$$CCC_{vc} = \sum_{\gamma \in c} CCC_{v\gamma}$$

where:

(a) $CCC_{v\gamma}$ is the Capacity Charge for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(b) $\sum_{\gamma \in c}$ is the sum over all Imbalance Settlement Periods, γ, within Capacity Period, c.

F.19.3 Calculation of Total Capacity Charges

F.19.3.1 The Market Operator shall calculate the Total Capacity Charge (CCCTOT$_{pc}$) for each Participant, p, in each Capacity Period, c, as follows:

$$CCCTOT_{pc} = \sum_{v \in p} CCC_{vc}$$

where:

(a) $\sum_{v \in p}$ is a summation over all Supplier Units, v, of Participant, p; and

(b) CCC_{vc} is the Capacity Charge for Supplier Unit, v, in Capacity Period, c.

F.19.3.2 The Market Operator shall calculate the Total Capacity Charge (CCCTOT$_c$) in each Capacity Period, c, as follows:

$$CCCTOT_c = \sum_p CCCTOT_{pc}$$

where:

(a) $\sum_p$ is a summation over all Participants, p; and

(b)   CCCTOT$_{pc}$ is the Total Capacity Charge for Participant, p, in Capacity Period, c.

F.19.4   Calculation of Difference Payment Socialisation Charges

F.19.4.1 The Market Operator shall calculate the Difference Payment Socialisation Charge (CSOCDIFFP$_{vγ}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CSOCDIFFP_{vγ} = QMLF_{vγ} \times FQMCC_γ \times PCCSUP_y \times FSOCDIFFP_y$$

where:

(a)   QMLF$_{vγ}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(b)   PCCSUP$_y$ is the Supplier Capacity Charge Price in Capacity Year, y;

(c)   FQMCC$_γ$ is the Capacity Charge Metered Quantity Factor in Imbalance Settlement Period, γ; and

(d)   FSOCDIFFP$_y$ is the Difference Payment Socialisation Multiplier in Capacity Year, y.

F.19.4.2 The Market Operator shall calculate the Difference Payment Socialisation Charge (CSOCDIFFP$_{vγ}$) for each Supplier Unit, v, which is a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$CSOCDIFFP_{vγ}$$
$$= Min\left(\sum_{u \in s} QMLF_{uγ} + \sum_{v \in s} QMLF_{vγ}, 0\right) \times FQMCC_γ \times PCCSUP_y$$
$$\times FSOCDIFFP_y$$

where:

(a)   QMLF$_{vγ}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(b) $QMLF_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit, u, in Imbalance Settlement Period, γ;

(c) $PCCSUP_y$ is the Supplier Capacity Charge Price in Capacity Year, y;

(d) $FQMCC_\gamma$ is the Capacity Charge Metered Quantity Factor in Imbalance Settlement Period, γ;

(e) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s, relevant to the Trading Site Supplier Unit;

(f) $\sum_{v \in s}$ is the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2; and

(g) $FSOCDIFFP_y$ is the Difference Payment Socialisation Multiplier in Capacity Year, y.

F.19.4.3   The Market Operator shall calculate the Difference Payment Socialisation Charge ($CSOCDIFFP_{vc}$) for each Supplier Unit, v, in each Capacity Period, c, as follows:

$$CSOCDIFFP_{vc} = \sum_{\gamma \in c} CSOCDIFFP_{v\gamma}$$

where:

(a) $CSOCDIFFP_{v\gamma}$ is the Difference Payment Socialisation Charge for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(b) $\sum_{\gamma \in c}$ is the sum over all Imbalance Settlement Periods, γ, within Capacity Period, c.

F.19.5   **Calculation of Total Difference Payment Socialisation Charges**

F.19.5.1   The Market Operator shall calculate the Total Difference Payment Socialisation Charge ($CSOCDIFFPTOT_{pc}$) for each Participant, p, in each Capacity Period, c, as follows:

$$CSOCDIFFPTOT_{pc} = \sum_{v \in p} CSOCDIFFP_{vc}$$

where:

(a) $\sum_{v \in p}$ is a summation over all Supplier Units, v, of Participant, p; and

(b) $CSOCDIFFP_{vc}$ is the Difference Payment Socialisation Charge for Supplier Unit, v, in Capacity Period, c.

F.19.5.2   The Market Operator shall calculate the Total Difference Payment Socialisation Charge ($CSOCDIFFPTOT_c$) in each Capacity Period, c, as follows:

$$CSOCDIFFPTOT_c = \sum_p CSOCDIFFPTOT_{pc}$$

where:

(a) $\sum_p$ is a summation over all Participants, p; and

(b) CSOCDIFFPTOT$_{pc}$ is the Total Difference Payment Socialisation Charge for Participant, p, in Capacity Period, c.

F.20 DIFFERENCE PAYMENTS

F.20.1 Calculation of Day-ahead Difference Quantities and Payments

F.20.1.1 The Market Operator shall calculate the Day-ahead Difference Quantity for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in Imbalance Settlement Period, γ, as follows:

$$QDIFFDA_{v\gamma} = Max\left(\sum_x qTDA_{xvh} \times Min(DTDA_x, DISP), QEX_{v\gamma}\right)$$

where:

(a) qTDA$_{xvh}$ is the Day-ahead Trade Quantity for Trade, x, for Supplier Unit, v, in Day-ahead Trading Period, h;

(b) DTDA$_x$ is the Day-ahead Trade Duration of Trade, x;

(c) QEX$_{v\gamma}$ is the Ex-Ante Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(d) $\sum_x$ is a summation of the quantities for each Trade, x, from the day-ahead market or the intraday market, as the case may be within whose Day-ahead Trading Period or Intraday Trading Period, h, as the case may be, the Imbalance Settlement Period, γ, falls in whole or in part; and

(e) DISP is the Imbalance Settlement Period Duration.

F.20.1.2 The Market Operator shall calculate the Day-ahead Difference Payment (CDIFFPDA$_{vd}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in Settlement Day, d, as follows:

$$CDIFFPDA_{vd} = \sum_{\gamma \in d} \left(Min\left(QDIFFDA_{v\gamma}, 0\right) \times Min(0, PSTR_m - PTDA_{xvh})\right)$$

where:

(a) $\sum_{\gamma \in d}$ is a summation over all Imbalance Settlement Periods, γ, in Settlement Day, d;

<ol type="a" start="2">
(b) PSTR$_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;
(c) PTDA$_{xvh}$ is the Day-ahead Trade Price for Trade, x, for Supplier Unit, v, within whose Day-ahead Trading Period, h, the Imbalance Settlement Period, γ, falls in whole or in part;
(d) DISP is Imbalance Settlement Period Duration; and
(e) QDIFFDA$_{vγ}$ is the Day-ahead Difference Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ.

F.20.2 Calculation of Intraday Difference Quantities and Payments

F.20.2.1 The Market Operator shall derive a ranked set for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in Imbalance Settlement Period, γ, of all Intraday Trade Quantities (qTID$_{xvh}$) for the Supplier Unit, v, within whose Intraday Trading Period, h, the Imbalance Settlement Period falls in whole or in part, in order of the time stamp of their clearing time of the trade. The quantity with the earliest time stamp shall be allocated a position number k = 1, the quantity with the next earliest time stamp a position number k = 2, and so on until all quantities have been allocated a position number. Where two or more quantities have the same time stamp, they shall be ranked in order of increasing price where the quantity with the highest price shall be allocated a position number before the quantity with the lower price. Where two or more quantities have equal prices, they shall be ranked using a systematic process of random selection which may include making small alterations to the submitted prices. Any such amended prices shall only be used for this purpose in the ranking process.

F.20.2.2 The Market Operator shall derive a ranked set of Intraday Trade Quantities (QTID$_{vγk}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in Imbalance Settlement Period, γ, and determine the Intraday Trade Price (PTID$_{vγk}$), using every quantity included in the ranked set derived in accordance with paragraph F.20.2.1, as follows:

$$QTID_{vγk} = qTID_{xvhk} \times Min(DTID_x, DISP)$$

$$PTID_{vγk} = PTID_{xvhk}$$

where:

<ol type="a">
(a) qTID$_{xvhk}$ is the Intraday Trade Quantity for Trade, x, for Supplier Unit, v, in Intraday Trading Period, h, in the position, k, in the ranked set;
(b) PTID$_{xvhk}$ is the Intraday Trade Price for Trade, x, for Supplier Unit, v, in Intraday Trading Period, h, in the position, k, in the ranked set;
(c) DTID$_x$ is the Intraday Trade Duration of Trade, x; and
(d) DISP is the Imbalance Settlement Period Duration.

F.20.2.3 The Market Operator shall calculate the Intraday Trade Difference Quantity (QDIFFPTID$_{vγk}$), the Intraday Trade Difference Payment (CDIFFPTID$_{vγk}$), and the Tracked Difference Quantity (QDIFFTRACK$_{vγk}$) for each Supplier Unit, v, which is not

a Trading Site Supplier Unit, in ascending order of each position, k, in the ranked set derived in accordance with paragraph F.20.2.2, in Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK_{v\gamma(k=0)} = QDIFFDA_{v\gamma}$$

$If\ QTID_{v\gamma k} < 0, then$

$QDIFFPTID_{v\gamma k}$

$$= Min\left(QDIFFDA_{v\gamma} + \sum_{k' < k} QTID_{v\gamma k} + QTID_{v\gamma k} - QDIFFTRACK_{v\gamma(k-1)}, 0 \right)$$

$else$

$$QDIFFPTID_{v\gamma k} = 0$$

$$CDIFFPTID_{v\gamma k} = Min\left(QDIFFPTID_{v\gamma k}, 0 \right) \times Min\left(0, PSTR_m - PTID_{xv\gamma k} \right)$$

$$QDIFFTRACK_{v\gamma k} = Min\left(QDIFFTRACK_{v\gamma(k-1)}, QDIFFDA_{v\gamma} + \sum_{k' \leq k} QTID_{v\gamma k}, QEX_{v\gamma} \right)$$

where:

(a) $\sum_{k' \leq k}$ is a summation over values across all positions in the ranked set prior to and including the current position, k, in the ranked set. Calculations for the first position, (k = 1), will not have a previous position, k', and the result for this sum shall be the value in the current position, k, in the ranked set;

(b) $\sum_{k' < k}$ is a summation over values across all positions in the ranked set prior to the current position, k, in the ranked set. Calculations for the first position, (k = 1), will not have a previous position, k', and the result for this sum shall be zero;

(c) $QEX_{v\gamma}$ is the Ex-Ante Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(d) $QDIFFDA_{v\gamma}$ is the Day-ahead Difference Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ;

(e) $QTID_{v\gamma k}$ is the Intraday Trade Quantity for Trade, x, for Supplier Unit, v, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(f) $PTID_{v\gamma k}$ is the Intraday Trade Price associated with the Intraday Trade Quantity ($QTID_{v\gamma k}$) for Trade, x, for Supplier Unit, v, in the position, k, in the ranked set, in Imbalance Settlement Period, γ;

(g) $PSTR_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;

(h)   (k − 1) is for the previous position in the ranked set; and

(i)   (k = 0) is for the 0th position in the ranked set, i.e. where a calculation is being performed on the first position in the ranked set, (k = 1), for which there is no previous position.

F.20.2.4   The Market Operator shall calculate the Intraday Difference Charge ($CDIFFPID_{vd}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Settlement Day, d, as follows:

$$CDIFFPID_{vd} = \sum_{\gamma \in d} \sum_{k} CDIFFPTID_{v\gamma k}$$

where:

(a) $CDIFFPTID_{v\gamma k}$ is the Intraday Trade Difference Payment for Supplier Unit, v, in the position, k, in the ranked set, in Imbalance Settlement Period, γ, calculated in accordance with paragraph F.20.2.3;

(b) $\sum_{k}$ is a summation over all positions, k, in the ranked set; and

(c) $\sum_{\gamma \in d}$ is a summation over all Imbalance Settlement Periods, γ, in Settlement Day, d.

F.20.2.5   The Market Operator shall determine the final Tracked Difference Quantity ($QDIFFTRACK_{v\gamma}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFTRACK_{v\gamma} = QDIFFTRACK_{v\gamma k}$$

where:

(a) $QDIFFTRACK_{v\gamma k}$ is the Tracked Difference Quantity calculated in accordance with paragraph F.20.2.3, for Supplier Unit, v, in the final position, k, in the ranked set, in Imbalance Settlement Period, γ.

F.20.3   **Calculation of Imbalance Difference Quantities and Payments**

F.20.3.1   The Market Operator shall calculate the Imbalance Difference Quantity ($QDIFFPIMB_{v\gamma}$) for each Supplier Unit, v, which is not a Trading Site Supplier Unit, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFPIMB_{v\gamma} = Min\left(QMLF_{v\gamma} - QDIFFTRACK_{v\gamma}, 0\right)$$

where:

(a) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(b) $QDIFFTRACK_{v\gamma}$ is the final Tracked Difference Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ, determined in section F.20.2.

F.20.3.2 The Market Operator shall calculate the Imbalance Difference Quantity ($QDIFFPIMB_{v\gamma}$) for each Trading Site Supplier Unit, v, in each Imbalance Settlement Period, γ, as follows:

$$QDIFFPIMB_{v\gamma} = Min\left(\sum_{u \in s} QMLF_{u\gamma} + \sum_{v \in s} QMLF_{v\gamma}, 0 \right)$$

where:

(a) $\sum_{u \in s}$ is a summation over all Generator Units, u, in Trading Site, s, relevant to the Trading Site Supplier Unit;

(b) $\sum_{v \in s}$ is the value for the single Trading Site Supplier Unit, v, in Trading Site, s, in accordance with paragraph B.9.1.2; and

(c) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ.

F.20.3.3 The Market Operator shall calculate the Imbalance Difference Payment ($CDIFFPIMB_{vd}$) for each Supplier Unit, v, in each Settlement Day, d, as follows:

$$CDIFFPIMB_{vd} = \sum_{\gamma \in d} \left(QDIFFPIMB_{v\gamma} \times Min\left(0, PSTR_m - PIMB_\gamma\right) \right)$$

where:

(a) $PSTR_m$ is the Strike Price for Month, m, which contains Imbalance Settlement Period, γ;

(b) $PIMB_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period, γ, calculated in accordance with Chapter E (Imbalance Pricing);

(c) $QDIFFPIMB_{v\gamma}$ is the Imbalance Difference Quantity for Supplier Unit, v, in Imbalance Settlement Period, γ; and

(d) $\sum_{\gamma \in d}$ is a summation over all Imbalance Settlement Periods, γ, in Settlement Day, d.

F.20.4   Calculation of Total Difference Payments

F.20.4.1 The Market Operator shall calculate the Total Difference Payment ($CDIFFPTOT_{vd}$) for each Supplier Unit, v, in each Settlement Day, d, as follows:

$$CDIFFPTOT_{vd} = CDIFFPDA_{vd} + CDIFFPID_{vd} + CDIFFPIMB_{vd}$$

where:

   (a)   CDIFFPDA$_{vd}$ is the Day-ahead Difference Payment for Supplier Unit, v, in Settlement Day, d;

   (b)   CDIFFPID$_{vd}$ is the Intraday Difference Payment for Supplier Unit, v, in Settlement Day, d; and

   (c)   CDIFFPIMB$_{vd}$ is the Imbalance Difference Payment for Supplier Unit, v, in Settlement Day, d.

F.20.4.2 The Market Operator shall calculate the Total Difference Payment (CDIFFPTOT$_{pd}$) for each Participant, p, in each Settlement Day, d, as follows:

$$CDIFFPTOT_{pd} = \sum_{v \in p} CDIFFPTOT_{vd}$$

where:

   (a) $\sum_{v \in p}$ is a summation over all Supplier Units, v, of Participant, p; and

   (b)   CDIFFPTOT$_{vd}$ is the Total Difference Payment for Supplier Unit, v, in Settlement Day, d.

F.20.4.3 The Market Operator shall calculate the Daily Total Difference Payment (CDIFFPTOTD$_d$) in each Settlement Day, d, as follows:

$$CDIFFPTOTD_d = \sum_{p} CDIFFPTOT_{pd}$$

where:

   (a) $\sum_{p}$ is a summation over all Participants, p; and

   (b)   CDIFFPTOT$_{pd}$ is the Total Difference Payment for Participant, p, in Settlement Day, d.

F.20.5 Calculation of Achievable Difference Payments

F.20.5.1 If the value for the Socialisation Balance in Settlement Day, d, calculated in accordance with paragraph F.21.1.3, has a negative value, the Market Operator shall calculate the Difference Payment Shortfall Amount (CSHORTDIFFP$_{vd}$) for each Supplier Unit, v, in each Settlement Day, d, as follows:

$$CSHORTDIFFP_{vd} = Min(CBSOC_d, 0) \times \left(\frac{CDIFFPTOT_{vd}}{CDIFFPTOTD_d} \right)$$

where:

(a)   CBSOC$_d$ is the Socialisation Balance in Settlement Day, d;

(b)   CDIFFPTOT$_{vd}$ is the Total Difference Payment for Supplier Unit, v, in Settlement Day, d; and

(c)   CDIFFPTOTD$_d$ is the Daily Total Difference Payment for Settlement Day, d.

F.20.5.2   The Market Operator shall calculate the Tracked Difference Payment Shortfall Amount (CSHORTDIFFPTRACK$_{vd}$) for each Supplier Unit, v, in each Settlement Day, d, as follows:

$$
\begin{aligned}
CSHORTDIFFPTRACK_{vd} \\
= Min\big(CSHORTDIFFPTRACK_{v(d-1)} + CREIMDIFFP_{v(d-1)} \\
+ CSHORTDIFFP_{vd}, 0\big)
\end{aligned}
$$

where:

(a)   CREIMDIFFP$_{v(d-1)}$ is the Difference Payment Reimbursement Amount for Supplier Unit, v, in the previous Settlement Day, (d − 1);

(b)   CSHORTDIFFPTRACK$_{v(d-1)}$ is the Tracked Difference Payment Shortfall Amount for Supplier Unit, v, in the previous Settlement Day, (d − 1); and

(c)   CSHORTDIFFP$_{vd}$ is the Difference Payment Shortfall Charge for Supplier Unit, v, in Settlement Day, d.

F.20.5.3   The Market Operator shall calculate the Difference Payment Reimbursement Amount (CREIMDIFFP$_{vd}$) for each Supplier Unit, v, in each Settlement Day, d, as follows:

$$
\begin{aligned}
CREIMDIFFP_{vd} \\
= Min\left(Max(CBSOC_d, 0), \sum_v CSHORTDIFFPTRACK_{vd} \right) \\
\times \frac{CSHORTDIFFPTRACK_{vd}}{\sum_v CSHORTDIFFPTRACK_{vd}}
\end{aligned}
$$

where:

(a) $\sum_v$ is a summation over all Supplier Units, v;

(b)   CSHORTDIFFPTRACK$_{vd}$ is the Tracked Difference Payment Shortfall Amount for Supplier Unit, v, in Day, d; and

(c)   CBSOC$_d$ is the Socialisation Balance for the Day, d.

F.20.5.4   The Market Operator shall calculate the Achievable Difference Payment (CDIFFPACHIEVE$_{vd}$) for each Supplier Unit, v, in each Settlement Day, d, as follows:

$$
CDIFFPACHIEVE_{vd} = CDIFFPTOT_{vd} + CSHORTDIFFP_{vd} + CREIMDIFFP_{vd}
$$

where:

(a) CREIMDIFFP$_{vd}$ is the Difference Payment Reimbursement Amount for Supplier Unit, v, in Settlement Day, d;

(b) CDIFFPTOT$_{vd}$ is the Total Difference Payment for Supplier Unit, v, in Settlement Day, d; and

(c) CSHORTDIFFP$_{vd}$ is the Difference Payment Shortfall Amount for Supplier Unit, v, in Settlement Day, d.

F.20.6 Calculation of Total Achievable Difference Payments

F.20.6.1 The Market Operator shall calculate the Total Achievable Difference Payment (CDIFFPACHIEVETOT$_{pd}$) for each Participant, p, in each Settlement Day, d, as follows:

$$CDIFFPACHIEVETOT_{pd} = \sum_{v \in p} CDIFFPACHIEVE_{vd}$$

where:

(a) $\sum_{v \in p}$ is a summation over all Supplier Units, v, of Participant, p; and

(b) CDIFFPACHIEVE$_{vd}$ is the Achievable Difference Payment for Supplier Unit, v, in Settlement Day, d.

F.20.6.2 The Market Operator shall calculate the Daily Total Achievable Difference Payment (CDIFFPACHIEVETOTD$_{d}$) in each Settlement Day, d, as follows:

$$CDIFFPACHIEVETOTD_{d} = \sum_{p} CDIFFPACHIEVETOT_{pd}$$

where:

(a) $\sum_{p}$ is a summation over all Participants, p; and

(b) CDIFFPACHIEVETOT$_{pd}$ is the Total Achievable Difference Payment for Participant, p, in Settlement Day, d.

F.21 SOCIALISATION FUND

F.21.1 Calculation of Socialisation Fund Balances

F.21.1.1 The Market Operator shall calculate the Initial Socialisation Balance (CBSOCI$_{d}$) for each Settlement Day, d, as follows:

(a) For the first Settlement Day, d, in Capacity Period, c:

$$CBSOCI_d$$
$$= CBSOCI_{(d-1)}$$
$$- (CDIFFPTOTD_d + CDIFFCTOTD_d + CSOCDIFFPTOT_c + CCCTOT_c$$
$$+ CCPTOT_c)$$

(b)   For all other Settlement Days, d, in Capacity Period, c:

$$CBSOCI_d = CBSOCI_{(d-1)} - (CDIFFPTOTD_d + CDIFFCTOTD_d)$$

where:

(i)   CDIFFPTOTD$_d$ is the Daily Total Difference Payment for Settlement Day, d;

(ii)   CDIFFCTOTD$_d$ is the Daily Total Difference Charge for Settlement Day, d;

(iii)   CCCTOT$_c$ is the Total Capacity Charge for Capacity Period, c;

(iv)   CCPTOT$_c$ is the Total Capacity Payment for Capacity Period, c;

(v)   CBSOCI$_{(d-1)}$ is the Initial Socialisation Balance for the previous Settlement Day, (d – 1); and

(vi)   CSOCDIFFPTOT$_c$ is the Total Difference Payment Socialisation Charge in Capacity Period, c.

F.21.1.2   Notwithstanding anything else in this Code:

(a)   the maximum amount that the Market Operator is required to pay Participants in respect of any Settlement Day by way of Achievable Difference Payments is equal to the Socialisation Balance for the Settlement Day (if positive); and

(b)   the Market Operator shall have no liability to pay Achievable Difference Payments in respect of any Settlement Day for which the Socialisation Balance is zero or negative.

F.21.1.3   The Market Operator shall determine the Socialisation Balance (CBSOC$_d$) for a Settlement Day, d, through applying any adjustments necessary to the Initial Socialisation Balance calculated in accordance with paragraph F.21.1.1, including:

(a)   adding the amount of any Termination Charge recovered under section J.7.1 of the Capacity Market Code (and, in the event of a failure by a Participant to pay a Termination Charge invoiced under that section, any amount recovered by the System Operators as a result of a call or demand on the Participant's Performance Security under that section) and paid to the Market Operator; and

(b)   to the extent the Market Operator considers appropriate, adding any accumulated over-recovery by the Market Operator in respect of another charge under this Code that is calculated by reference to a parameter or price set by the Regulatory Authorities on the basis of expected costs.

G. FINANCIAL AND SETTLEMENT

G.1   INTRODUCTION

G.1.1   **Purpose**

G.1.1.1   This Chapter:

(a)   specifies the arrangements and processes for settlement of the payments and charges calculated under Chapter F (Calculation of Payments and Charges);

(b)   sets out the arrangements for the calculation and settlement of the Market Operator Charges; and

(c)   sets out banking and credit arrangements to support the settlement of those payments and charges.

G.1.2   **Settlement Items**

G.1.2.1   The Market Operator shall carry out or procure settlements in accordance with the Code of the following amounts:

(a)   Trading Payments and Trading Charges due to or payable by Participants in respect of their registered Generator Units and Capacity Market Units in accordance with sections F.5, F.6, F.7, F.8, F.9, F.10, F.11, F.13 and F.18 for each Billing Period;

(b)   Trading Payments and Trading Charges due to or payable by Participants in respect of their registered Supplier Units in accordance with sections F.5, F.12, F.14, F.15 and F.20 for each Billing Period;

(c)   Capacity Payments due to Participants in respect of their registered Capacity Market Units in accordance with sections F.17 for each Capacity Period;

(d)   Capacity Charges payable by Participants in respect of their registered Supplier Units in accordance with sections F.19 for each Capacity Period;

(e)   Charges to Participants in respect of their registered Generator Units for Unsecured Bad Energy Debt in accordance with section G.2.7;

(f)   Charges to Participants in respect of their registered Generator Units for Unsecured Bad Capacity Debt in accordance with section G.2.7;

(g)   amounts in respect of Settlement Reallocation Agreements registered by Participants determined in accordance with section G.5.7.3 and G.5.7.4 for each Settlement Document;

(h)   Fixed Market Operator Generator Charges payable by Participants in respect of their registered Generator Units and Fixed Market Operator Supplier Charges payable by Participants in respect of their registered Supplier Units, in each case in accordance with section G.7, for each Year or period to which the applicable Fixed Market Operator Charge relates; and

(i)   Variable Market Operator Charges payable by Participants in respect of their Supplier Units in accordance with section G.7 for each Billing Period.

G.1.2.2 All of the payments and charges set out in paragraph G.1.2.1 shall be calculated in accordance with the Code and, except where otherwise stated, shall be exclusive of VAT.

G.1.3 **Currency**

G.1.3.1 All Settlement information and cash flows shall be calculated in euro (€).

G.1.3.2 All payments in respect of Settlements, including Settlement Reruns, will be in euro (€) or pounds sterling (£) depending on the Currency Zone of the Unit(s) in respect of which the Settlement (or the Settlement Rerun) is taking place.

G.1.3.3 The Market Operator shall, in relation to each Trading Day, publish a Trading Day Exchange Rate between euro (€) and pounds sterling (£) by 17:00 on the day prior to the corresponding Gate Closure 1.

G.1.3.4 With respect to the calculation of payments and charges as set out in sections F.5 to F.15 and sections F.18 (with the exception of section F.18.3) and F.20, the Trading Day Exchange Rate will be applied.

G.1.3.5 With respect to the calculation of payments and charges as set out in sections F.17 and F.18.3, the Capacity Duration Exchange Rate for Contract Register Entry n ($XRCD_n$) will be applied.

G.1.3.6 With respect to the calculation of payments and charges as set out in section F.19, the Annual Capacity Charge Exchange Rate in year y ($XRCCA_y$) will be applied.

G.1.3.7 For each Participant using pounds sterling as its designated Currency, all Settlement calculations on a Settlement Day or a Billing Period basis shall be included in the relevant Settlement Statements after being converted by the Market Operator to pounds sterling using the relevant exchange rate.

G.1.3.8 In relation to the conversion between pounds sterling and euro for any Accession Fee or Participation Fee, the Market Operator shall apply the prevailing Annual Capacity Charge Exchange Rate.

G.1.3.9 In relation to the Fixed Market Operator Charge, the Market Operator shall apply the Trading Day Exchange Rate relating to that Trading Day on which the Market Operator issues the relevant invoice for the Fixed Market Operator Charge.

G.1.3.10 In relation to the Variable Market Operator Charge, the Market Operator shall apply the Trading Day Exchange Rate relating to the relevant Imbalance Settlement Period.

G.1.3.11 All data values that are submitted as part of Commercial Offer Data which are expressed in pounds sterling shall be converted by the Market Operator to euro using the relevant Trading Day Exchange Rate, and the resulting euro value shall be used for all calculations within this Code.

G.1.4 **Banking Arrangements**

G.1.4.1 The Market Operator shall, through its contract with the SEM Bank, administer the banking services required pursuant to the Code for Participants. The Market Operator and each Participant shall, in each case in relation to those banking arrangements that it requires in order to comply with the Code, procure, use, make available and administer such banking arrangements in accordance with Agreed Procedure 17 "Banking and Participant Payments".

G.1.4.2 The SEM Bank shall be a bank which must:

(a) hold a Banking Licence in Ireland under Section 9 of the Central Bank Act 1971 (Ireland) or be authorised by the Financial Conduct Authority to engage in "regulated activities", as defined in Part 2 and Schedule 2 of the Financial Services and Markets Act 2000 (Northern Ireland and United Kingdom), or be otherwise authorised to provide banking services in Ireland or the United Kingdom; and

either:

(b) be a Clearing Bank in either Ireland or the United Kingdom with:

    (i) a long term debt rating of not less than A- (Standard & Poors) or A3 (Moody's Investors Service Inc.); or

    (ii) a long term debt rating of not less than BB- (Standard & Poors) or Ba3 (Moody's Investors Service Inc.) and have a Balance Sheet Net Asset Value of not less than €1,000 million;

or:

(c) be an international bank that is approved by the relevant regulatory authority to provide banking services in Ireland or the United Kingdom and complies with paragraph G.1.4.2(b)(i) or G.1.4.2(b)(ii);

and:

(d) have a branch in each of Ireland and the United Kingdom.

G.1.4.3 The Market Operator shall establish and operate in accordance with the Code:

(a) a euro SEM Account at a branch of the SEM Bank in Ireland; and

(b) a pounds sterling SEM Account at a branch of the SEM Bank in the United Kingdom,

to and from which all Trading Payments, Trading Charges, Capacity Payments and Capacity Charges calculated in accordance with this Code are to be made. Each SEM Account shall be an interest bearing account.

G.1.4.4 The Market Operator shall establish and operate in accordance with the Code:

(a) a euro SEM Deposit Account at a branch of the SEM Bank in Ireland; and

(b) a pounds sterling SEM Deposit Account at a branch of the SEM Bank in the United Kingdom,

for the purposes of cash pooling arrangements across SEM Bank accounts. Each SEM Deposit Account shall be an interest bearing account.

G.1.4.5 Any Interest received or earned on amounts held in the SEM Accounts and the SEM Deposit Accounts shall accrue and belong to the Market Operator and shall not therefore be part of the amounts held in those accounts for the purposes of the trusts established under section G.1.6. The Market Operator shall take such Interest into account in proposing to the Regulatory Authorities any Market Operator Charge or component thereof.

G.1.4.6 For the avoidance of doubt, the Market Operator will not have any responsibility or liability for any loss or shortfall arising as a result of negative interest rates applying to any of the SEM Accounts or the SEM Deposit Accounts.

G.1.5 **Provision of Cash Collateral**

G.1.5.1 A Participant may at any time provide a cash deposit as part of its Required Credit Cover as permitted pursuant to paragraph G.9.1.3. Where a Participant decides to provide such a cash deposit, then the Participant shall instruct the Market Operator to establish and maintain a SEM Collateral Reserve Account with the SEM Bank in either Ireland or the United Kingdom according to whether the Participant has a registered Unit in either Ireland or Northern Ireland (respectively) and so that the relevant cash deposit shall be paid into such SEM Collateral Reserve Account. Each SEM Collateral Reserve Account shall be an interest bearing account. If a Participant elects to provide a cash deposit as part of its Required Credit Cover, then the Participant shall fully comply with any applicable Account Security Requirements (including, for the avoidance of doubt, the Deed of Charge and Account Security) in relation to the provision of cash collateral as set out in paragraphs G.1.5.1 and G.1.5.3 of this Code and in accordance with Agreed Procedure 1 " Registration", Agreed Procedure 9 "Management of Credit Cover and Credit Default" and Agreed Procedure 17 "Banking and Participant Payments".

G.1.5.2 The SEM Collateral Reserve Account in relation to each relevant Participant shall contain the cash element of that Participant's Posted Credit Cover on the following terms:

(a) the SEM Collateral Reserve Account shall be in the sole name of the Market Operator with the designation "SEM Collateral Reserve Account relating to [Insert Participant Details]";

(b) the Participant and the Market Operator shall have irrevocably instructed the SEM Bank to make payment against the sole instruction of the Market Operator in accordance with the Code and the Bank Mandate. The Code shall take precedence over the Bank Mandate; and

(c) to give effect to the provisions of the Code in relation to SEM Collateral Reserve Accounts, with effect from the time of payment into the relevant SEM Collateral Reserve Account, the relevant Participant hereby charges all sums paid into and accruing on that account by way of first fixed charge over cash at the SEM Bank in favour of the Market Operator as agent for the SEM Creditors and as trustee for it to secure the relevant Participant's payment obligations under the Code, subject always to the provisions of paragraphs G.1.6.3 to G.1.6.7 and subject to the provisions of the Deed of Charge and Account Security. For the avoidance of doubt, in the event of a discrepancy between this paragraph G.1.5.2(c) and the Deed of Charge and Account Security, the Deed of Charge and Account Security prevails.

G.1.5.3 If, at any time, a Participant (or Applicant, as applicable) wishes the Market Operator to establish a SEM Collateral Reserve Account on its behalf for the purposes of paragraphs G.1.5.1 and G.1.5.2, the Participant (or Applicant, as applicable) shall:

(a) on the same date on which its Required Credit Cover is posted and the cash collateral is paid into the relevant SEM Collateral Reserve Account(s), complete and enter into the Deed of Charge and Account Security (including the Notice of Assignment and Acknowledgment) in respect of such SEM Collateral Reserve Account and SEM Collateral Reserve Assets;

(b) within 5 Working Days from the date on which its Required Credit Cover is posted, furnish to the Market Operator the original executed Deed of Charge

and Account Security for the purposes of the registration of the Deed of Charge and Account Security pursuant to section 860 of the Companies Act 2006 (UK) and/or section 409 of the Companies Act 2014 (Ireland), as appropriate, and/or at such other registry or registries as may be appropriate;

(c)   within 5 Working Days from the date on which its Required Credit Cover is posted, furnish to the Market Operator the original executed Notice of Assignment and Acknowledgment for the purposes of enabling the Market Operator to give notice to the SEM Bank and procure the SEM Bank's acknowledgment pursuant to clause 2.4 of the Deed of Charge and Account Security; and

(d)   do all such things and execute all such documents and provide any further information that the Market Operator may reasonably require in order to carry out such registrations within such timelines as may be specified by the Market Operator, having regard to any applicable time limit for the registration of such a charge.

G.1.5.4   The SEM Accounts and the SEM Deposit Accounts shall be established and maintained in the name of the Market Operator. The cash in, and rights relating to, each SEM Account, each SEM Deposit Account and each SEM Collateral Reserve Account opened and any balance in any of the accounts shall be held on trust by the Market Operator, without obligation on the Market Operator to invest such balance, in accordance with the provisions of this Chapter G. Subject to the provisions of this Chapter G, the Market Operator shall not commingle any funds standing to the credit of the SEM Accounts or the SEM Deposit Accounts or any SEM Collateral Reserve Account with its own personal or any other funds. This is without prejudice to the Market Operator's rights to transfer funds between the euro and pounds sterling SEM Deposit Accounts for the purposes of Settlement and Settlement Reruns.

G.1.5.5   Notwithstanding paragraph G.1.5.4, the Market Operator shall hold the trusts as provided for in this Chapter G subject to its entitlement to make payments into and out of the SEM Accounts and the SEM Deposit Accounts for the purpose of settling any Balancing Costs.

G.1.5.6   Except as expressly provided for in this Code, no Party or Participant shall enter into any arrangements which assign or charge or purport to assign or charge any interest any Party or Participant may have in any SEM Account, SEM Deposit Account or SEM Collateral Reserve Account.

G.1.5.7   The Market Operator shall procure that an Electronic Funds Transfer facility with the SEM Bank is provided which may be utilised by the Market Operator and Participants. Payments under this Code shall only be made by the Market Operator and Participants through the EFT facility.

G.1.5.8   The EFT facility procured by the Market Operator with the SEM Bank shall be consistent with prevailing and generally accepted standard banking practice and the methods and procedures described in Agreed Procedure 17 "Banking and Participant Payments".

G.1.5.9   In procuring the establishment of the EFT facility, the Market Operator shall use its reasonable endeavours to procure that the SEM Bank ensures that the use of the EFT facility does not impose unreasonable restrictions on the Participants' normal banking arrangements.

G.1.5.10 Each Party (or Applicant, as applicable) shall give to the Market Operator in accordance with the registration requirements set out in section B.7.1 details of the bank account or bank accounts to which the Market Operator is instructed to make payments pursuant to the Code to the Party's Participant(s), and shall provide to the Market Operator such further information in relation to such bank account or bank accounts as the Market Operator may reasonably request from time to time. Each Party shall establish and maintain such a bank account at a bank in each Currency Zone in which its Participant has a registered Unit as applicable. Where a Party or Participant changes the bank account or bank accounts to which payments are made pursuant to the Code, it shall promptly inform the Market Operator and provide details of the new bank account or bank accounts. The Market Operator shall not be responsible and shall have no liability for any loss to any Party or Participant where the Market Operator has not been informed by the relevant Party or Participant of any change in that Party's or Participant's bank account details.

G.1.5.11 The Market Operator shall maintain detailed ledger accounts of all funds held in the SEM Accounts, the SEM Deposit Accounts, SEM Collateral Reserve Accounts and all other bank accounts held by it at the SEM Bank showing all monies paid in and paid out in respect of each Participant and, where requested by a Participant or its Party, the Market Operator shall provide full details of all such payments and funds in relation to such Participant only and shall keep all such information in respect of each Participant confidential. Notwithstanding the foregoing, the Market Operator shall be entitled to disclose any information or data in relation to any SEM Account, SEM Deposit Account or SEM Collateral Reserve Account held at the SEM Bank to the Market Auditor or a Revenue Authority where required or where otherwise required by Applicable Law.

G.1.6 **Establishment of Trusts**

G.1.6.1 The Market Operator shall hold all funds in the SEM Accounts and the SEM Deposit Accounts and such rights (including, without limitation, all rights of action) as shall from time to time be vested in it with regard to payments due and owing by Participants or with regard to the provision of Credit Cover by each Participant including:

(a) all monies from time to time standing to the credit of each SEM Account and each SEM Deposit Account;

(b) all rights of the Market Operator to call for and enforce payment of amounts owing under the Code (including, for the avoidance of doubt, any Shortfall or Unsecured Bad Debt) or to make a Credit Call;

(c) the Letters of Credit and all rights to, and monies representing, any proceeds therefrom up to the amount of any applicable Shortfall; and

(d) any interest receivable in respect of any amounts due pursuant to the Code relating to any Imbalance Settlement Period,

on trust for SEM Creditors in accordance with their individual respective proportionate entitlements as they arise in accordance with the Code. Upon termination of the said trusts, any residual balance after satisfaction of the entitlement of all SEM Creditors shall be held for all Participants in accordance with their individual respective proportionate entitlements as they arise in accordance with the Code.

G.1.6.2   The respective rights of the SEM Creditors to the assets held by the Market Operator on trust in the SEM Accounts and the SEM Deposit Accounts as provided for in paragraph G.1.6.1 shall be determined in accordance with the Code and in accordance with the following principles:

(a)   the extent of each SEM Creditor's individual rights shall be deemed to consist of the aggregate of the claims (to the extent not paid or otherwise settled) of such SEM Creditor in respect of each applicable Imbalance Settlement Period; and

(b)   the assets referred to in paragraph G.1.6.1 above shall be deemed to consist of a series of funds, each fund representing the rights or monies owed, paid, held or otherwise attributable to each applicable Imbalance Settlement Period in relation to Trading Payments and Capacity Payments.

The Market Operator shall not be obliged to segregate moneys into separate funds.

G.1.6.3   The Market Operator shall hold the SEM Collateral Reserve Assets in respect of each Participant that establishes and maintains a SEM Collateral Reserve Account in accordance with the Code on trust as follows:

(a)   at any time when no amounts owed by any such Participant are overdue, on trust to repay if requested (subject always to and in accordance with paragraphs G.1.6.4 to G.1.6.6, G.2.5.4 and G.2.6 to G.2.8.6 as appropriate) to that Participant the monies, together with any interest accrued on such monies, held in the relevant SEM Collateral Reserve Account as part of that Participant's Posted Credit Cover; and

(b)   with automatic effect as soon as any amount owed by a Participant becomes overdue and becomes a Shortfall (excluding any Market Operator Charge), such amount of the monies deposited in the relevant SEM Collateral Reserve Account by such Participant as is equal to the amount of the Shortfall and any applicable Interest (or Default Interest as applicable), in respect of the relevant Participant on trust for the SEM Creditors on the same basis as set out in paragraph G.1.6.1 above and the balance (if any) shall be held in trust in respect of the Participant as provided for in paragraph G.1.6.3(a) (subject to paragraph G.1.6.3(b), where applicable).

G.1.6.4   Each Participant which has funds remitted by it for the credit of a relevant SEM Collateral Reserve Account agrees that none of the remittances shall be repayable (or capable of being repaid) to it or its Party, except where provided otherwise in accordance with the provisions of the Code, until Deregistration of the Participant's Unit(s) becomes effective in accordance with the Code and, in particular, subject to section B.18.9, and the Participant has paid in full all amounts actually or contingently owed by it to any SEM Creditor or the Market Operator pursuant to the Code.

G.1.6.5   Each Participant with a SEM Collateral Reserve Account undertakes not to seek withdrawal of any funds to which it may otherwise be entitled in the relevant SEM Collateral Reserve Account except in the circumstances permitted by paragraph G.1.6.6. The Market Operator shall reject any purported notice of withdrawal not complying with this paragraph G.1.6.5, the Code or the Bank Mandate. The Code shall take precedence over the Bank Mandate.

G.1.6.6   Notwithstanding paragraphs G.1.6.4 and G.1.6.5, if a Participant is not in default in respect of any amount owed under this Code, then:

(a) the Market Operator shall transfer quarterly to that Participant the interest credited to the relevant SEM Collateral Reserve Account unless that Participant requests otherwise;

(b) the Market Operator shall transfer to that Participant within 2 Working Days after a written request from that Participant (exclusive of the day of request) any amount of the balance which exceeds the amount which such Participant has agreed to maintain in the relevant SEM Collateral Reserve Account from time to time in accordance with this Chapter G, the Code and the Bank Mandate, provided that that Participant at all times maintains its Required Credit Cover. The Code shall take precedence over the Bank Mandate;

(c) that Participant shall be entitled to change the composition of its Posted Credit Cover in satisfying the Required Credit Cover provided any reduction in any amount standing to the credit of the relevant SEM Collateral Reserve Account does not result in its Posted Credit Cover being less than its Required Credit Cover;

(d) with the authorisation of that Participant, the Market Operator shall transfer from the relevant SEM Collateral Reserve Account an amount specified by that Participant, in order to make any payment for that Participant due under this Code, on the Payment Due Date in accordance with Agreed Procedure 9 "Management of Credit Cover and Credit Default" and providing that there are sufficient funds in the relevant SEM Collateral Reserve Account.

G.1.6.7 Except as expressly provided for in the Code, each Party (other than the Market Operator) and Participant waives any right it might otherwise have to set off against any obligation owed to the Market Operator, the SEM Bank or any other Party or Participant any claims such Party or Participant may have to or in respect of any monies standing to the credit of the relevant SEM Account, SEM Deposit Account or SEM Collateral Reserve Account as applicable.

G.1.6.8 The provisions of section 10(2)(c) of the Trustee Act, 1893 shall not apply to any change in the identity of the Market Operator.

G.1.6.9 No Party or Participant shall have any claim against the Market Operator for breach of trust or fiduciary duty by the Market Operator under the Code except in the case of reckless or wilful misconduct.

G.1.6.10 Notwithstanding that funds held in SEM Accounts or SEM Deposit Accounts are used for the making of payments to and from such accounts of both:

(a) Capacity Payments and Capacity Charges; and

(b) Trading Payments and Trading Charges,

each Party (other than the Market Operator) and Participant acknowledges and agrees that the amount of such funds from time to time which are held to make payment to and from any such accounts of Capacity Payments and Capacity Charges shall be deemed to be segregated and held separately from any of such funds from time to time which are held to make payment to and from any such accounts of Trading Payments and Trading Charges.

G.2 DESCRIPTION OF TIMELINES

G.2.1 Settlement Day

G.2.1.1 Settlement of Trading Payments and Trading Charges is based on a Settlement Day.

G.2.1.2 The terminology "Settlement Day + xWD" or "SD+xWD" means during the Working Day which ends x Working Days after the end of the Settlement Day.

G.2.2 Billing Period

G.2.2.1 All Trading Payments and Trading Charges shall be aggregated on a Billing Period basis.

G.2.2.2 The terminology "BP+xWD" means during the Working Day which ends x Working Days after the end of the Billing Period.

G.2.2.3 The terminology "BP+xM" means during the last Month which ends x Months after the end of the Billing Period.

G.2.3 Capacity Period

G.2.3.1 All Capacity Payments and Capacity Charges shall be aggregated on a Capacity Period basis.

G.2.3.2 The terminology "CP+xWD" means during the Working Day which ends x Working Days after the end of the Capacity Period.

G.2.3.3 The terminology "CP+xM" means during the last Month which ends x Months after the end of the Capacity Period.

G.2.4 Settlement Calendar

G.2.4.1 The Market Operator shall publish, four months prior to the start of each Year, a Settlement Calendar for all days in the coming Year which shall include the following information:

(a) details of Non-Working Days;

(b) details of any week day that is not a Week Day;

(c) details of:

(i) when Settlement Statements are due;

(ii) each Settlement Document issue date;

(iii) the Payment Due Dates;

(iv) the Timetabled Settlement Reruns in accordance with section G.2.9; and

(v) the deadlines by which the Meter Data Providers must provide Meter Data to facilitate the Timetabled Settlement Runs following the timing principles set out in Agreed Procedure 16 "Provision of Meter Data"; and

(vi) details of when items of input data for Settlement under section F.2 are to be submitted.

G.2.4.2　The Market Operator shall review the Settlement Calendar from time to time. If the Market Operator amends the Settlement Calendar, then it shall publish a revised Settlement Calendar within one Working Day.

G.2.5　**Settlement Documents**

G.2.5.1　The Market Operator shall produce and issue documents for Trading Payments and Trading Charges in accordance with Appendix G "Settlement Statements, Settlement Reports and Settlement Documents" and the following:

(a)　indicative Settlement Statements for Trading Payments and Trading Charges shall, in respect of each Settlement Day in a Billing Period, be produced and issued to all Participants in respect of their Units by 17:00 on Settlement Day + 1WD;

(b)　initial Settlement Statements for Trading Payments and Trading Charges shall be produced and issued to all Participants in respect of their Units by 12:00 on Settlement Day + 5WD; and

(c)　Settlement Documents for Trading Payments and Trading Charges shall, in respect of each Billing Period, be produced and issued to all Participants in respect of their Units by 12:00 on BP+5 WD.

G.2.5.2　The Market Operator shall produce and issue documents for Capacity Payments and Capacity Charges in accordance with Appendix G "Settlement Statements, Settlement Reports and Settlement Documents" and the following:

(a)　indicative Settlement Statements for Capacity Payments and Capacity Charges shall, in respect of each Capacity Period, be produced and issued to all Participants in respect of their Units by 17:00 on Capacity Period + 3 WD;

(b)　initial Settlement Statements for Capacity Payments and Capacity Charges shall, in respect of each Capacity Period, be produced and issued to all Participants in respect of their Units by 12:00 on Capacity Period + 5WD.

G.2.5.3　The Market Operator shall include Capacity Payments and Capacity Charges for a Participant in respect of a Capacity Period in the next Settlement Document it produces under paragraph G.2.5.1(c) for that Participant after the initial Settlement Statements are produced under paragraph G.2.5.2(b) in respect of that Capacity Period.

G.2.5.4　Payment shall be in accordance with the following:

(a)　each Settlement Statement, Settlement Report and Settlement Document shall be based on the data then available to the Market Operator at the time of its production;

(b)　each Settlement Document shall include the amount of all applicable Trading Payments and Trading Charges and, where required under paragraph G.2.5.3, Capacity Payments and Capacity Charges;

(c)　any Participant in receipt of a Settlement Document shall pay the net amounts due in full without deduction, set-off or counterclaim (except as otherwise expressly provided for in the Code):

(i)　by paying the amount due into the relevant SEM Account by the Payment Due Date;

(ii)   by the Market Operator transferring an amount out of the Participant's SEM Collateral Reserve Account in accordance with paragraph G.1.6.6(d); or

(iii)   by a combination of the foregoing.

(and the Payment Due Date for the purpose of this sub-paragraph (c) is 12:00, 3 Working Days after the date of the relevant Settlement Document); and

(d)   the Market Operator shall, subject to the provisions of the Code, pay the amount set out in each Settlement Document (less the amount set out in any applicable Debit Note to any Participant who is a SEM Creditor) from the SEM Account to the SEM Creditor's designated bank account or bank accounts for full value by the Payment Due Date (and the Payment Due Date for the purpose of this sub-paragraph (d) is 17:00, 4 Working Days after the date of the relevant Settlement Document).

G.2.5.5   The Market Operator shall ensure that the date of issue appearing on a Settlement Document corresponds with the day on which it is issued.

G.2.6   Calls on Credit Cover

G.2.6.1   If any Participant fails to pay an amount due in accordance with a Settlement Document in full in accordance with paragraph G.2.5.4(c), then the Participant has a Shortfall and the Market Operator shall forthwith make a Credit Call on the Participant's Posted Credit Cover for payment of the Shortfall, subject to the De Minimis Level for Letter of Credit Draw Down provisions in paragraph 3.3 of Agreed Procedure 15 "Settlement and Billing".

G.2.6.2   Where the Market Operator makes a Credit Call on a Participant's Posted Credit Cover in accordance with the Code, the Market Operator:

(a)   shall be entitled to draw down on the Participant's Letter of Credit or the SEM Collateral Reserve Account (where applicable) in whatever order, proportion or combination it decides, subject to the De Minimis Level for Letter of Credit Draw Down provisions in paragraph 3.3 of Agreed Procedure 15 "Settlement and Billing";

(b)   shall, as soon as reasonably practicable and notwithstanding any other provisions of the Code relating to Notices, notify the Participant in writing, using a rapid means of communication such as email or facsimile, that it has made the Credit Call on the Participant's Credit Cover Provider or Credit Cover Providers as applicable; and

(c)   shall as soon as reasonably practicable after making such a Credit Call and issuing the notice under sub-paragraph (b), notify the Participant of the amount of Shortfall, the Settlement Document to which the relevant Shortfall relates, the sums called from the Participant's SEM Collateral Reserve Account (if any) and Letters of Credit (if any) and, if appropriate, the Imbalance Settlement Period(s) concerned.

G.2.6.3   Default Interest shall accrue from the Payment Due Date on the amount of any Shortfall and Unsecured Bad Debt in accordance with the Code.

G.2.6.4   If the Market Operator fails to pay pursuant to the Code (except as otherwise provided for in the Code) the full amount owing pursuant to a Settlement Document by the

Payment Due Date, then Default Interest shall accrue from the Payment Due Date on the amount outstanding in accordance with the Code.

G.2.6.5   Following a Credit Call by the Market Operator, if the Participant meets any Shortfall either through its own funds by making a payment to the relevant SEM Account through the EFT facility with the SEM Bank, its Posted Credit Cover, or a combination of the foregoing by 12:00 on the next Working Day after the Payment Due Date, then Settlement shall continue to proceed without any adjustments in accordance with the Code.

G.2.7   **Shortfalls and Unsecured Bad Debt**

G.2.7.1   If the Shortfall is not paid in full by 12:00 on the next Working Day after the Payment Due Date, then, subject to the De Minimis Level for Letter of Credit Draw Down provisions in paragraph 3.3 of Agreed Procedure 15 "Settlement and Billing":

(a)   the amount of the Shortfall that remains unpaid shall become an Unsecured Bad Debt for the purposes of this Code;

(b)   the Market Operator shall, where practicable, withhold, deduct or set off payment of any amount due pursuant to the Code to the Defaulting Participant until the amount of the Unsecured Bad Debt and any applicable Default Interest has been recovered in full; and

(c)   paragraphs G.2.7.2 to G.2.7.10 shall apply as appropriate.

G.2.7.2   The amount of the Shortfall or the Unsecured Bad Debt as applicable shall be a debt owing by the Defaulting Participant to the Market Operator as trustee and agent for all Participants beneficially interested therein as provided for in the Code, pro-rated according to their individual respective proportionate entitlements in the Shortfall or the Unsecured Bad Debt concerned and on the trusts provided for in paragraph G.1.6.1. The Market Operator shall be entitled, as trustee and agent for all Participants beneficially interested therein as aforesaid, to exercise any security then held by the Market Operator in respect of the Defaulting Participant in order to recover the amount of the Shortfall or the Unsecured Bad Debt (as applicable).

G.2.7.3   Where a Participant has an Unsecured Bad Debt then, without prejudice to the Market Operator's rights or obligations under the Code and notwithstanding any other provisions of the Code, the Market Operator shall procure that each Settlement Document relating to the period affected by such Unsecured Bad Debt shall be adjusted by a reduction in the amount payable to each affected SEM Creditor determined in accordance with paragraphs G.2.7.4 to G.2.7.6 (excepting any Defaulting Participant(s), which would otherwise be a SEM Creditor, and subject to paragraph G.2.7.1(b) until the Unsecured Bad Debt and any applicable Default Interest has been recovered in full and any Settlement Documents issued to it shall, until such event, be subject to the calculation of an adjustment by such amount or amounts up to the amount of the Unsecured Bad Debt and any applicable Default Interest, and relevant Debit Notes shall be issued to it) for payment of the relevant Unsecured Bad Debt, in accordance with the Code. The Market Operator shall issue the appropriate adjustments to the Settlement Documents in the form of a Debit Note to each of the affected SEM Creditors ("**Reduced Participants**") and the Defaulting Participant within the timeframe of making the payment due to the Reduced Participant. The Market Operator shall make payments to each Reduced Participant

for the amount indicated in the applicable Settlement Document less the amount in the applicable Debit Note in accordance with paragraph G.2.5.4.

G.2.7.4 The Market Operator shall determine the amount of the Unsecured Bad Debt which is:

(a) attributable to Trading Payments and Trading Charges as the Unsecured Bad Energy Debt; and

(b) attributable to Capacity Payments and Capacity Charges as the Unsecured Bad Capacity Debt,

by pro-rating the amount of the relevant Unsecured Bad Debt according to the ratio that Trading Payments and Trading Charges and Capacity Payments and Capacity Charges (as applicable) bear to the Aggregate Settlement Document amount in the relevant Settlement Document.

G.2.7.5 The Market Operator shall procure that any reduction in the amount payable with respect of the Unsecured Bad Energy Debt Reduction (CCBDUE$_{pb}$) to Participant p for Billing Period b for its registered Generator Units shall be calculated as follows:

$$CCBDUE_{pb} = CBDUE_{pb} \times \frac{\sum_{\gamma\ in\ b}(\sum_{u\ in\ p} Max(QM_{u\gamma}, 0))}{\sum_{p}(\sum_{\gamma\ in\ b}(\sum_{u\ in\ p} Max(QM_{u\gamma}, 0)))}$$

where:

(a) CBDUE$_{pb}$ is the Unsecured Bad Energy Debt for Defaulting Participant p in Billing Period b determined in accordance with G.2.7.4(a);

(b) QM$_{u\gamma}$ is the Metered Quantity for each Generator Unit u in Imbalance Settlement Period, γ;

(c) $\sum_{u\ in\ p}$ is the summation across all Generator Units u registered in respect of Participant p other than those whose Default has given rise to the relevant Unsecured Bad Debt;

(d) $\sum_{\gamma\ in\ b}$ is the summation across all Imbalance Settlement Periods γ in Billing Period b; and

(e) $\sum_{p}$ is the summation across all Participants p other than those whose Default has given rise to the relevant Unsecured Bad Debt.

G.2.7.6 The Unsecured Bad Capacity Debt Reduction (CCBDUC$_{pc}$) to Participant p in Capacity Period c for that Participant's Capacity Market Units shall be calculated by the Market Operator as follows:

$$CCBDUC_{pc} = CBDUC_{pc} \times \frac{\sum_{\gamma\ in\ c}(\sum_{\Omega\ in\ p} QCNET_{\Omega\gamma})}{\sum_{p}(\sum_{\gamma\ in\ c}(\sum_{\Omega\ in\ p} QCNET_{\Omega\gamma}))}$$

where:

(a) $CBDUC_{pc}$ is the Unsecured Bad Capacity Debt for Defaulting Participant p in Capacity Period c determined in accordance with G.2.7.4(b);

(b) $QCNET_{\Omega\gamma}$ is the Net Capacity Quantity for each Capacity Market Unit Ω in Imbalance Settlement Period γ;

(c) $\sum_{\Omega\ in\ p}$ is the summation across all Capacity Market Units Ω registered in respect of Participant p other than those whose Default has given rise to the relevant Unsecured Bad Debt;

(d) $\sum_{\gamma\ in\ c}$ is the summation across all Imbalance Settlement Periods γ in Capacity Period c; and

(e) $\sum_{p}$ is the summation across all Participants p other than those whose Default has given rise to the relevant Unsecured Bad Debt.

G.2.7.7   In the event that, for any Reduced Participant (an "**Excess Participant**"), the amount of the Debit Note would exceed the amount payable to the Reduced Participant in the applicable Settlement Document (a "**Debit Note Excess**"), the Market Operator will make no payment to the Excess Participant in respect of that Settlement Document. In addition, the Excess Participant shall, within 2 Working Days of the receipt of the relevant Debit Note, make a payment to the relevant SEM Account for the amount of the Debit Note Excess. The Market Operator shall calculate further reductions in the payments to each SEM Creditor (other than the Excess Participant) by the amount of the Debit Note Excess applied pro-rata to their respective proportionate entitlements. The Market Operator shall issue a Debit Note to each SEM Creditor showing the original reduction resulting from the Unsecured Bad Debt and, in respect of each SEM Creditor other than the Excess Participant, the relevant proportion of the Debit Note Excess. In the event that upon receipt of an Excess Debit Note, a further Participant or Participants become Excess Participants, then the Market Operator shall repeat the process of calculation of reduction, and the resultant Debit Notes shall show the resultant reductions for each relevant SEM Creditor, until the amount due in respect of each Settlement Document net of a Debit Note or Excess Debit Note is positive or zero. Any Debit Note Excess which remains unpaid by 12:00 on the WD+2 following the date of issue of the Settlement Document shall be treated as a Shortfall in accordance with paragraph G.2.7.1.

G.2.7.8   All Parties agree that the Market Operator as trustee and agent shall be entitled and irrevocably authorise the Market Operator, subject to paragraph G.2.7.9 to take all necessary action against a Participant (or its Party where legally necessary) with an Unsecured Bad Debt to recover any Unsecured Bad Debt on behalf of SEM Creditors who have incurred a loss relating to such Unsecured Bad Debt and to deal with any recovered monies relating to such Unsecured Bad Debt in accordance with the Code. Any such action of the Market Operator to recover the Unsecured Bad Debt shall not be subject to the Dispute Resolution Process.

G.2.7.9   The Market Operator shall consult the Modifications Committee in relation to any plans for the pursuit of any Unsecured Bad Debt. The Market Operator shall take into account the views of the Modifications Committee as to the most appropriate action to take against a Party in respect of the Unsecured Bad Debt of any of its Participants.

G.2.7.10   Where the Market Operator partially or fully recovers any Unsecured Bad Debt, the Market Operator shall procure the payment of any such monies into the relevant SEM Account. Then the Market Operator shall issue an appropriate Settlement Document to each Reduced Participant for an amount pro-rated to the individual respective

proportionate entitlement of each Reduced Participant in the amount of the relevant Unsecured Bad Debt recovered with the issue of the Settlement Documents for the then next immediate Billing Period or Capacity Period (excepting, where the Unsecured Bad Debt and any applicable Default Interest has not been fully recovered, the Defaulting Participant, which would otherwise be a SEM Creditor, subject to paragraph G.2.7.1(a) until the Unsecured Bad Debt and any applicable Default Interest has been recovered in full). The Market Operator shall pay each such Settlement Document in accordance with the Code.

G.2.8 **Under and Over Payments**

G.2.8.1 If any payments made by the Market Operator pursuant to any Settlement Document and any Debit Note or otherwise pursuant to the Code to any Participant do not correspond exactly with their respective payment entitlements established in accordance with the Code, then:

(a) in the case of overpayment by the Market Operator, the Participant receiving any such overpayment shall pay back the difference between the amount of the payment received and the actual amount, due to the Market Operator on becoming aware of the overpayment or, in any event, in accordance with the Code on the issue of a notice by the Market Operator to the Participant concerned in respect of the relevant amount. Any Participant receiving any overpayment shall be obliged to notify the Market Operator of this on becoming aware of such overpayment detailing, where possible, the amount and date of the overpayment and details of any Settlement Document and any Debit Note pursuant to which it was made. As soon as the Market Operator becomes aware of the overpayment, the Market Operator shall issue an overpayment notice for the relevant amount and the Participant shall pay the amount set out in the overpayment notice as if it were a Settlement Document issued in accordance with the Code;

(b) in the case of underpayment to any Participant by the Market Operator not otherwise permitted pursuant to any other provision of the Code, the Market Operator shall pay the difference between the amount of the payment received and the actual amount due, with Default Interest on that difference, when put in funds to do so, to the Participant concerned on becoming aware of the underpayment or on being notified of the underpayment by the Participant concerned. The Market Operator shall also issue an underpayment notice to the Participant concerned setting out the relevant amount with Default Interest from the date of the underpayment until the date of payment of the sum set out in the underpayment notice as if such notice were a Settlement Document issued in accordance with the Code. Any Participant receiving any underpayment shall notify the Market Operator of this on becoming aware of such, detailing, where possible, the amount and date of the underpayment and details of any Settlement Document or Debit Note pursuant to which it was made.

G.2.8.2 If any payments made by any Participant pursuant to any Settlement Document or otherwise pursuant to the Code do not correspond exactly with their respective payment obligations established in accordance with the Code, then:

(a) in the case of overpayment by the relevant Participant, the Market Operator, unless otherwise restricted from doing so pursuant to the Code, shall pay back

the difference between the amount of the payment remitted and the actual amount due with Interest on that difference to the relevant Participant on becoming aware of the overpayment or on being notified of the overpayment by the Participant concerned (except where the Participant is a Defaulting Participant and the Market Operator invokes paragraph G.2.7.1(b)) and the Market Operator has validated the overpayment. The Market Operator shall then issue an overpayment notice to the Participant concerned setting out the relevant amount with Interest from the date of the overpayment until the date of payment of the relevant Settlement Document and pay to the Participant the sum set out in the overpayment notice as if such notice were a Settlement Document issued in accordance with the Code. Any Participant making any overpayment shall notify the Market Operator of this on becoming aware of such overpayment detailing, where possible, the amount and date of the overpayment and details of any Settlement Document pursuant to which it was made. The Market Operator shall notify any Participant making an overpayment on becoming aware of such, detailing, where possible, the amount and date of the overpayment and details of any Settlement Document pursuant to which it was made and issue an overpayment notice for the relevant amount with Interest and shall pay the sum set out in the overpayment notice as if such notice were a Settlement Document issued in accordance with the Code; and

(b)   in the case of underpayment by any Participant to the Market Operator, sections G.2.6 and G.2.7 shall apply,

provided that sub-paragraph (a) does not apply to amounts paid into a SEM Collateral Reserve Account by a Participant.

G.2.8.3   Any Participant making any underpayment or anticipating that it will be making an underpayment in respect of any Settlement Document shall notify the Market Operator of this on becoming aware that full payment of any Settlement Document will not be made by the applicable Payment Due Date detailing the amount and date of the underpayment and details of any Settlement Document to which it relates.

G.2.8.4   Subject to paragraphs G.1.6.4, G.2.7.1, G.2.7.3, G.2.7.10, G.2.8.1 and G.2.8.2, all payments under this Chapter G shall be made on the basis that a Participant shall only be entitled to claim reimbursement of an overpayment made by it pursuant to the Code if, and then only to the extent that, the aggregate amounts paid by the Participant in respect of the relevant Payment Due Date exceed the total amounts payable by that Participant to SEM Creditors in respect of that Payment Due Date together with all amounts (if any) overdue from that Participant in respect of Settlement Documents prior to the relevant Payment Due Date.

G.2.8.5   Notwithstanding paragraph G.1.6, if:

(a)   a payment is received by the Market Operator under a Letter of Credit after a sum has been withdrawn from a SEM Collateral Reserve Account (where applicable) to pay for (in whole or in part) a Shortfall or Unsecured Bad Debt; and

(b)   the aggregate of the amounts paid out of that SEM Collateral Reserve Account and paid under the Letter of Credit in respect of a relevant Participant exceeds the Shortfall or Unsecured Bad Debt,

then any excess paid over the Shortfall or Unsecured Bad Debt shall be remitted with any applicable Interest by the Market Operator to the relevant Participant's bank account or bank accounts.

G.2.8.6   Where payments are fully or partially outstanding, any payments made shall be, and shall be deemed to be, settled according to the following priority:

(a)   first, in or towards settlement of amounts outstanding under the Code in respect of Timetabled Settlement Reruns (with the longest outstanding period to which a Timetabled Settlement Rerun relates being settled first); and

(b)   secondly, in or towards settlement of amounts outstanding under the Code for Settlement with the longest outstanding Settlement Document being settled first.

G.2.9   **Settlement Reruns**

G.2.9.1   The objective of all Settlement Reruns is to adjust the financial positions of Participants to reflect any differences between data used for Settlement and any updated data received.

G.2.9.2   There will be two Timetabled Settlement Reruns for Trading Payments and Trading Charges for each Billing Period. The first Timetabled Settlement Rerun shall take place in the fourth month after the Billing Period and the second Timetabled Settlement Rerun shall take place in the 13th month after the Billing Period. The Market Operator shall publish the precise date of these in advance in the Settlement Calendar.

G.2.9.3   There will be two Timetabled Settlement Reruns for Capacity Payments and Capacity Charges for each Capacity Period. The first Timetabled Settlement Rerun shall take place in the fourth month after the Capacity Period and the second Timetabled Settlement Rerun shall take place in the 13th month after the Capacity Period. The Market Operator shall publish the precise date of these in advance in the Settlement Calendar.

G.2.9.4   The Market Operator shall produce and issue Settlement Rerun Statements to Participants in respect of their registered Units in the event of any Settlement Rerun arising from a Settlement Query or Dispute.

G.2.9.5   Each Settlement Rerun Statement will be in the same format as the Settlement Statement. The Settlement Rerun Statement must show the data from the previous Settlement Statement where unchanged and the appropriate updated data otherwise.

G.2.9.6   The Market Operator shall be entitled to undertake Settlement Reruns as provided for in the Code in addition to the Timetabled Settlement Reruns.

G.2.9.7   When a Settlement Rerun results in any change to any amount payable under the Code, the Market Operator shall issue adjusted Settlement Documents and payment shall be made in accordance with paragraph G.2.5.4

G.3   QUERIES IN RESPECT OF SETTLEMENT DATA

G.3.1   **Queries to the Market Operator**

G.3.1.1   The Market Operator shall operate a Helpdesk where Participants, External Data Providers or other parties can seek assistance and submit requests on any issues arising under this Code.

G.3.1.2   A Settlement Query is a query with respect to the correctness of the calculation or application of amounts used on any Settlement Statement or Settlement Document (subject to paragraphs G.3.2.5, G.3.2.6 and G.3.2.7) raised in accordance with Agreed Procedure 13 "Settlement Queries".

G.3.1.3   All other queries to the Market Operator that are not Settlement Queries or the subject of a Notice of Dispute shall be dealt with as "General Queries" under Agreed Procedure 11 "Market System Operation, Testing, Upgrading and Support".

G.3.2   **Settlement Queries**

G.3.2.1   Subject to paragraphs G.3.2.5, G.3.2.6 and G.3.2.7, a Participant or an External Data Provider may raise a Settlement Query in respect of any element of data included in a Settlement Statement by giving notice to the Market Operator in accordance with Agreed Procedure 13 "Settlement Queries".

G.3.2.2   The Market Operator may also raise a Settlement Query, subject to paragraphs G.3.2.5, G.3.2.6 and G.3.2.7. The Market Operator shall notify the Affected Participant(s) within a reasonable period prior to the resolution of the Settlement Query.

G.3.2.3   A Settlement Query must be raised after publication of the relevant Settlement Statement and before 17:00 on the 20th Working Day after issuing the last set of scheduled Settlement Statements and in accordance with the Settlement Calendar. For the avoidance of doubt, the last scheduled set of Settlement Statements include any additional Settlement Rerun scheduled by the Market Operator after the final Timetabled Settlement Rerun.

G.3.2.4   All Parties shall use reasonable endeavours to submit and resolve Settlement Queries as soon as possible.

G.3.2.5   Subject to paragraphs G.3.2.6 and G.3.2.7, a Participant, an External Data Provider or the Market Operator may raise a Settlement Query in respect of the application or the calculation of any one or more of the following:

(a)   Physical Notifications;

(b)   Accepted Bid Offer Quantities (including any components of same) and Bid Offer Prices;

(c)   Day-ahead Trade Quantities, Intraday Trade Quantities and associated durations;

(d)   Metered Generation or Metered Demand;

(e)   Dispatch Quantities;

(f)   the application (but not the calculation) of Imbalance Prices, Imbalance Settlement Prices and Market Back Up Prices;

(g)   Curtailment Prices calculated under section E.6;

(h)   Availabilities;

(i)   Fixed Cost Payments or Charges; and

(j)   Capacity Payments or Capacity Charges.

G.3.2.6   Notwithstanding paragraph G.3.2.5, the calculation of Imbalance Prices, Imbalance Settlement Prices and Market Back Up Prices shall not be subject to query or

challenge by any Participant by means of a Settlement Query and these prices may not be revised or re-calculated by the Market Operator as part of the resolution of a Settlement Query. However, to the extent that as a result of the resolution of a Settlement Query it is found that an Imbalance Price, Imbalance Settlement Price or Market Back Up Price is found to have been applied incorrectly by the Market Operator during the Settlement calculations, the Market Operator will carry out a Settlement Rerun in accordance with paragraphs G.3.2.8 to G.3.2.16.

G.3.2.7 Notwithstanding paragraph G.3.2.5, the following shall not be subject to query or challenge by any Participant by means of a Settlement Query:

(a) incorrect or incomplete submission of data by Participants at or prior to a Gate Closure; or

(b) any decision by a System Operator relating to the dispatch of plant.

G.3.2.8 In the event that the Market Operator in resolving a Settlement Query determines that changes to the relevant Settlement Statement or Settlement Document are greater than the Settlement Recalculation Threshold, the Market Operator shall procure that:

(a) the relevant Settlement Items will be recalculated or adjusted for the affected periods; and

(b) a Settlement Rerun shall then be undertaken.

G.3.2.9 The Market Operator shall calculate the materiality of a change to Settlement Items arising from the resolution of a Settlement Query by reference to the relevant Settlement Statement.

G.3.2.10 Any changes to Settlement resulting from a Settlement Query greater than the Settlement Recalculation Threshold, shall fall into one of the two following categories:

(a) change to Settlement Items with Low Materiality; or

(b) change to Settlement Items with High Materiality.

G.3.2.11 In the event that there is a change to Settlement Items with Low Materiality, the Market Operator shall procure that the revised corrected data will be used for the relevant period for which Final Settlement has not occurred, and Settlement shall then take place on the next Timetabled Settlement Rerun.

G.3.2.12 In the event that there is a change to Settlement Items with Low Materiality resolved after the final Timetabled Settlement Rerun, the Market Operator shall procure that an additional Settlement Rerun for the relevant period shall then be performed.

G.3.2.13 In the event that there is a change to Settlement Items with High Materiality, the Market Operator shall procure that the revised corrected data shall be used for the relevant period and a Settlement Rerun for that period shall then be performed.

G.3.2.14 In the event that there is a change to Settlement Items with High Materiality, the Market Operator shall notify, within one Working Day, the External Data Providers required to submit the revised corrected data.

G.3.2.15 The Market Operator must resolve a Settlement Query within one month after the Settlement Query is raised with it unless the Party concerned agrees to give the Market Operator more time (not exceeding 10 Working Days) to resolve the Settlement Query. If the Market Operator does not resolve the Settlement Query within one month or such longer period, then it shall be deemed to give rise to a Dispute and the provisions of section B.19 shall apply.

G.3.2.16 Where the Market Operator requests any assistance from any Participant to resolve a Settlement Query, that Participant shall promptly assist the Market Operator in dealing with the Settlement Query concerned in order to facilitate the Market Operator in meeting the timeline under paragraph G.3.2.15.

G.3.2.17 Any objection to the resolution of a Settlement Query shall be raised by the Raising Party or, in the case of queries raised by the Market Operator, the Affected Participant, by means of a Dispute, within five Working Days of receipt by that Participant of a response to the Settlement Query.

G.3.3 Consequences

G.3.3.1 Any payment due under the Code by any Party or Participant shall continue to be due and payable in accordance with its terms (including as to timing) notwithstanding:

(a) any Settlement Queries or Disputes in respect of such payments; or

(b) any Shortfall, Unsecured Bad Debt, Default, Suspension, Deregistration or Termination or similar event arising in relation to any such Party or Participant.

G.3.3.2 Subject to sections G.3.2 and B.19, where the resolution of a Settlement Query or Dispute requires a Settlement Rerun, the Market Operator will procure the carrying out of a Settlement Rerun in relation to the period that is the subject of the Settlement Query or Dispute.

G.3.3.3 Subject to sections G.3.2 and B.19, where the resolution of a Settlement Query or Dispute raised by a Participant requires a Settlement Rerun, the Market Operator shall apply the result of that Settlement Rerun to all Participants, where applicable.

G.4 DAILY CALCULATION OF AMOUNTS FOR GENERATOR UNITS AND CAPACITY MARKET UNITS

G.4.1.1 The Market Operator shall calculate the applicable daily amounts of payments and charges in respect of Generator Units (including Assetless Units) and Capacity Market Units in accordance with the following paragraphs in this section G.4.

G.4.2 Payments or Charges for Imbalance Component

G.4.2.1 The total Imbalance Component Payment or Charge ($CIMB_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CIMB_{ud} = \sum_{\gamma\ in\ d} CIMB_{u\gamma}$$

where:

(a) $CIMB_{u\gamma}$ is the Imbalance Component Payment or Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.5; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.3 **Payments for Premium Component**

G.4.3.1 The total Premium Component Payments (CPREMIUM$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CPREMIUM_{ud} = \sum_{\gamma \ in \ d} CPREMIUM_{u\gamma}$$

where:

(a) CPREMIUM$_{u\gamma}$ is the Premium Component Payment or Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.6; and

(b) $\sum_{\gamma \ in \ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.4 **Payments for Discount Component**

G.4.4.1 The total Discount Component Payments (CDISCOUNT$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CDISCOUNT_{ud} = \sum_{\gamma \ in \ d} CDISCOUNT_{u\gamma}$$

where:

(a) CDISCOUNT$_{u\gamma}$ is the Discount Component Payment or Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.6; and

(b) $\sum_{\gamma \ in \ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.5 **Payments or Charges for Offer Price Only Accepted Offers**

G.4.5.1 The total Payments or Charges for Offer Price Only Accepted Offers (CAOOPO$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CAOOPO_{ud} = \sum_{\gamma \ in \ d} CAOOPO_{u\gamma}$$

where:

(a)   CAOOPO$_{u\gamma}$ is the Offer Price Only Accepted Offer Payment or Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.7; and

(b) $\sum_{\gamma\,in\,d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.6   Payments or Charges for Bid Price Only Accepted Bids

G.4.6.1   The total Payments or Charges for Bid Price Only Accepted Bids (CABBPO$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CABBPO_{ud} = \sum_{\gamma\,in\,d} CABBPO_{u\gamma}$$

where:

(a)   CABBPOuγ is the Bid Price Only Accepted Bid Payment or Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.7; and

(b) $\sum_{\gamma\,in\,d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.7   Payments or Charges for Curtailment

G.4.7.1   The total Curtailment Payment or Charge (CCURL$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CCURL_{ud} = \sum_{\gamma\,in\,d} CCURL_{u\gamma}$$

where:

(a)   CCURL$_{u\gamma}$ is the Curtailment Payment or Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.8; and

(b) $\sum_{\gamma\,in\,d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.8   Charges for Uninstructed Imbalances

G.4.8.1   The total Uninstructed Imbalance Charge (CUNIMB$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CUNIMB_{ud} = \sum_{\gamma\,in\,d} CUNIMB_{u\gamma}$$

where:

(a) CUNIMB$_{u\gamma}$ is the Uninstructed Imbalance Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.9; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.9 Charges for Information Imbalance

G.4.9.1 The total Information Imbalance Charge (CII$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CII_{ud} = \sum_{\gamma\ in\ d} CII_{u\gamma}$$

where:

(a) CII$_{u\gamma}$ is the Information Imbalance Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.10; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.10 Charges for Testing

G.4.10.1 The total Testing Charge (CTEST$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CTEST_{ud} = \sum_{\gamma\ in\ d} CTEST_{u\gamma}$$

where:

(a) CTESTuγ is the Testing Charge for Generator Unit u in Imbalance Settlement Period γ calculated in accordance with section F.13; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.4.11 Total Daily Amounts for Generator Units

G.4.11.1 The Total Daily Amounts (CDAY$_{ud}$) made for each Generator Unit u for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CDAY_{ud}$$
$$= CIMB_{ud} + CPREMIUM_{ud} + CDISCOUNT_{ud} + CAOOPO_{ud}$$
$$+ CABBPO_{ud} + CCURL_{ud} + CUNIMB_{ud} + CII_{ud} + CTEST_{ud}$$

where:

(a)   CIMB$_{ud}$ is the total Imbalance Component Payment or Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.2;

(b)   CPREMIUM$_{ud}$ is the total Premium Component Payment for Generator Unit u for Settlement Day d calculated in accordance with section G.4.3;

(c)   CDISCOUNT$_{ud}$ is the total Discount Component Payment for Generator Unit u for Settlement Day d calculated in accordance with section G.4.4;

(d)   CAOOPO$_{ud}$ is the total Offer Price Only Accepted Offer Payment or Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.5;

(e)   CABBPO$_{ud}$ is the total Bid Price Only Accepted Bid Payment or Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.6;

(f)   CCURL$_{ud}$ is the total Curtailment Payment or Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.7;

(g)   CUNIMB$_{ud}$ is the total Uninstructed Imbalance Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.8;

(h)   CII$_{ud}$ is the total Information Imbalance Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.9; and

(i)   CTEST$_{ud}$ is the total Testing Charge for Generator Unit u for Settlement Day d calculated in accordance with section G.4.10.

G.4.12   Total Daily Amounts for Capacity Market Units

G.4.12.1 The Total Daily Amounts (CDAY$_{\Omega d}$) made for each Capacity Market Unit Ω for each Settlement Day d shall be calculated by the Market Operator as follows:

$$CDAY_{\Omega d} = \sum_{\gamma\ in\ d} CDIFFCTOT_{\Omega\gamma}$$

where:

(a)   CDIFFCTOT$_{\Omega\gamma}$ is the Total Difference Charge for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.18; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.5   DAILY CALCULATION OF AMOUNTS FOR SUPPLIER UNITS

G.5.1.1 The Market Operator shall calculate the applicable daily amounts of payments and charges for Supplier Units in accordance with the following paragraphs in this section G.5, detailing the components of charges for Supplier Units.

G.5.2   **Charges or Payments for Imbalance Component**

G.5.2.1   The total Imbalance Component Payment or Charge ($CIMB_{vd}$) for Supplier Unit v for Settlement Day d shall be calculated by the Market Operator as follows:

$$CIMB_{vd} = \sum_{\gamma\ in\ d} CIMB_{v\gamma}$$

where:

(a) $CIMB_{v\gamma}$ is the Imbalance Component Charge or Payment for Supplier Unit v for Imbalance Settlement Period γ calculated in accordance with section F.5; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.5.3   **Charges for Imperfections**

G.5.3.1   The total Imperfections Charges ($CIMP_{vd}$) for Supplier Unit v for Settlement Day d shall be calculated by the Market Operator as follows:

$$CIMP_{vd} = \sum_{\gamma\ in\ d} CIMP_{v\gamma}$$

where:

(a) $CIMP_{v\gamma}$ is the Imperfections Charge for Supplier Unit v for Imbalance Settlement Period γ calculated in accordance with section F.12; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.5.4   **Charges for Residual Error Volume**

G.5.4.1   The total Residual Error Volume Charges ($CREV_{vd}$) for Supplier Unit v, which is not a Trading Site Supplier Unit, for Settlement Day d shall be calculated by the Market Operator as follows:

$$CREV_{vd} = \sum_{\gamma\ in\ d} CREV_{v\gamma}$$

where:

(a) $CREV_{v\gamma}$ is the Residual Error Volume Charge for Supplier Unit v, which is not a Trading Site Supplier Unit, for Imbalance Settlement Period γ calculated in accordance with section F.14; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.5.5   Charges for Currency Adjustment

G.5.5.1   The total Currency Adjustment Charges (CCA$_{vd}$) for Supplier Unit v, which is not a Trading Site Supplier Unit, for Settlement Day d shall be calculated by the Market Operator as follows:

$$CCA_{vd} = \sum_{\gamma\ in\ d} CCA_{v\gamma}$$

where:

(a)   CCA$_{v\gamma}$ is the Currency Adjustment Charges for Supplier Unit v, which is not a Trading Site Supplier Unit, for Imbalance Settlement Period γ calculated in accordance with section F.15; and

(b) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d.

G.5.6   Total Daily Amounts for Supplier Units

G.5.6.1   The Total Daily Amounts (CDAY$_{vd}$) for Supplier Unit v for Settlement Day d shall be calculated by the Market Operator as follows:

$$CDAY_{vd} = CIMB_{vd} + CIMP_{vd} + CCA_{vd} + CREV_{vd} + CDIFFPACHIEVE_{vd}$$

where:

(a)   CIMB$_{vd}$ is the total Imbalance Component Charge or Payment for Supplier Unit v for Settlement Day d calculated in accordance with section G.5.2;

(b)   CIMP$_{vd}$ is the total Imperfections Charge for Supplier Unit v for Settlement Day d calculated in accordance with section G.5.3;

(c)   CREV$_{vd}$ is the total Residual Error Volume Charge for Supplier Unit v, which is not a Trading Site Supplier Unit, for Settlement Day d calculated in accordance with section G.5.4;

(d)   CCA$_{vd}$ is the total Currency Adjustment Charge for Supplier Unit v, which is not a Trading Site Supplier Unit, for Settlement Day d calculated in accordance with section G.5.5; and

(e)   CDIFFPACHIEVE$_{vd}$ is the Achievable Difference Payment for Supplier Unit v for Settlement Day d calculated in accordance with section F.20.

G.5.7   Settlement Document Calculations

G.5.7.1   The Market Operator shall calculate the settlement liability for Trading Payments and Trading Charges (SLE$_{pb}$) for Participant p in Billing Period b as follows:

$$SLE_{pb} = \sum_{u \, in \, p} \sum_{d \, in \, b} CDAY_{ud} + \sum_{\Omega \, in \, p} \sum_{d \, in \, b} CDAY_{\Omega d} + \sum_{v \, in \, p} \sum_{d \, in \, b} CDAY_{vd} + \sum_{u \, in \, p} CFC_{ub}$$

where:

(a) $CDAY_{ud}$ is the total Daily Amounts, for (as applicable) Generator Unit u or Assetless Unit u for Settlement Day d calculated in accordance with paragraph G.4.11.1;

(b) $CDAY_{\Omega d}$ is the total Daily Amounts on Capacity Market Unit Ω for Settlement Day d calculated in accordance with paragraph G.4.12;

(c) $CDAY_{vd}$ is the total Daily Amounts for Supplier Unit v for Settlement Day d calculated in accordance with paragraph G.5.6.1;

(d) CFC_{ub} is the Fixed Cost Payment or Charge for Generator Unit u calculated for the Billing Period b calculated in accordance with section F.11;

(e) $\sum_{v \, in \, p}$ is a summation over all Supplier Units v registered in respect of Participant p;

(f) $\sum_{u \, in \, p}$ is a summation over all Generator Units u and Assetless Units u registered in respect of Participant p;

(g) $\sum_{\Omega \, in \, p}$ is a summation over all Capacity Market Units Ω registered in respect of Participant p; and

(h) $\sum_{d \, in \, b}$ is a summation over Settlement Days d in Billing Period b.

G.5.7.2 The Market Operator shall calculate the settlement liability for Capacity Payments and Capacity Charges (SLCC$_{pc}$) for Participant p for Capacity Period c as follows:

$$SLCC_{pc} = \sum_{\Omega \, in \, p} CCP_{\Omega c} + \sum_{v \, in \, p} CCC_{vc} + \sum_{v \, in \, p} CSOCDIFFP_{vc}$$

where:

(a) $CCP_{\Omega c}$ is the Capacity Payment for a Capacity Market Unit Ω in Capacity Period c calculated in accordance with section F.17;

(b) CCC_{vc} is the Capacity Charge for a Supplier Unit v in Capacity Period c calculated in accordance with paragraph F.19;

(c) $CSOCDIFFP_{vc}$ is the Difference Payment Socialisation Charge for each Supplier Unit v in Capacity Period c calculated in accordance with section F.19;

(d) $\sum_{v \, in \, p}$ is a summation over all Supplier Units v registered in respect of Participant p; and

(e) $\sum_{\Omega \, in \, p}$ is a summation over all Capacity Market Units Ω registered in respect of Participant p.

G.5.7.3   The Market Operator shall calculate the amount of any Settlement Reallocation Agreement ($SRAS_{apbc}$) to be transferred in respect of any Secondary Participant p pursuant to a Settlement Reallocation Agreement a as follows:

$$SRAS_{apbc} = SLE_{pb} + SLCC_{pc}$$

where:

(a) SLE_{pb} is the settlement liability for Trading Payments and Trading Charges as applicable for Participant p in Billing Period b calculated in accordance with paragraph G.5.7.1; and

(b) $SLCC_{pc}$ is the settlement liability for Capacity Payments and Capacity Charges as applicable for Participant p for Capacity Period c calculated in accordance with paragraph G.5.7.2.

G.5.7.4   The Market Operator shall calculate the amount of any Settlement Reallocation Agreement ($SRAP_{apbc}$) amount to be transferred in respect of any Principal Participant p pursuant to a Settlement Reallocation Agreement a as follows:

$$SRAP_{apbc} = SRAS_{apbc}$$

where:

(a) $SRAS_{apbc}$ is the Settlement Reallocation Agreement amounts in respect of each Secondary Participant p with which the Principal Participant has a Settlement Reallocation Agreement a as calculated in accordance with paragraph G.5.7.3.

G.5.7.5   The Market Operator shall calculate the Aggregate Settlement Document amount covering Trading Payments, Trading Charges, Capacity Payments and Capacity Charges (SDA_{pbc}) for Participant p for each Billing Period b and Capacity Period c as applicable, as follows:

$$SDA_{pbc} = SLE_{pb} + SLCC_{pc} - SRAS_{apbc} + \sum_{a\ in\ p} SRAP_{apbc}$$

where:

(a) SLE_{pb} is the settlement liability for Trading Payments and Trading Charges as applicable for Participant p in Billing Period b as calculated in accordance with paragraph G.5.7.1;

(b) $SLCC_{pc}$ is the settlement liability Capacity Payments and Capacity Charges as applicable for Participant p for Capacity Period c as calculated in accordance with paragraph G.5.7.2;

(c) $SRAS_{apbc}$ is the Settlement Reallocation Agreement amount to be transferred pursuant to Settlement Reallocation Agreement a in respect of which the

Participant p is a Secondary Participant as calculated in accordance with paragraph G.5.7.3;

(d)   SRAP$_{apbc}$ is the Settlement Reallocation amount to be transferred pursuant to Settlement Reallocation Agreement a in respect of which the Participant p is a Primary Participant as calculated in accordance with paragraph G.5.7.4; and

(e) $\sum_{a\,in\,p}$ is a summation overall Settlement Reallocation Agreements registered in respect of the Principal Participant p.

G.6   MARKET OPERATOR BALANCING COST

G.6.1.1   The Market Operator shall balance all payments and charges for each Billing Period and Capacity Period, through the Balancing Cost.

G.6.1.2   The Balancing Cost (CB$_{bc}$) for each Billing Period b and Capacity Period c (which can be either positive or negative and if negative becomes a payment to the Market Operator) shall be calculated as follows:

$$CB_{bc} = \sum_p SDA_{pbc}$$

where:

(a)   SDA$_{pbc}$ is the amount of the Aggregate Settlement Document for Participant p covering Billing Period b and Capacity Period c; and

(b) $\sum_p$ is the summation over all Participants p.

G.7   MARKET OPERATOR CHARGE

G.7.1   General

G.7.1.1   The Market Operator Charge shall comprise:

(a)   a Fixed Market Operator Generator Charge, and a Fixed Market Operator Supplier Charge, applicable to Participants as appropriate; and

(b)   a Variable Market Operator Charge applicable to all Participants in respect of their Supplier Units as appropriate.

G.7.1.2   The Fixed Market Operator Generator Charge shall be a charge applied in respect of every Generator Unit, which may be different for each Generator Unit and the Fixed Market Operator Supplier Charge shall be a charge applied in respect of every Supplier Unit, which may be different for each Supplier Unit (either "**the Fixed Market Operator Charge**" as applicable).

G.7.1.3   The Variable Market Operator Charge shall be a charge in respect of each unit of Loss-Adjusted Metered Quantity at Supplier Units, and is based on a Variable Market Operator Price expressed in euro/MWh.

G.7.1.4   The Market Operator shall establish and maintain with the SEM Bank a euro bank account at a branch of the SEM Bank in Ireland and a pounds sterling bank account at a branch of the SEM Bank in the United Kingdom in its name and each called "the

Market Operator Charge Account". Participants shall make all payments due pursuant to the issue of any Market Operator Charge invoices to the relevant Market Operator Charge Account according to whether the Participant has registered Units in either Ireland or Northern Ireland (as applicable). Each Market Operator Charge Account shall be an interest bearing account.

G.7.1.5 Each Participant shall pay any Market Operator Charge together with the appropriate amount of VAT, where applicable, within 5 Working Days of the issue of the relevant Market Operator Charge invoice.

G.7.1.6 Interest shall accrue on any overdue payments in accordance with paragraph G.8.1.1.

G.7.2 **Fixed Market Operator Charge to All Participants**

G.7.2.1 The Market Operator shall calculate the Fixed Market Operator Charge in respect of Supplier Units ($CMOAV_{py}$) and Generator Units ($CMOAU_{py}$) to Participant p for Year y in respect of its Units as follows:

$$CMOA_{py} = \sum_{v\ in\ p} CMOAV_{vy} + \sum_{u\ in\ p} CMOAU_{uy}$$

where:

(a) $CMOAV_{vy}$ is the Fixed Market Operator Supplier Charge for Year y for a Supplier Unit v;

(b) $CMOAU_{uy}$ is the Fixed Market Operator Generator Charge for Year y for a Generator Unit u;

(c) $\sum_{v\ in\ p}$ is a summation over all Supplier Units v registered to Participant p;

(d) $\sum_{u\ in\ p}$ is a summation over all Generator Units u registered to Participant p.

G.7.2.2 The Market Operator shall issue the applicable Fixed Market Operator Charge invoice or invoices to each Participant at such frequency as the Market Operator shall decide.

G.7.3 **Variable Market Operator Charge**

G.7.3.1 The Market Operator shall calculate the Variable Market Operator Charge ($CVMO_{vb}$) for Supplier Unit, v, which is not a Trading Site Supplier Unit, in Billing Period, b, as follows:

$$CVMO_{vb} = \sum_{\gamma\ in\ b} QMLF_{v\gamma} \times PVMO_y$$

where:

(a) $PVMO_y$ is the Variable Market Operator Price for Year y;

(b) $QMLF_{v\gamma}$ is the Loss-Adjusted Metered Quantity from Supplier Unit v in Imbalance Settlement Period γ; and

(c) $\sum_{\gamma\ in\ b}$ is a summation over all Imbalance Settlement Periods γ in Billing Period b.

G.7.3.2 The Market Operator shall calculate the Variable Market Operator Charge (CVMO$_{vb}$) for Supplier Unit, v, which is a Trading Site Supplier Unit, in Billing Period, b, as follows:

$$CVMO_{vb} = \sum_{\gamma\ in\ b} Min\left(\sum_{u\ \in s} QMLF_{u\gamma} + \sum_{v\ \in s} QMLF_{v\gamma}, 0\right) \times PVMO_y$$

where:

(a)   PVMO$_y$ is the Variable Market Operator Price for Year y;

(b)   QMLF$_{v\gamma}$ is the Loss-Adjusted Metered Quantity for Supplier Unit v in Imbalance Settlement Period γ;

(c)   QMLF$_{u\gamma}$ is the Loss-Adjusted Metered Quantity for Generator Unit u in Imbalance Settlement Period γ;

(d) $\sum_{u\ \in\ s}$ means the value for all Generator Units u in Trading Site s relevant to the Trading Site Supplier Unit;

(e) $\sum_{v\ \in\ s}$ means the value for the single Trading Site Supplier Unit v in Trading Site s in accordance with paragraph B.9.1.2; and

(f) $\sum_{\gamma\ in\ b}$ is a summation over all Imbalance Settlement Periods γ in Billing Period b.

G.7.3.3 The Market Operator shall calculate the Variable Market Operator Charge (CVMO$_{pb}$) for Participant p in respect of its Supplier Units in Billing Period b as follows:

$$CVMO_{pb} = \sum_{v\ in\ p} CVMO_{vb}$$

where:

(a)   CVMO$_{vb}$ is the Variable Market Operator Charge for Supplier Unit v in Billing Period b; and

(b) $\sum_{v\ in\ p}$ is a summation over all Supplier Units v registered to Participant p.

G.7.3.4 The Market Operator shall issue the applicable Variable Market Operator Charge invoice to each Participant at such frequency as the Market Operator shall decide.

G.7.4 Recovery of Unpaid Market Operator Charge

G.7.4.1 The Market Operator's claim against any Participant relating to any overdue Market Operator Charge shall rank pari passu with the claims of any other Party for any Shortfall or Unsecured Bad Debt.

G.7.5   **CMC Charges**

G.7.5.1   The Market Operator may issue invoices to Participants for System Operator Charges payable under the Capacity Market Code on behalf of the System Operators under that Code.

G.7.5.2   A Participant to which an invoice has been issued under paragraph G.7.5.1 shall pay the applicable System Operator Charges, together with the appropriate amount of VAT, where applicable, within 5 Working Days of the issue of the invoice.

G.8   INTEREST PAYMENT

G.8.1.1   Where any payment under the Code is overdue, except for Unsecured Bad Debt as provided for in paragraph G.8.1.2, and except where this Code provides otherwise, interest, as set out in Agreed Procedure 15 "Settlement and Billing" shall accrue from the relevant Payment Due Date until the date of actual payment in full of the overdue amount by remittances for full value, such interest to accrue daily and both before and after any judgment.

G.8.1.2   Where the overdue amount is Unsecured Bad Debt, Default Interest shall accrue from the relevant Payment Due Date until the date of actual payment in full of the Unsecured Bad Debt by remittances for full value, such Default Interest to accrue daily and both before and after any judgment.

G.8.1.3   Where any Settlement Document must be re-issued due to a Settlement Rerun then interest as set out in Agreed Procedure 15, "Settlement and Billing" shall apply on the difference between the amount received or paid pursuant to the relevant prior Settlement and the amount due or payable pursuant to the Settlement Rerun accruing from the Payment Due Date applicable to the relevant prior Settlement up until the date of the issue of the applicable Settlement Document.

G.8.1.4   Where any Interest is payable pursuant to paragraphs G.2.8.1(b) or G.2.8.2(a), then the Interest shall apply on the amount as specified therein.

G.9   CREDIT COVER OBLIGATIONS

G.9.1.1   A Participant shall:

(a)   manage its trading in the SEM, and its Credit Cover arrangements under this Code, so that at all times the amount of its Posted Credit Cover equals or exceeds its Required Credit Cover level; and

(b)   provide at least the Required Credit Cover calculated in relation to it and notified to it by the Market Operator in accordance with the Code.

G.9.1.2   Each Participant must maintain its Credit Cover with a Credit Cover Provider. The acceptable forms of Credit Cover which Participants can post are:

(a)   an irrevocable standby Letter of Credit which:

(i)   shall be issued by a Credit Cover Provider fulfilling the eligibility requirements set out in paragraph G.9.1.3;

(ii)   shall be in the form attached in Appendix A "Standard Letter of Credit";

(iii)   shall be for a minimum duration of 12 months. At least 60 calendar days before expiry of the current letter of credit the Participant must put

a replacement letter of credit in place, with an effective date starting from the date following the date of expiry of the current letter of credit;

    (iv)   shall be capable of being paid out for "Same Day Value" following a Credit Call; and

    (v)   shall be capable of being validated by the Market Operator under paragraph G.9.1.7,

and/or:

(b)   a cash held deposit in a SEM Collateral Reserve Account as provided for in paragraphs G.1.5.1, G.1.5.2 and G.1.5.3. For the avoidance of doubt, if a Participant elects to provide a cash deposit as part of its Required Credit Cover, then it shall:

    (i)   on the same day on which its Required Credit Cover is posted and the cash collateral is paid into the relevant SEM Collateral Reserve Account(s), complete and enter into the Deed of Charge and Account Security (including the Notice of Assignment and Acknowledgment) in respect of such SEM Collateral Reserve Account and SEM Collateral Reserve Assets;

    (ii)   within 5 Working Days from the date on which its Required Credit Cover is posted, furnish to the Market Operator the original executed Deed of Charge and Account Security for the purposes of the registration of such Deed of Charge and Account Security pursuant to section 860 of the Companies Act 2006 (UK) and/or section 409 of the Companies Act 2014 (Ireland), as appropriate, and/or at such other registry or registries as may be appropriate;

    (iii)   within 5 Working Days from the date on which its Required Credit Cover is posted and the Deed of Charge and Account Security is dated, furnish to the Market Operator the original executed Notice of Assignment and Acknowledgment for the purposes of enabling the Market Operator to give notice to the SEM Bank and procure the SEM Bank's acknowledgment pursuant to clause 2.4 of the Deed of Charge and Account Security;

    (iv)   do all such things and execute all such documents and provide any further information that the Market Operator may reasonably require in order to carry out such registrations within such timelines as may be specified by the Market Operator, having regard to any applicable time limit for the registration of such a charge; and

    (v)   fully comply with any other applicable Account Security Requirements in relation to the provision of cash collateral as set out in paragraphs G.1.5.1, G.1.5.2 and G.1.5.3 of this Code and in Agreed Procedure 1 "Registration", Agreed Procedure 9 "Management of Credit Cover and Credit Default" and Agreed Procedure 17 "Banking and Participant Payments".

G.9.1.3   A Credit Cover Provider shall be a Bank which must:

(a)   hold a Banking Licence in Ireland under Section 9 of the Central Bank Act 1971 (Ireland) or be authorised by the Financial Conduct Authority to engage in "regulated activities", as defined in Part 2 and Schedule 2 of the Financial

Services and Markets Act 2000 (Northern Ireland and United Kingdom), or be otherwise authorised to provide banking services in Ireland or the United Kingdom; and

(b) satisfy one of the following requirements:

(i) be a Clearing Bank in either Ireland or the United Kingdom:

(A) with a long term debt rating of not less than A- (Standard & Poors) or A3 (Moody's Investors Service Inc.); or

(B) with a long term debt rating of not less than BB- (Standard & Poors) or Ba3 (Moody's Investors Service Inc.) and have a Balance Sheet Net Asset Value of not less than €1,000 million;

(ii) be a subsidiary of a Bank, where the parent company of that subsidiary has guaranteed the obligations of the subsidiary and such parent company has:

(A) a long term debt rating of not less than A- (Standard & Poors) or A3 (Moody's Investors Service Inc.); or

(B) a long term debt rating of not less than BB- (Standard & Poors) or Ba3 (Moody's Investors Service Inc.) and has a Balance Sheet Net Asset Value of not less than €10,000 million; or

(iii) be an international bank that is authorised or approved by the relevant regulatory authority in Ireland or the United Kingdom or is otherwise eligible to provide banking services in Ireland or the United Kingdom and complies with paragraph G.9.1.3(b)(i)(A) or G.9.1.3(b)(i)(B).

G.9.1.4 If a Participant's Credit Cover Provider is no longer qualified to issue or hold Credit Cover under the preceding paragraphs, the Participant shall re-post its Required Credit Cover with another Credit Cover Provider, within 10 Working Days of the Participant's previous Credit Cover Provider ceasing to be qualified. This period shall not form part of the Settlement Risk Period.

G.9.1.5 Each Participant shall post the Required Credit Cover in its designated Currency.

G.9.1.6 For each New Participant and Adjusted Participant using pounds sterling as its designated Currency, the Market Operator shall convert the Required Credit Cover into pounds sterling using the Trading Day Exchange Rate applicable to the Trading Day that commences at 23:00 on the day on which the calculation of Required Credit Cover is performed.

G.9.1.7 The Market Operator shall, before accepting a Letter of Credit tendered by a Participant as a part of that Participant's Posted Credit Cover, validate that Letter of Credit in accordance with Agreed Procedure 9 "Management of Credit Cover and Credit Default" to ensure compliance with this section G.9.

G.9.1.8 Without prejudice to a Participant's obligation to maintain the Required Credit Cover under paragraph G.9.1.1 in accordance with the conditions set out in this section G.9, where the Market Operator becomes aware that a Participant's Letter of Credit or Credit Cover Provider fails or ceases to comply with those requirements, the Market Operator shall inform the relevant Participant or Participants as soon as reasonably practicable.

G.9.1.9 A Participant shall ensure that its Credit Cover complies with the following conditions:

(a)   a Participant's Posted Credit Cover shall be available for draw down by the Market Operator making a Credit Call on a Participant's Credit Cover Provider as provided for in the Code and shall continue to remain in place until such time as all amounts due in respect of the Participant concerned under the Code have been paid in full;

(b)   the Market Operator, but not any Party or Participant, has the right to deduct from or set off against a Participant any outstanding claims and liabilities of that Participant against any amounts owing pursuant to any Settlement Document under the Code relating to that Participant without the prior consent of any such Participant concerned;

(c)   the Participant cannot reduce the amount of the Posted Credit Cover below the Required Credit Cover calculated by the Market Operator and notified to the Participant in accordance with the Code; and

(d)   without prejudice to paragraph G.9.1.10, in the event of Termination of a Party or a Participant or Suspension or Deregistration of a Participant's Units, the Participant's then applicable Required Credit Cover shall remain in place in accordance with the Code until all amounts due by the Participant concerned under the Code have been paid in full, and further subject to the Fixed Credit Requirement specified in the relevant Termination Order, Voluntary Termination Consent Order or Deregistration Consent Order as applicable.

G.9.1.10   In the event of the Deregistration of any of a Party's Units, the relevant Participant shall maintain the Fixed Credit Requirement in respect of that Unit for a period of 14 months from the date of Deregistration of each Unit.

G.9.1.11   The Market Operator shall calculate the level of Required Credit Cover in accordance with the Code to cover a Participant's actual and potential payment liabilities in respect of its Units and participation in under this Code at any time. A Participant's Required Credit Cover shall be calculated to cover:

(a)   its Fixed Credit Requirement;

(b)   its Actual Exposure; and

(c)   its Undefined Potential Exposure.

G.9.1.12   The Market Operator shall determine:

(a)   the Actual Exposure relevant for Billing Period payments and charges which will include amounts included on the last issued Settlement Document for which the applicable Payment Due Dates have not passed and payments and charges which have been calculated in relation to Imbalance Settlement Periods for which either indicative or initial Settlement Statements have issued but billing has not been completed;

(b)   the Actual Exposure relevant for Capacity Period payments and charges which will include amounts included on the last issued Settlement Document which includes Capacity Payments and Capacity Charges in accordance with paragraph G.2.5.3, and for which the applicable Payment Due Dates have not passed and payments and charges which have been calculated in relation to Imbalance Settlement Periods for which Settlement Statements have been issued but billing has not been completed; and

(c)   the Undefined Exposure Period in respect of Billing Period payments and charges (being the period from the end of the most recent Imbalance Settlement Period included in any Settlement Statement relating to Billing Period charges, until the time at which the Participant can be removed from incurring further liability as determined applying the applicable Supplier Suspension Delay Period or, where that time is not on a Working Day, the next Working Day thereafter). The Undefined Exposure Period may differ depending on the nature of the Unit and the Jurisdiction in which it is located.

G.10   PARAMETERS FOR THE DETERMINATION OF REQUIRED CREDIT COVER

G.10.1.1 The Market Operator shall report to the Regulatory Authorities at least four Months before the start of the Year proposing the following parameters relating to the calculation of the Required Credit Cover, for application in the following Year:

(a)   the Fixed Credit Requirement;

(b)   the Historical Assessment Period;

(c)   the Analysis Percentile Parameter;

(d)   the Credit Cover Adjustment Trigger;

(e)   the Warning Limit; and

(f)   the Breach Limit.

G.10.1.2 The Market Operator's report must set out any relevant research or analysis carried out by the Market Operator and the justification for the specific values proposed. Any such report may, and shall if so requested by the Regulatory Authorities, include alternative values from those proposed and must set out the arguments for and against such alternatives.

G.10.1.3 The Regulatory Authorities may determine a Response Period Duration from time to time and notify the Market Operator.

G.10.1.4 The Market Operator shall publish the approved or determined value(s) for each parameter within 5 Working Days of receipt of the Regulatory Authorities' determination or two months before the start of the Year to which they shall apply, whichever is the later.

G.11   PROVISION OF CREDIT COVER INFORMATION

G.11.1.1 The Required Credit Cover information provided by the Market Operator to each Participant in a Required Credit Cover Report in accordance with section G.12.1 shall include:

(a)   a unique identifier to the calculation performed to produce the Required Credit Cover;

(b)   Required Credit Cover;

(c)   Posted Credit Cover;

(d)   Available Credit Cover;

(e)   Credit Cover Increase Notice identifier;

(f)   Warning Notice identifier;

(g)   Credit Assessment Price;

(h)   Fixed Credit Requirement for each Generator Unit, Assetless Unit and Supplier Unit;

(i)   value of Settlement Documents not paid for the Participant;

(j)   value in respect of which Settlement Documents have not been issued for the Participant;

(k)   the value of Traded Not Delivered Exposure for the Participant; and

(l)   value of Undefined Potential Exposure for the Participant.

G.11.1.2   The Market Operator shall base the calculation of the Required Credit Cover on the available data for the Settlement Risk Period up to the Settlement Day on which the calculations are made.

G.12   MONITORING OF CREDIT COVER

G.12.1   Credit Assessments

G.12.1.1   The Market Operator shall calculate the Required Credit Cover for each Participant in accordance with the provisions of sections G.10 to G.15 at least once each Working Day at the times provided for in Agreed Procedure 9 "Management of Credit Cover and Credit Default". This is called a "**Credit Assessment**".

G.12.1.2   Following a Credit Assessment, the Market Operator shall provide each Participant with a report ("**Required Credit Cover Report**"). A Required Credit Cover Report shall include the information listed in paragraph G.11.1.1 and shall also contain:

(a)   a Warning Notice where the Market Operator determines in the Credit Assessment that the Participant's Credit Cover Ratio is equal to or exceeds the Warning Limit but does not exceed the Breach Limit; or

(b)   a Credit Cover Increase Notice where the Market Operator determines in the Credit Assessment that the Participant's Credit Cover Ratio is equal to or exceeds the Breach Limit. If the Credit Cover Report contains a Credit Cover Increase Notice, then it shall specify the amount of additional Credit Cover required to be posted to satisfy the Participant's Required Credit Cover as determined in the Credit Assessment.

G.12.1.3   Where a Required Credit Cover Report provided by the Market Operator to a Participant contains a Credit Cover Increase Notice, the Participant shall meet the terms of the Credit Cover Increase Notice by:

(a)   subject to paragraph G.12.1.4, paying an outstanding Settlement Document early; or

(b)   posting the additional necessary Credit Cover,

before 17:00 on the second Working Day thereafter (or, in the circumstances contemplated in paragraph G.12.1.6, such longer period as may have been specified by the Regulatory Authorities under that paragraph).

G.12.1.4   Where a Participant pays an outstanding Settlement Document early it does so subject to its obligations at law, including ensuring that there is no intent by it to give a

creditor a preference which could be deemed to be either an unfair preference in accordance with Section 604 of the Companies Act 2014 (Ireland) or a preference as defined in Article 203 of the Insolvency (Northern Ireland) Order 1989 or fraudulent trading in accordance with Section 993 of the Companies Act 2006 (United Kingdom).

G.12.1.5 Where the Market Operator draws down any amounts from the Participant's Posted Credit Cover, the Participant shall, within 2 Working Days, take such steps as are necessary to ensure that it retains at a minimum the Required Credit Cover as calculated and notified to it in the most recent Required Credit Cover Report provided to the Participant in accordance with paragraph G.12.1.2 and comply with parapraph G.12.1.3(b) as if the Market Operator had issued a Required Credit Cover Report containing a Credit Cover Increase Notice under paragraph G.12.2.1(b) (if the Market Operator has not already done so). The Participant shall notify the Market Operator on doing so.

G.12.1.6 The Regulatory Authorities may notify the Market Operator of a longer period which shall apply for the purposes of paragraph G.12.1.3 in the case of the Supplier of Last Resort and only in circumstances where a Regulatory Authority has directed that demand shall be met by the Supplier of Last Resort in the relevant Jurisdiction.

G.12.2   **SEM NEMO Credit Reports**

G.12.2.1 Following each Credit Assessment, the Market Operator shall provide to each SEM NEMO a report ("**SEM NEMO Credit Report**") which will include in relation to Participants which are participating in the SEM NEMO's day-ahead and/ or intraday market:

(a)   details of any Participant whose Credit Cover Ratio is equal to or exceeds the Breach Limit; and

(b)   details of any Participant whose Credit Cover Ratio was equal to or exceeded the Breach Limit in the previous SEM NEMO Credit Report but is now less than the Breach Limit,

at the times provided for in Agreed Procedure 9 "Management of Credit Cover and Credit Default".

G.12.2.2 Each Participant hereby agrees and consents to the Market Operator providing SEM NEMO Credit Reports to SEM NEMOs as contemplated by this section.

G.12.3   **Non-acceptance of Contracted Quantities**

G.12.3.1 For the purposes of this section G.12.3, a response period ("**Response Period**") in respect of a Participant commences when the Market Operator provides a Participant with a Required Credit Cover Report containing a Credit Cover Increase Notice and the previous Required Credit Cover Report provided to the Participant did not contain a Credit Cover Increase Notice and expires at the earlier of

(a)   the end of a period equal to the Response Period Duration after it commenced; and

(b)   any Credit Assessment after it commenced in which the Participant's Credit Cover Ratio is less than the Breach Limit.

G.12.3.2 If:

(a)   under paragraph G.12.3.1, the Response Period has expired;

(b)   the Market Operator has provided a SEM NEMO Credit Report to a SEM NEMO under section G.12.2, advising that the Participant's Credit Cover Ratio was equal to or exceeded the Breach Limit in respect of the Credit Assessment that resulted in the Response Period applying; and

(c)   in every Credit Assessment since the Response Period commenced, the relevant Participant's Credit Cover Ratio is equal to or exceeds the Breach Limit,

then the Market Operator shall not (save where paragraph G.12.3.3(a) applies) accept Contracted Quantities submitted by any Scheduling Agent under paragraph F.2.2.1 in respect of the Participant, according to the rules set out in paragraph G.12.3.3.

G.12.3.3   The rules referred to in paragraph G.12.3.2 are as follows:

(a)   any Contracted Quantity that has the effect of reducing the Participant's Required Credit Cover shall be accepted;

(b)   subject to sub-paragraph (a), where only one Contracted Quantity has been submitted for the Participant for Period, h, the Contracted Quantity submitted shall not be accepted;

(c)   subject to sub-paragraph (a), where more than one Contracted Quantity has been submitted for the Participant for Period, h:

     (i)   the smallest of those Contracted Quantities shall not be accepted; and

     (ii)   if the Market Operator determines that the remaining Contracted Quantities after the refusal of the smallest of those Contracted Quantities under sub-paragraph (c)(i) still result in the Participant's Credit Cover Ratio being equal to or in excess of the Breach Limit, then the next smallest of those Contracted Quantities shall not be accepted, and so on, until such time as the remaining Contracted Quantities accepted would not result in the Participant's Credit Cover Ratio being equal to or in excess of the Breach Limit;

(d)   in applying the rules under sub-paragraph (c), where more than one of the Contracted Quantities submitted under paragraph F.2.2.1 in respect of the Participant for the Period, h, are equal, the Market Operator shall choose which of those Contracted Quantities to not accept on a random basis; and

(e)   in applying the rules under sub-paragraph (a), (b) and (c), the Market Operator may not adjust Contracted Quantities submitted under paragraph F.2.2.1 and only entire Contracted Quantities may be not accepted by the Market Operator.

In this paragraph, a reference to "**Period, h**" means a period covered by the relevant submission under paragraph F.2.2.1 (as described in that paragraph).

G.12.3.4   The non-acceptance by the Market Operator of a Contracted Quantity submitted by a Scheduling Agent does not affect any Physical Notification Data submitted by the Participant to the System Operator.

G.12.4   **New Participants and Adjusted Participants**

G.12.4.1   For the purposes of Credit Cover monitoring and calculations:

(a) a Participant is a New Participant from the commencement of their participation; and

(b) a Participant ceases to be a New Participant when the length of time between the commencement of their participation and the last Imbalance Settlement Period covered in the most recent Settlement Statement issued for that Participant is greater than the length of time covered by the Historical Assessment Period.

G.12.4.2 Where a Participant reasonably expects that, compared with time-weighted average of Metered Demand across all of the four most recent Billing Periods, the forecasted averaged Metered Demand with respect to its Supplier Units in any of the next four Billing Periods will increase or decrease by more in absolute terms than the Credit Cover Adjustment Trigger, or the forecasted total Daily Amounts with respect to its Generator Units in any of the next four Billing Periods will increase or decrease in absolute terms by more than the Credit Cover Adjustment Trigger, then it shall notify the Market Operator as soon as reasonably possible. Such a Participant shall be called an Adjusted Participant. A Participant ceases to be an Adjusted Participant when the length of time between their notification and the last Imbalance Settlement Period covered in the most recent Settlement Statement issued for that Participant is greater than the length of time covered by the Historical Assessment Period.

G.12.4.3 Where a Participant becomes an Adjusted Participant, it shall notify the Market Operator of its forecast value of its Credit Assessment Adjustment Factor. This forecast value notified by an Adjusted Participant shall represent the forecasted percentage change of its average Metered Demand or forecasted total Daily Amounts which will be applied in the calculations for Required Credit Cover. Each Adjusted Participant shall provide such additional information to the Market Operator as provided for pursuant to Agreed Procedure 9 "Management of Credit Cover and Credit Default" to enable the Market Operator to calculate revised values of Required Credit Cover in accordance with this Chapter G (Financial and Settlement).

G.13   CALCULATIONS FOR REQUIRED CREDIT COVER

G.13.1   Calculations of Actual Exposure for the Settlement Risk Period

G.13.1.1 The Market Operator shall calculate the Actual Exposure (EA_{pr}) for Participant, p, for the Settlement Risk Period r as follows:

$$EA_{pr}$$
$$= SDA_{pbc} + \sum_{v\ in\ p} \sum_{d\ in\ r} CDAY_{vd} + \sum_{u\ in\ p} \sum_{d\ in\ r} CDAY_{ud} + \sum_{\Omega\ in\ p} \sum_{d\ in\ r} CDAY_{\Omega d}$$
$$+ \sum_{u\ in\ p} \sum_{b\ in\ r} CFC_{ub} + \sum_{\Omega\ in\ p} \sum_{\gamma\ in\ r} CCP_{\Omega\gamma} + \sum_{v\ in\ p} \sum_{\gamma\ in\ r} CCC_{v\gamma}$$

where:

(a) SDA_{pbc} is the Aggregate Settlement Document amount for Participant p in respect of Billing Period and Capacity Period c as applicable calculated in accordance with paragraph G.5.7.5;

(b) $CDAY_{vd}$ is the Total Daily Amounts for Supplier Unit v for Settlement Day d calculated in accordance with paragraph G.5.6.1;

(c) $CDAY_{ud}$ is the Total Daily Amounts for Generator Unit u for Settlement Day d calculated in accordance with paragraph G.4.11.1;

(d) $CDAY_{\Omega d}$ is the Total Daily Amounts for Capacity Market Unit Ω for Settlement Day d calculated in accordance with paragraph G.4.12.1;

(e) CFC_{ub} is the Fixed Cost Payment or Charge for Generator Unit u calculated for the Billing Period calculated in accordance with section F.11;

(f) $CCP_{\Omega\gamma}$ is the Capacity Payment for a Capacity Market Unit Ω Imbalance Settlement Periods γ calculated in accordance with section F.17;

(g) $CCC_{v\gamma}$ is the Capacity Charge for a Supplier Unit v in Imbalance Settlement Periods γ calculated in accordance with section F.19;

(h) $\sum_{v\,in\,p}$ is the summation across all Supplier Units v registered in respect of Participant p;

(i) $\sum_{u\,in\,p}$ is the summation across all Generator Units u registered in respect of Participant p;

(j) $\sum_{\Omega\,in\,p}$ is the summation across all Capacity Market Unit Ω registered in respect of Participant p;

(k) $\sum_{d\,in\,r}$ is the summation across all Settlement Days d in Settlement Risk Period r; and

(l) $\sum_{b\,in\,r}$ is the summation across all Billing Periods b in Settlement Risk Period r

(m) $\sum_{\gamma\,in\,r}$ is the summation across all Imbalance Settlement Periods γ in Settlement Risk Period .

G.14   CALCULATIONS OF REQUIRED CREDIT COVER FOR THE UNDEFINED EXPOSURE PERIOD

G.14.1   General

G.14.1.1 The Market Operator shall undertake the following calculations leading to the determination of Participants' Undefined Potential Exposure which calculations are dependent on whether a Participant is a New Participant, an Adjusted Participant or a Standard Participant.

G.14.1.2 The Undefined Potential Exposure for each New Participant shall be based on the product of the Participant's Credit Assessment Volume and the Combined Credit Assessment Price.

G.14.1.3 The calculation of the Undefined Potential Exposure for each Adjusted Participant shall take account of the Participant's Credit Assessment Adjustment Factor.

G.14.1.4 The Market Operator shall calculate the Credit Assessment Price as set out in section G.14.2.

G.14.2 **Calculation of the Combined Credit Assessment Price**

G.14.2.1 The Daily Average Imbalance Settlement Price (DAPIMB$_d$) for each Settlement Day d in the Historical Assessment Period shall be calculated by the Market Operator as follows:

$$DAPIMB_d = \frac{\sum_{\gamma\ in\ d} Min(PIMB_\gamma, PSTR_m)}{count\left(PIMB_\gamma : \underset{\gamma\ in\ d}{\forall}\right)}$$

where:

(a) PIMB$_\gamma$ is the Imbalance Settlement Price in Imbalance Settlement Period γ, as determined in accordance with section E.3.7;

(b) PSTR$_m$ is the Strike Price applicable in month m as determined in accordance with section F.16;

(c) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d; and

(d) $count\left(PIMB_\gamma : \underset{\gamma\ in\ d}{\forall}\right)$ is the number of all Imbalance Settlement Prices in Settlement Day d.

G.14.2.2 The number of all Daily Average Imbalance Settlement Prices (NDAPIMB$_g$) in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated as follows:

$$NDAPIMB_g = count\left(DAPIMB_d : \underset{d\ in\ b}{\forall}\right)$$

where:

(a) DAPIMB$_d$ is the Daily Average Imbalance Settlement Price for Settlement Day d calculated in accordance with paragraph G.14.2.1; and;

(b) $count\left(DAPIMB_d : \underset{d\ in\ b}{\forall}\right)$ is the number of all Daily Average Imbalance Settlement Prices in the Historical Assessment Period.

G.14.2.3 The mean value of Daily Average Imbalance Settlement Prices (UMPIMB$_g$) in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$UMPIMB_g = \frac{\sum_{d\ in\ g} DAPIMB_d}{NDAPIMB_g}$$

where:

(a) DAPIMB$_d$ is the Daily Average Imbalance Settlement Price for Settlement Day d calculated in accordance with paragraph G.14.2.1;

(b) $\sum_{d\,in\,g}$ is a summation over all Settlement Days d in the Historical Assessment Period to be applied for the Undefined Exposure Period g; and

(c) NDAPIMB$_g$ is the number of all Daily Average Imbalance Settlement Prices in the Historical Assessment Period to be applied for the Undefined Exposure Period g calculated in accordance with paragraph G.14.2.2.

G.14.2.4 The standard deviation of the Daily Average Imbalance Settlement Price (SDPIMB$_g$) in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$SDPIMB_g = \sqrt{\frac{NDAPIMB_g \times \sum_{d\,in\,g}(DAPIMB_d)^2 - \left(\sum_{d\,in\,g} DAPIMB_d\right)^2}{NDAPIMB_g \times \left(NDAPIMB_g - 1\right)}}$$

where:

(a) NDAPIMB$_g$ is the number of all Daily Average Imbalance Settlement Prices in the Historical Assessment Period to be applied for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.2.2;

(b) DAPIMB$_d$ is the Daily Average Imbalance Settlement Price for Settlement Day d as calculated in accordance with paragraph G.14.2.1; and

(c) $\sum_{d\,in\,g}$ is a summation over all Settlement Days d in the Historical Assessment Period to be applied for the Undefined Exposure Period g.

G.14.2.5 The Credit Assessment Price (PCA$_g$) for Undefined Exposure Period g shall be calculated as follows:

$$PCA_g = UMPIMB_g + AnPP\left(SDPIMB_g\right)$$

where:

(a) UMPIMB$_g$ is the mean value of Imbalance Settlement Prices in the Historical Assessment Period applied for the Undefined Exposure Period g;

(b) AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and

(c) SDPIMB$_g$ is the standard deviation of the Daily Average Imbalance Settlement Prices in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.2.4.

G.14.2.6 The Market Operator shall calculate the Combined Credit Assessment Price (CCAP$_g$) for the Undefined Exposure Period g as follows:

If Undefined Exposure Period g is entirely within a single Year, y:

$$CCAP_g = PCA_g + PIMP_y + PREV_y + PCC_y$$

If Undefined Exposure Period g includes periods from two Years, y-1 and y:

$$CCAP_g$$
$$= PCA_g + Max(PIMP_y, PIMP_{y-1}) + Max(PREV_y, PREV_{y-1})$$
$$+ Max(PCC_y, PCC_{y-1})$$

where:

(a) PCA_g is the Credit Assessment Price for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.2.5;

(b) $PIMP_y$ is the approved Imperfections Price for year y as determined in accordance with section F12.1;

(c) $PIMP_{y-1}$ is the approved Imperfections Price for year y-1 as determined in accordance with section F12.1;

(d) $PREV_y$ is the approved Residual Error Volume Price for year y, as determined in accordance with section F.14.2;

(e) $PREV_{y-1}$ is the approved Residual Error Volume Price for year y-1, as determined in accordance with section F.14.2;

(f) PCC_y is the approved Currency Cost Price for year y, as determined in accordance with section F.15.2; and

(g) PCC_{y-1} is the approved Currency Cost Price for year y-1, as determined in accordance with section F.15.2.

G.14.3   **Calculations for the Undefined Exposure Period for a New Participant in respect of its Supplier Units**

G.14.3.1 The Credit Assessment Volume for a New Participant p ($VCAS_{py}$) shall be a forecast of Metered Demand in respect of a New Participant's Supplier Units based upon information provided by the Participant in accordance with paragraph G.12.4.2 and used in the calculation of the Participant's Required Credit Cover.

G.14.3.2 The Market Operator shall calculate the Exposure for Trading Charges for the Undefined Exposure Period for each New Participant p in respect of its Supplier Units ($EUPES_{pg}$) as follows:

$$EUPES_{pg} = CCAP_g \times \sum_{\gamma\ in\ g} VCAS_{p\gamma}$$

where:

(a) $CCAP_g$ is the Combined Credit Assessment Price for the Undefined Exposure Period g calculated in accordance with G.14.2.6;

(b) $VCAS_{p\gamma}$ is the Credit Assessment Volume for each New Participant for the Imbalance Settlement Period γ; and

(c) $\sum_{\gamma\ in\ g}$ is a summation over Imbalance Settlement Periods γ in the Undefined Exposure Period g.

G.14.3.3 A New Participant's Exposure in respect of its Capacity Charges for its Supplier Units (EUPECC$_{pg}$) shall be calculated by the Market Operator as follows:

$$EUPECC_{pg}$$

$$= \sum_{\gamma\ in\ g} \sum_{\Omega} CCP_{\Omega\gamma}$$

$$\times \frac{\sum_{\gamma\ in\ g} VCAS_{p\gamma}}{\left(\sum_p QUPEB_{pg} + \left(\sum_p (QUPEB_{pg} \times FCAA_{pg})\right) + \sum_p \sum_{\gamma\ in\ g} VCAS_{p\gamma}\right)}$$

where:

(a)   CCP$_{\Omega\gamma}$ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ;

(b)   VCAS$_{p\gamma}$ is the Credit Assessment Volume for each New Participant in respect of its Supplier Units for the Imbalance Settlement Periods γ;

(c)   QUPEB$_{pg}$ is the Billing Period Undefined Potential Exposure Quantity for Standard Participant p in respect of all its Supplier Units v in Undefined Exposure Period g calculated in accordance with section G.14.7;

(d)   (QUPEB$_{pg}$ ₓ FCAA$_{pg}$) is the Billing Period Undefined Potential Exposure Quantity for Adjusted Participant p in respect of all its Supplier Units v in Undefined Exposure Period g;

(e) $\sum_{\gamma\ in\ g}$ is the summation across all Imbalance Settlement Periods γ in Undefined Exposure Period g;

(f) $\sum_{\Omega}$ is the summation across all Capacity Market Units Ω; and

(g) $\sum_p$ is the summation across all Participants p.

G.14.4 Calculations for the Undefined Exposure Period for a New Participant in respect of its Generator Units or Assetless Units

G.14.4.1 The Credit Assessment Volume (VCAG$_{p\gamma}$) for a New Participant p in Imbalance Settlement Period γ shall be a forecast of Metered Generation relating to Daily Amounts in respect of the Participant's Generator Units based upon information provided by the Participant in accordance with paragraph G.12.4.2 and used in the calculation of the Participant's Required Credit Cover.

G.14.4.2 The Market Operator shall calculate the Exposure for Trading Payments and Trading Charges for the Undefined Exposure Period g for each New Participant p in respect of its Generator Units and Assetless Units (EUPEG$_{pg}$) as follows:

$$EUPEG_{pg} = PCA_g \times \sum_{\gamma\ in\ g} VCAG_{p\gamma}$$

where:

(a) PCA_g is the Credit Assessment Price for the Undefined Exposure Period g as calculated in accordance with section G.14.2;

(b) $VCAG_{p\gamma}$ is the Credit Assessment Volume for each New Participant for the Imbalance Settlement Period γ; and

(c) $\sum_{\gamma\ in\ g}$ is a summation over Imbalance Settlement Periods γ in the Undefined Exposure Period g.

G.14.5 **Calculations for the Undefined Exposure Period for an Adjusted Participant in respect of its Supplier Units**

G.14.5.1 The Market Operator shall calculate the Exposure for Trading Charges for the Undefined Exposure Period g for each Adjusted Participant p in respect of its Supplier Units ($EUPES_{pg}$) as follows:

$$EUPES_{pg} = CCAP_g \times QUPEB_{pg} \times FCAA_{pg}$$

where:

(a) $CCAP_g$ is the Combined Credit Assessment Price for the Undefined Exposure Period g calculated in accordance with paragraph G.14.2.6;

(b) $QUPEB_{pg}$ is the Billing Period Undefined Potential Exposure Quantity for Participant p in respect of all its Supplier Units v in Undefined Exposure Period g calculated in accordance with paragraph G.14.7.6; and

(c) $FCAA_{pg}$ is the Credit Assessment Adjustment Factor for Participant p in respect of all its Supplier Units v in Undefined Exposure Period g notified in accordance with paragraph G.12.4.3.

G.14.5.2 The Market Operator shall calculate a Participant's Exposure in respect of its Capacity Charges for each Adjusted Participant for Undefined Exposure Period g for its Supplier Units ($EUPECC_{pg}$) as follows:

$$
\begin{aligned}
EUPECC_{pg} &= \sum_{\gamma\ in\ g} \sum_{\Omega} CCP_{\Omega\gamma} \\
&\times \frac{QUPEB_{pg} \times FCAA_{pg}}{\left(\sum_p QUPEB_{pg} + \left(\sum_p\left(QUPEB_{pg} \times FCAA_{pg}\right)\right) + \sum_p \sum_{\gamma\ in\ g} VCAS_{p\gamma}\right)}
\end{aligned}
$$

where:

(a) $CCP_{\Omega\gamma}$ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.17;

(b) $QUPEB_{pg}$ is the Billing Period Undefined Potential Exposure Quantity for Standard Participant p in respect of all its Supplier Units v in Undefined Exposure Period g calculated in accordance with paragraph G.14.7.6;

(c) $VCAS_{pv}$ is the Credit Assessment Volume for each New Participant in respect of its Supplier Units for the Imbalance Settlement Periods γ;

(d) $(QUPEB_{pg} \times FCAA_{pg})$ is the Billing Period Undefined Potential Exposure Quantity for Adjusted Participant p in respect of all its Supplier Units v in Undefined Exposure Period g;

(e) $FCAA_{pg}$ is the Credit Assessment Adjustment Factor for Participant p in respect of all its Supplier Units v in Undefined Exposure Period g notified in accordance with paragraph G.12.4.3;

(f) $\sum_{\gamma\ in\ g}$ is the summation across all Imbalance Settlement Periods γ in Undefined Exposure Period g;

(g) $\sum_{\Omega}$ is the summation across all Capacity Market Units Ω; and

(h) $\sum_{p}$ is the summation across all Participants p.

G.14.6   **Calculations for the Undefined Exposure Period for a Adjusted Participant in respect of its Generator Units or Assetless Units**

G.14.6.1   The Market Operator shall calculate the Exposure for Trading Payments and Trading Charges for the Undefined Exposure Period g for each Adjusted Participant p in respect of its Generator Units and Assetless Units ($EUPEG_{pg}$) as follows:

$$EUPEG_{pg} = EUPEG_{pg} \times FCAA_{pg}$$

where:

(a) $EUPEG_{pg}$ is the Billing Period Undefined Potential Exposure for Trading Payments and Trading Charges for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.10.4; and

(b) $FCAA_{pg}$ is the Credit Assessment Adjustment Factor for Participant p in respect of all its Supplier Units v in Undefined Exposure Period g submitted in accordance with paragraph G.12.4.3.

G.14.7   **Calculations for the Undefined Exposure Period for a Standard Participant in respect of its Supplier Units**

G.14.7.1   The Market Operator shall procure that, where the Participant is a Standard Participant, the Participant's Undefined Potential Exposure in respect of its Supplier Units shall be calculated as one calculation for the Billing Period values and one calculation for the Capacity Period values according to the procedures set out in the following paragraphs of this section G.14.7.

G.14.7.2   The number of Sample Undefined Exposure Periods in the Historical Assessment Period that is to be used in the summation of the Billing Period payments and charges for the Undefined Exposure Period g ($BPHAP_g$) shall be calculated by the Market Operator as follows:

$$BPHAP_g = \left(DINHAP - UEPBD_g\right) + 1$$

where:

(a) DINHAP is the number of days in the Historical Assessment Period; and

(b) $UEPBD_g$ is the number of days in the Undefined Exposure Period g.

G.14.7.3 The Market Operator shall calculate the Billing Period Metered Demand ($QMB_{pg\omega}$) for Participant p in respect of its Supplier Units v for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g as follows:

$$for\ each\ Sample\ Undefined\ Exposure\ Period\ in\ the\ Historical\ Assessment\ Period$$
$$defined\ by\ BPHAP_g$$

$$QMB_{pg\omega} = \sum_{d\ in\ \omega} \sum_{v\ in\ p} \sum_{\gamma\ in\ d} QM_{v\gamma}$$

where:

(a) $QM_{v\gamma}$ is the Metered Quantity on Supplier Unit v in Imbalance Settlement Period γ;

(b) $\sum_{d\ in\ \omega}$ is a summation over all Settlement Days d in Sample Undefined Exposure Period ω;

(c) $\sum_{\gamma\ in\ d}$ is a summation over all Imbalance Settlement Periods γ in Settlement Day d; and

(d) $\sum_{v\ in\ p}$ is a summation over all Supplier Units v registered in respect of Participant p.

G.14.7.4 The mean of the Billing Period Metered Demand ($QMBM_{pg}$) for Participant p in respect of its Supplier Units v for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$QMBM_{pg} = \frac{\sum_{\omega=1}^{\omega=BPHAP_g} QMB_{pg\omega}}{BPHAP_g}$$

where:

(a) $BPHAP_g$ is the number of Sample Undefined Exposure Periods in the Historical Assessment Period that will be used in the summation of the Billing Period payments and charges for the relevant Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.2 as calculated in accordance with paragraph G.14.7.3;

(b) $QMB_{pg\omega}$ is the Billing Period Metered Demand for Participant p in respect of its Supplier Units v for for each Sample Undefined Exposure Period ω in the

Historical Assessment Period to be applied for the Undefined Exposure Period g; and

(c) $\sum_{\omega=1}^{\omega=BPHAP_g}$ is the sum over all the Billing Period Metered Demand values for the Sample Undefined Exposure Periods ω.

G.14.7.5 The standard deviation of the Billing Period Metered Demand (QMBSD$_{pg}$) for Participant p in respect of its Supplier Units v for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$QMBSD_{pg} = \sqrt{\frac{BPHAP_g \times \sum_{\omega=1}^{\omega=BPHAP_g}(QMB_{pg\omega})^2 - \left(\sum_{\omega=1}^{\omega=BPHAP_g} QMB_{pg\omega}\right)^2}{BPHAP_g \times (BPHAP_g - 1)}}$$

where:

(a)   BPHAP$_g$ is the number of Sample Undefined Exposure Periods in the Historical Assessment Period that will be used in the summation of the Billing Period payments and charges for the relevant Undefined Exposure Period g;

(b)   QMB$_{pg\omega}$ is the Billing Period Metered Demand for Participant p in respect of its Supplier Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period for the Undefined Exposure Period g ; and

(c) $\sum_{\omega=1}^{\omega=BPHAP_g}$ is the sum over all the Billing Period Metered Demand values for the Sample Undefined Exposure Periods ω.

G.14.7.6 The Billing Period Undefined Potential Exposure Quantity (QUPEB$_{pg}$) to be applied for Participant p in respect of its Supplier Units for the Undefined Exposure Period g shall be calculated as follows:

$$QUPEB_{pg} = QMBM_{pg} + AnPP(QMBSD_{pg})$$

where:

(a)   QMBM$_{pg}$ is the mean of the Billing Period Metered Demand for Participant p in respect of its Supplier Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.4;

(b)   AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and

(c)   QMBSD$_{pg}$ is the standard deviation of the Billing Period Metered Demand for Participant p in respect of its Supplier Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.5.

G.14.7.7 The Market Operator shall calculate the exposure for Trading Charges for the Undefined Exposure Period g for a Standard Participant p in respect of its Supplier Units (EUPES$_{pg}$) in accordance with the following formula:

$$EUPES_{pg} = CCAP_g \times QUPEB_{pg}$$

where:

(a)   CCAP$_g$ is the Combined Credit Assessment Price for the Undefined Exposure Period g calculated in accordance with G.14.2.6; and

(b)   QUPEB$_{pg}$ is the Billing Period Undefined Potential Exposure Quantity for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.7.6.

G.14.8   Calculations in respect of Capacity Charges

G.14.8.1 A Standard Participant's Exposure in respect of its Capacity Charges for its Supplier Units (EUPECC$_{pg}$) for Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$EUPECC_{pg}$$
$$= \sum_{\gamma\ in\ g} \sum_{\Omega} CCP_{\Omega\gamma}$$
$$\times \frac{QUPEB_{pg}}{\left(\sum_p QUPEB_{pg} + \left(\sum_p(QUPEB_{pg} \times FCAA_{pg})\right) + \sum_p \sum_{\gamma\ in\ g} VCAS_{p\gamma}\right)}$$

where:

(a)   CCP$_{\Omega\gamma}$ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.17;

(b)   QUPEB$_{pg}$ is the Billing Period Undefined Potential Exposure Quantity for Participant p in respect of all its Supplier Units v in Undefined Exposure Period g calculated in accordance with paragraph G.14.7.6;

(c)   VCAS$_{p\gamma}$ is the Credit Assessment Volume for each New Participant in respect of its Supplier Units for the Imbalance Settlement Periods γ;

(d)   (QUPEB$_{pg}$ x FCAA$_{pg}$) is the Billing Period Undefined Potential Exposure Quantity for Adjusted Participant p in respect of all its Supplier Units v in Undefined Exposure Period g;

(e) $\sum_{\gamma\ in\ g}$ is the summation across all Imbalance Settlement Periods γ in Undefined Exposure Period g;

(f) $\sum_{\Omega}$ is the summation across all Capacity Market Units Ω; and

(g) $\sum_{p}$ is the summation across all Participants p.

G.14.9 **Calculations for the Undefined Exposure Period for a Standard Participant in respect of its Generator Units**

G.14.9.1 The Market Operator shall procure that, where the Participant is a Standard Participant, the Participant's Undefined Potential Exposure in respect of its Generator Units will be calculated in accordance with the provisions paragraph G.14.10.

G.14.10 **Calculations in respect of Billing Period Payments**

G.14.10.1 The Billing Period Cashflow ($CUB_{pg\omega}$) for Standard Participant p in respect of its Generator Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

for each Sample Undefined Exposure Period in the Historical Assessment Period defined by $BPHAP_g$

$$CUB_{pg\omega} = \sum_{d \, in \, \omega} \left(\sum_{u \, in \, p} CDAY_{ud} + \sum_{\Omega \, in \, p} CDAY_{\Omega d} \right)$$

where:

(a) $CDAY_{ud}$ is the total Daily Amounts on Generator Unit u for Settlement Day d, as calculated in accordance with section G.4.11;

(b) $CDAY_{\Omega d}$ is the total Daily Amounts on Capacity Market Unit Ω for Settlement Day d, as calculated in accordance with section G.4.12;

(c) $\sum_{d \, in \, \omega}$ is a summation over all Settlement Days d in each Sample Undefined Exposure Period ω in the Historical Assessment Period;

(d) $\sum_{u \, in \, p}$ is a summation over all Generator Units registered in respect of Participant p; and

(e) $\sum_{\Omega \, in \, p}$ is a summation over all Capacity Market Units registered in respect of Participant p.

G.14.10.2 The mean of the Billing Period Cashflow ($CUBM_{pg}$) for Standard Participant p in respect of its Generator Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$CUBM_{pg} = \frac{\sum_{\omega=1}^{\omega=BPHAP_g} CUB_{pg\omega}}{BPHAP_g}$$

where:

(a) $BPHAP_g$ is the number of Sample Undefined Exposure Periods in the Historical Assessment Period that is to be used in the summation of the Billing

Period payment and charges for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.2;

(b) $CUB_{pg\omega}$ is the Billing Period Cashflow for Participant p in respect of its Generator Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.10.1; and

(c) $\sum_{\omega=1}^{\omega=BPHAP_g}$ is the sum across all the Sample Undefined Exposure Periods ω.

G.14.10.3 The standard deviation of the Billing Period Cashflow ($CUBSD_{pg}$) for Participant p in respect of its Generator Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$CUBSD_{pg} = \sqrt{\frac{BPHAP_g \times \sum_{\omega=1}^{\omega=BPHAP_g}(CUB_{pg\omega})^2 - \left(\sum_{\omega=1}^{\omega=BPHAP_g} CUB_{pg\omega}\right)^2}{BPHAP_g \times (BPHAP_g - 1)}}$$

where:

(a) $BPHAP_g$ is the number of the Sample Undefined Exposure Periods in the Historical Assessment Period that is to be used in the summation of the Billing Period payments and charges for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.2;

(b) $CUB_{pg\omega}$ is the Billing Period Cashflow for Participant p in respect of its Generator Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.10.1; and

(c) $\sum_{\omega=1}^{\omega=BPHAP_g}$ is the sum across all the Sample Undefined Exposure Periods ω.

G.14.10.4 The Billing Period Undefined Potential Exposure for Trading Payments ($EUPEG_{pg}$) for Undefined Exposure Period g for Standard Participant p in respect of its Generator Units shall be calculated by the Market Operator as follows:

$$EUPEG_{pg} = CUBM_{pg} + AnPP(CUBSD_{pg})$$

where:

(a) $CUBM_{pg}$ is the mean of the Billing Period Cashflow for Participant p in respect of its Generator Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.10.2;

(b) AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and

(c) $CUBSD_{pg}$ is the standard deviation of the Billing Period Cashflow for Participant p in respect of its Generator Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.10.3.

G.14.11   Calculations for the Undefined Exposure Period for a Standard Participant in respect of its Assetless Units

G.14.11.1 The Market Operator shall procure that, where the Participant is a Standard Participant, the Participant's Undefined Exposure in respect of its Assetless Units will be calculated according to the procedures set out in section G.14.12.

G.14.12   Calculations in respect of Billing Period Payments

G.14.12.1 The Billing Period Cashflow ($CUB_{pg\omega}$) for Participant p in respect of its Assetless Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$for\ each\ Sample\ Undefined\ Exposure\ Period\ in\ the\ Historical\ Assessment\ Period$$
$$defined\ by\ BPHAP_g$$

$$CUB_{pg\omega} = \sum_{d\ in\ \omega} \sum_{u\ in\ p} CDAY_{ud}$$

where:

(a) $CDAY_{ud}$ is the Total Daily Amounts on Assetless Unit u for Settlement Day d, as calculated in accordance with section G.4.11;

(b) $\sum_{d\ in\ \omega}$ is a summation over all Settlement Days d in each Sample Undefined Exposure Period ω; and

(c) $\sum_{u\ in\ p}$ is a summation over all Assetless Units registered in respect of Participant p.

G.14.12.2 The mean of Billing Period Cashflow ($CUBM_{pg}$) for Participant p in respect of its Assetless Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$CUBM_{pg} = \frac{\sum_{\omega=1}^{\omega=BPHAP_g} CUB_{pg\omega}}{BPHAP_g}$$

where:

(a) $BPHAP_g$ is the number of Sample Undefined Exposure Periods in the Historical Assessment Period that is to be used in the summation of the Billing

Period payment and charges for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.2;

(b) $CUB_{pg\omega}$ is the Billing Period Cashflow for Participant p in respect of its Assetless Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.12.1; and

(c) $\sum_{\omega=1}^{\omega=BPHAP_g}$ is the sum across all the Sample Undefined Exposure Periods ω.

G.14.12.3 The standard deviation of the Billing Period Cashflow ($CUBSD_{pg}$) for Participant p in respect of its Assetless Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$CUBSD_{pg} = \sqrt{\frac{BPHAP_g \times \sum_{\omega=1}^{\omega=BPHAP_g}\left(CUB_{pg\omega}\right)^2 - \left(\sum_{\omega=1}^{\omega=BPHAP_g} CUB_{pg\omega}\right)^2}{BPHAP_g \times \left(BPHAP_g - 1\right)}}$$

where:

(a) $BPHAP_g$ is the number of Sample Undefined Exposure Periods in the Historical Assessment Period that is to be used in the summation of the Billing Period payments and charges for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.7.2;

(b) $CUB_{pg\omega}$ is the Billing Period Cashflow for Participant p in respect of its Assetless Units for each Sample Undefined Exposure Period ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.12.1; and

(c) $\sum_{\omega=1}^{\omega=BPHAP_g}$ is the sum over all the Sample Undefined Exposure Periods ω.

G.14.12.4 The Billing Period Undefined Potential Exposure ($EUPEG_{pg}$) for Undefined Exposure Period g for Participant p in respect of its Assetless Units shall be calculated as follows:

$$EUPEG_{pg} = CUBM_{pg} + AnPP\left(CUBSD_{pg}\right)$$

where:

(a) $CUBM_{pg}$ is the mean of the Billing Period Cashflow for Participant p in respect of its Assetless Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.12.2;

(b)   AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and

(c) $CUBSD_{pg}$ is the standard deviation of the Billing Period Cashflow for Participant p in respect of its Generator Units for all Sample Undefined Exposure Periods ω in the Historical Assessment Period to be applied for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.12.3.

G.14.13 Calculations in respect of Traded Not Delivered Exposure for Participants

G.14.13.1 A Participant's Traded Not Delivered Exposure in respect of its Generator Units u, Assetless Units u and Supplier Units v ($ETND_{pg}$) for Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$
\begin{aligned}
ETND_{pg} &= \left(\sum_{u\ in\ p} \sum_{h\ in\ g} \left(\sum_x qTDA_{xuh} \times Min(DTDA_x, DISP) \right.\right. \\
&\quad + \left.\left. \sum_x qTID_{xuh} \times Min(DTID_x, DISP) \right) \times PCA_g \right) \\
&\quad + \left(\sum_{v\ in\ p} \sum_{h\ in\ g} \left(\sum_x qTDA_{xvh} \times Min(DTDA_x, DISP) \right.\right. \\
&\quad + \left.\left. \sum_x qTID_{xvh} \times Min(DTID_x, DISP) \right) \times PCA_g \right) \times -1
\end{aligned}
$$

where:

(a) $qTDA_{xuh}$ is the Day-ahead Trade Quantity in respect of Generator Unit u (including Assetless Units) for Day-ahead Trading Period h for Trade x;

(b) $qTID_{xuh}$ is the Intraday Trade Quantity in respect of Generator Unit u (including Assetless Units) for Intraday Trading Period h for Trade x;

(c) $qTDA_{xvh}$ is the Day-ahead Trade Quantity in respect of Supplier Unit v for Day-ahead Trading Period h for Trade x;

(d) $qTID_{xvh}$ is the Intraday Trade Quantity in respect of Supplier Unit v for Intraday Trading Period h for Trade x;

(e) DISP is the Imbalance Settlement Period Duration;

(f) $DTDA_x$ is the Day-ahead Trade Duration of Trade, x;

(g) $DTID_x$ is the Intraday Trade Duration of Trade, x;

(h) PCA_g is the Credit Assessment Price for credit assessment for Undefined Exposure Period g;

(i) $\sum_x$ is the summation across all Trades, x;

(j) $\sum_{u\ in\ p}$ is the summation across all units u in respect of Participant p;

(k) $\sum_{v\ in\ p}$ is the summation across all units v in respect of Participant p; and

(l) $\sum_{h\ in\ g}$ is the summation across all Trading Periods h in Undefined Exposure Period g.

G.14.14   Calculations in respect of Capacity Payments

G.14.14.1 The Undefined Exposure for Participant p in respect of its Capacity Payments for its Capacity Market Units (EUPECP$_{pg}$) to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

$$EUPECP_{pg} = \sum_{\gamma\ in\ g} \sum_{\Omega\ in\ p} CCP_{\Omega\gamma}$$

where:

(a)   CCP$_{\Omega\gamma}$ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.17;

(b) $\sum_{\Omega\ in\ p}$ is the summation across all Capacity Market Units Ω in respect of Participant p; and

(c) $\sum_{\gamma\ in\ g}$ is the summation across all Imbalance Settlement Periods in Undefined Exposure Period g.

G.14.15   Calculation of Forecast Amounts of Settlement Reallocations Agreements

G.14.15.1 The Market Operator shall procure that, where a Participant is a party to a Settlement Reallocation Agreement, the Participant's available amount with respect to that Settlement Reallocation Agreement as it applies across the Settlement Risk Period will be calculated according to the procedures set out in the following paragraph G.14.15.2.

G.14.15.2 The Market Operator shall procure that the Forecast Amount Available for Settlement Reallocation Agreements (FAVRA$_{apr}$) that apply to a Participant for Settlement Reallocation Agreement a that falls within Settlement Risk Period r shall be calculated as follows:

$$FAVRA_{apr}$$
$$= FCR_{py} + EA_{pr} + ETND_{pd} + EUPES_{pg} + EUPEG_{pg} + EUPECC_{pg} + EUPECP_{pg}$$

where:

(a)   FCR$_{py}$ is the Fixed Credit Requirement for Participant p in Year y, as determined in accordance with paragraph G.10.1.1;

(b)   EA$_{pr}$ is the Actual Exposure in respect of actual liabilities for participant p across Settlement Risk Period r as calculated in accordance with paragraph G.13.1.1;

(c) $ETND_{pd}$ is the Traded Not Delivered Exposure for Participant p in Trading Day d as calculated in accordance with section G.14.13;

(d) $EUPES_{pg}$ is the exposure for Trading Charges for Undefined Exposure Period g for Participant p in respect of its Supplier Units as calculated in accordance with paragraph G.14.7.7;

(e) $EUPEG_{pg}$ is the Billing Period Undefined Potential Exposure for Trading Payments for Undefined Exposure Period g for Participant p in respect of its Generator Units and Assetless Units as calculated in accordance with paragraph G.14.10.4;

(f) $EUPECC_{pg}$ is the exposure in respect of its Capacity Charges for Undefined Exposure Period g for Participant p in respect of its Supplier Units as calculated in accordance with paragraph G.14.8.1; and

(g) $EUPECP_{pg}$ is the Undefined Exposure in respect of its Capacity Payments for Undefined Exposure Period g for Participant p in respect of its Capacity Market Units as calculated in accordance with paragraph G.14.14.1.

G.14.15.3 The Market Operator shall procure that, where a Participant is a party to a Settlement Reallocation Agreement and the SRA Start Date and/or the SRA End Date of that agreement fall within Settlement Risk Period r, the Participant's available amount with respect to that Settlement Reallocation Agreement as it applies across the Settlement Risk Period will be calculated according to the procedures set out in the following paragraphs G.14.15.4 through to G.14.15.8.

G.14.15.4 For each Settlement Document that will include calculated amounts of Trading Payments and Trading Charges associated with any Settlement Reallocation Agreement a, in Settlement Risk Period r, determine the Energy Credit, EC_BILIMB_{apr}, relating to Settlement Days for which Settlement Statements have issued in accordance with paragraphs G.2.5.1(a) or G.2.5.1(b) for each Secondary Participant for each Settlement Reallocation Agreement a as follows:

$$EC\_BILIMB_{apr}$$

$$= \sum_{b\ in\ a} \left(\sum_{v\ in\ p} \sum_{d\ in\ b} CDAY_{vd} + \sum_{u\ in\ p} \sum_{d\ in\ b} CDAY_{ud} + \sum_{\Omega\ in\ p} \sum_{d\ in\ b} CDAY_{\Omega d} \right.$$
$$\left. + \sum_{u\ in\ p} \sum_{b} CFC_{ub} \right)$$

where:

(a) $CDAY_{vd}$ is the Total Daily Amounts for Supplier Unit v for Settlement Day d calculated in accordance with paragraph G.5.6.1;

(b) $CDAY_{ud}$ is the Total Daily Amounts for Generator Unit u for Settlement Day d calculated in accordance with paragraph G.4.11.1;

(c) $CDAY_{\Omega d}$ is the Total Daily Amounts for Capacity Market Unit Ω for Settlement Day d calculated in accordance with paragraph G.4.12.1;

(d) CFC_{ub} is the Fixed Cost Payment or Charge for Generator Unit u calculated for the Billing Period calculated in accordance with section F.11;

(e) $\sum_{v\ in\ p}$ is the summation across all Supplier Units v registered in respect of Participant p;

(f) $\sum_{u\ in\ p}$ is the summation across all Generator Units u registered in respect of Participant p;

(g) $\sum_{\Omega\ in\ p}$ is the summation across all Capacity Market Unit Ω registered in respect of Participant p;

(h) $\sum_{d\ in\ b}$ is the summation across all Settlement Days d in Billing Period b; and

(i) $\sum_{b\ in\ a}$ is the summation across all Billing Periods b related to Settlement Reallocation Agreement a.

G.14.15.5 For each Settlement Document that will include calculated amounts of Capacity Payments and Capacity Charges associated with any Settlement Reallocation Agreement a, in Settlement Risk Period r, determine the Capacity Credit, CC_BILCAP_{apr}, relating to Settlement Days for which Settlement Statements have issued in accordance with paragraphs G.2.5.2(a) or G.2.5.2(b) for each Secondary Participant for each Settlement Reallocation Agreement a as follows:

$$CC\_BILCAP_{apr} = \sum_{b\ in\ a}\left(\sum_{v\ in\ p}\sum_{\gamma\ in\ b} CCC_{v\gamma} + \sum_{\Omega\ in\ p}\sum_{\gamma\ in\ b} CCP_{\Omega\gamma}\right)$$

where:

(a) $CCP_{\Omega\gamma}$ is the Capacity Payment for a Capacity Market Unit Ω Imbalance Settlement Periods γ calculated in accordance with section F.17;

(b) $CCC_{v\gamma}$ is the Capacity Charge for a Supplier Unit v in Imbalance Settlement Periods γ calculated in accordance with section F.19;

(c) $\sum_{v\ in\ p}$ is the summation across all Supplier Units v registered in respect of Participant p;

(d) $\sum_{u\ in\ p}$ is the summation across all Generator Units u registered in respect of Participant p;

(e) $\sum_{\Omega\ in\ p}$ is the summation across all Capacity Market Unit Ω registered in respect of Participant p;

(f) $\sum_{\gamma\ in\ b}$ is the summation all Imbalance Settlement Periods γ in Billing Period b; and

(g) $\sum_{b\ in\ a}$ is the summation across all Billing Periods b related to Settlement Reallocation Agreement a.

G.14.15.6 For each Settlement Document that will include calculated amounts of Trading Payments and Trading Charges associated with any Settlement Reallocation Agreement a, in Settlement Risk Period r, determine Energy Credit, EC_UNBIMB_{apr}, relating to Settlement Days for which Settlement Statements have not issued in

accordance with paragraphs G.2.5.1(a) or G.2.5.1(b) for each Secondary Participant for each Settlement Reallocation Agreement a as follows:

$$EC\_UNBIMB_{apr} = \left(\left(EUPES_{pg} + EUPEG_{pg} \right) \times \frac{DUNBIMB_a}{UEPBD_g} \right) + \sum_{b\ in\ a} \sum_{d\ in\ b} ETND_{pd}$$

where:

(a) $EUPES_{pg}$ is the exposure for Trading Charges for Undefined Exposure Period g for Participant p in respect of its Supplier Units, as calculated in accordance with paragraph G.14.3.2 or paragraph G.14.5.1 or paragraph G.14.7.7;

(b) $EUPEG_{pg}$ is the Billing Period Undefined Potential Exposure for Trading Payments for Undefined Exposure Period g for Participant p in respect of its Generator Units and Assetless Units, as calculated in accordance with paragraph G.14.4.2 or paragraph G.14.6.1 or paragraph G.14.10.4 or paragraph G.14.12.4;

(c) $DUMBIMB_a$ is the number days of unbilled imbalance settlement in Undefined Exposure Period g for each Settlement Document associated with Settlement Reallocation Agreement a;

(d) $UEPBD_g$ is the number of days in the Undefined Exposure Period g;

(e) $ETND_{pd}$ is the Traded Not Delivered Exposure for Participant p in Trading Day d, as calculated in accordance with section G.14.13;

(f) $\sum_{d\ in\ b}$ is the summation across all Settlement Days d in Billing Period b; and

(g) $\sum_{b\ in\ a}$ is the summation across all Billing Periods b related to Settlement Reallocation Agreement a.

G.14.15.7 For each Settlement Document that will include calculated amounts of Capacity Payments and Capacity Charges associated with any Settlement Reallocation Agreement a, in Settlement Risk Period r, determine the Capacity Credit, CC_UNBCAP_{apr}, relating to Settlement Days for which Settlement Statements have not issued in accordance with paragraphs G.2.5.2(a) or G.2.5.2(b) for each Secondary Participant for each Settlement Reallocation Agreement a as follows:

$$CC\_UNBCAP_{apr} = \left(EUPECC_{pg} + EUPECP_{pg} \right) \times \frac{DUNBCAP_a}{UEPBD_g}$$

where:

(a) $EUPECC_{pg}$ is the exposure in respect of its Capacity Charges for Undefined Exposure Period g for Participant p in respect of its Supplier Units, as calculated in accordance with paragraph G.14.3.3 or paragraph G.14.5.2 or paragraph G.14.8.1;

(b) $EUPECP_{pg}$ is the exposure in respect of its Capacity Payments for Undefined Exposure Period g for Participant p in respect of its Generator Units, as calculated in accordance with paragraph G.14.14;

(c) $DUNBCAP_a$ is the number days of unbilled Capacity settlement in Undefined Exposure Period g for each Settlement Document associated with Settlement Reallocation Agreement a; and

(d) $UEPBD_g$ is the number of days in the Undefined Exposure Period g.

G.14.15.8 The Market Operator shall procure that the Forecast Amount Available for Settlement Reallocation Agreements ($FAVRA_{apr}$) for each Settlement Reallocation Agreement a, in Settlement Risk Period r, for each Participant p that is Secondary Participant to the agreement as follows:

$$FAVRA_{apr} = EC\_BILIMB_{apr} + CC\_BILCAP_{apr} + EC\_UNBIMB_{apr} + CC\_UNBCAP_{apr} + FCR_{py}$$

where:

(a) EC_BILIMB_{apr} is the Energy Credit relating to Settlement Days for which Settlement Statements have issued in accordance with paragraphs G.2.5.1(a) or G.2.5.1(b) for each Settlement Reallocation Agreement a for Secondary Participant, p;

(b) CC_BILCAP_{apr} is the Capacity Credit relating to Settlement Days for which Settlement Statements have issued in accordance with paragraphs G.2.5.2(a) or G.2.5.2(b) for each Settlement Reallocation Agreement a Secondary Participant, p;

(c) EC_UNBIMB_{apr} is the Energy Credit relating to Settlement Days for which Settlement Statements have not issued in accordance with paragraphs G.2.5.1(a) or G.2.5.1(b) for each Settlement Reallocation Agreement a Secondary Participant, p;

(d) CC_UNBCAP_{apr} is the Capacity Credit relating to Settlement Days for which Settlement Statements have not issued in accordance with paragraphs G.2.5.2(a) or G.2.5.2(b) for each Settlement Reallocation Agreement a Secondary Participant, p; and

(e) FCR_{py} is the Fixed Credit Requirement for Participant p in Year y, as determined in accordance with paragraph G.10.1.1 applied in respect of the Settlement Reallocation Agreement a where the SRA End Date is later than the end of Undefined Exposure Period g.

G.14.15.9 The Market Operator shall procure that the Forecast Amount for Settlement Reallocation Agreement ($FASRAS_{apr}$) for any Participant that is the Secondary Participant p to a Settlement Reallocation Agreement a shall be calculated as follows:

$$FASRAS_{apr} = \sum_{a\ in\ r} FAVRA_{apr}$$

where:

(a)   FAVRA$_{apr}$ is the Forecast Amount available for Settlement Reallocation Agreements for Participant p in Settlement Risk Period r calculated in accordance with paragraph G.14.15.2 or paragraph G.14.15.8; and

(b) $\sum_{a\ in\ r}$ is the summation over all Settlement Reallocation Agreements a in Settlement Risk Period r.

G.14.15.10   The Market Operator shall procure that the Forecast Amount of the Settlement Reallocation Agreement (FASRAP$_{apr}$) for any Participant that is the Principal Participant p to a Settlement Reallocation Agreement a shall be calculated as follows:

$$FASRAP_{apr} = FAVRA_{apr}$$

where:

(a)   FAVRA$_{apr}$ is the Forecast Amount for Settlement Reallocation Agreements for each Secondary Participant p with which the Principal Participant has a Settlement Reallocation Agreement a in Settlement Risk Period r calculated in accordance with paragraph G.14.15.2 or paragraph G.14.15.8.

G.15   CALCULATIONS OF REQUIRED CREDIT COVER FOR PARTICIPANTS

G.15.1.1 The Market Operator shall procure that the Required Credit Cover (RCC$_{pr}$) for each Participant p in respect of the Settlement Risk Period r shall be calculated as follows:

$$RCC_{pr}$$
$$= FCR_{py} + EA_{pr} + ETND_{pd} + EUPES_{pg} + EUPEG_{pg} + EUPECC_{pg}$$
$$+ EUPECP_{pg} - FASRAS_{apr} + \sum_{a\ in\ p} FASRAP_{apr}$$

where:

(a)   FCR$_{py}$ is the Fixed Credit Requirement for Participant p in year y;

(b)   EA$_{pr}$ is the Actual Exposure in respect of actual liabilities for Participant p across Settlement Risk Period r, as calculated in accordance with paragraph G.13.1.1;

(c)   ETND$_{pd}$ is the Traded Not Delivered Exposure for Participant p in Trading Day d, as calculated in accordance with section G.14.13;

(d)   EUPES$_{pg}$ is the exposure for Trading Charges for Undefined Exposure Period g for Participant p in respect of its Supplier Units, as calculated in accordance with paragraph G.14.3.2 or paragraph G.14.5.1 or paragraph G.14.7.7;

(e)   EUPEG$_{pg}$ is the Billing Period Undefined Potential Exposure for Trading Payments for Undefined Exposure Period g for Participant p in respect of its Generator Units and Assetless Units, as calculated in accordance with

paragraph G.14.4.2 or paragraph G.14.6.1 or paragraph G.14.10.4 or paragraph G.14.12.4;

(f) $EUPECC_{pg}$ is the exposure in respect of its Capacity Charges for Undefined Exposure Period g for Participant p in respect of its Supplier Units, as calculated in accordance with paragraph G.14.3.3 or paragraph G.14.5.2 or paragraph G.14.8.1;

(g) $EUPECP_{pg}$ is the exposure in respect of its Capacity Payments for Undefined Exposure Period g for Participant p in respect of its Generator Units, as calculated in accordance with paragraph G.14.14;

(h) $FASRAS_{apr}$ is the forecast amount of the Settlement Reallocation Agreement a applicable for Secondary Participant p, as calculated in accordance with paragraph G.14.15;

(i) $FASRAP_{apr}$ is the forecast amount of the Settlement Reallocation Agreement a applicable for Principal Participant p, as calculated in accordance with paragraph G.14.15; and

(j) $\sum_{a\,in\,p}$ is a summation overall Settlement Reallocation Agreements registered in respect of the Principal Participant p.

G.16   SETTLEMENT REALLOCATION

G.16.1   Concepts

G.16.1.1 In this section G.16:

(a) a Settlement Reallocation Agreement is an agreement between two Participants and the Market Operator, under which the parties agree that the Market Operator shall allocate to one Participant (the "**Principal Participant**") all amounts owed by or to the other Participant (the "**Secondary Participant**") under Settlement Documents issued under this Code;

(b) a Participant may be the Principal Participant in respect of more than one Settlement Reallocation Agreement with other Secondary Participants;

(c) a Principal Participant cannot also be the Secondary Participant in respect of any Settlement Reallocation Agreements; and

(d) a Participant may be the Secondary Participant in respect of only one Settlement Reallocation Agreement with one Principal Participant.

G.16.1.2 Agreed Procedure 10 "Settlement Reallocation" sets out the processes for the requesting of, recording and termination of Settlement Reallocations under Settlement Reallocation Agreements.

G.16.2   Settlement Reallocation Agreements

G.16.2.1 A Settlement Reallocation Agreement:

(a) must specify the Principal Participant;

(b) must specify the Secondary Participant;

(c) must specify the Settlement Day after which the reallocation is intended to apply (called the "**SRA Start Date**");

(d)   may specify the Settlement Day after which the reallocation will no longer apply (if known) (called the "**SRA End Date**"); and

(e)   must be in the form published from time to time by the Market Operator and comply with the requirements in Agreed Procedure 10 "Settlement Reallocation".

G.16.2.2 If a Settlement Reallocation Agreement specifies an SRA End Date, then the period between the SRA Start Date and the SRA End Date must include at least one Settlement Document issue date according to the Settlement Calendar.

G.16.3   **Registration of Settlement Reallocation Agreement**

G.16.3.1 A Participant which has executed a draft Settlement Reallocation Agreement may lodge a copy of the draft agreement (executed by both the Principal Participant and the Secondary Participant) with the Market Operator.

G.16.3.2 A draft Settlement Reallocation Agreement may be lodged with the Market Operator during the period commencing 60 days prior to the day on which the first Settlement Document to be covered by the relevant Settlement Reallocation Agreement is scheduled to issue and ending 20 Working Days prior to that day.

G.16.3.3 The Market Operator shall review a draft Settlement Reallocation Agreement lodged under paragraph G.16.3.1 and, if the Market Operator is satisfied that the relevant draft Settlement Reallocation Agreement meets the requirements of the Code and complies with the requirements of Agreed Procedure 10 "Settlement Reallocation", the Market Operator will execute the relevant draft Settlement Reallocation Agreement, register the Settlement Reallocation Agreement and notify the affected Principal and Secondary Participants accordingly.

G.16.3.4 A Participant may review any Settlement Reallocation Agreement to which it is a party that has been registered by the Market Operator.

G.16.4   **Giving Effect to Settlement Reallocations**

G.16.4.1 Where a Settlement Reallocation Agreement has been registered under paragraph G.16.3.3:

(a)   the Market Operator shall give effect to the Settlement Reallocation Agreement in all Settlement Documents covered by the agreement;

(b)   all amounts that would otherwise be payable to the Secondary Participant under those Settlement Documents will become payable to the Principal Participant;

(c)   all amounts that would otherwise be payable by the Secondary Participant under those Settlement Documents will become payable by the Principal Participant; and

(d)   if the Currency applicable to the Principal Participant differs from the Currency applicable to the Secondary Participant, the Market Operator will convert into the required Currency any re-allocated amount that is the subject of such agreement. The conversion will be done:

(i)   for Settlement calculations, using the Trading Day Exchange Rate applicable to the day the relevant Settlement Document is issued; and

(ii) for Credit Cover calculations and recalculations, using the Trading Day Exchange Rate applicable to the day on which Credit Cover is being calculated or recalculated.

G.16.5 Termination

G.16.5.1 The Market Operator may terminate a Settlement Reallocation Agreement where a Suspension Order has been issued in accordance with section B.18.3 in relation to either or both of the Principal Participant or the Secondary Participant.

G.16.5.2 If the Market Operator terminates a Settlement Reallocation Agreement under paragraph G.16.5.1, then it shall notify the Principal Participant and Secondary Participant, giving reasons.

G.16.5.3 The Market Operator shall terminate a Settlement Reallocation Agreement if a termination request is lodged with the Market Operator on behalf of either the Principal Participant or the Secondary Participant, with effect from the time when the next Settlement Document is issued after the later of the termination time specified in the request (if any) and 20 Working Days following the Market Operator receiving the request.

G.16.5.4 If the Market Operator terminates a Settlement Reallocation Agreement under this section G.16.5, then the Market Operator shall also recalculate the Principal Participant's and the Secondary Participant's respective Required Credit Cover and, if necessary, issue a Required Credit Cover Report to the Secondary Participant under section G.12.

G.17 IMPLEMENTATION OF ADMINISTERED IMBALANCE SETTLEMENT

G.17.1 General Principles in the Event of Administered Imbalance Settlement

G.17.1.1 The Market Operator shall declare that the status of Administered Imbalance Settlement applies in the event of a General System Failure or Electrical System Collapse.

G.17.1.2 In implementing Administered Imbalance Settlement, the Market Operator shall, insofar as reasonably practicable, adopt a balance between the following principles:

(a) make use of all available data, and limit to the maximum extent practicable the use of estimated values;

(b) operate within the Settlement timescales, and be subject to the Settlement Query and Dispute provisions as set out in sections G.3 and B.19 respectively;

(c) seek results which are as close as possible to those which would have been calculated under the normal Settlement processes;

(d) obtain the prior written approval of the Regulatory Authorities for the detailed calculations and methodology used; and

(e) publish details of the calculations and methodology used as soon as practicable thereafter.

G.17.2 Estimation of Data in the Event of Administered Imbalance Settlement

G.17.2.1 To the extent necessary, the Market Operator may estimate any Settlement data in the event of Administered Imbalance Settlement.

G.17.2.2 In the event of Administered Imbalance Settlement, prior to completing the calculations set out in section G.17.3, the relevant values of Loss-Adjusted Metered Quantity ($QMLF_{u\gamma}$) for all Interconnector Residual Capacity Units and Interconnector Error Units shall first be calculated by the Market Operator in accordance with paragraphs F2.5.3.

G.17.2.3 In the event of Administered Imbalance Settlement, prior to completing the calculation set out in paragraphs G.17.3.1, the relevant values of Loss-Adjusted Metered Quantity ($QMLF_{u\gamma}$) for Demand Side Units shall be set to $QEX_{u\gamma}$ by the Market Operator.

G.17.3 **Administered Imbalance Settlement**

G.17.3.1 For all Imbalance Settlement Periods for which Administered Imbalance Settlement is in effect, the Market Operator shall calculate the Imbalance Component Payment or Imbalance Component Charge for each Generator Unit and each Supplier Unit as:

$$CIMB_\gamma = PMBU_\gamma \times \left(QMLF_\gamma - QEX_\gamma \right)$$

where:

(a) $PMBU_\gamma$ is the Market Back-Up Price in Imbalance Settlement Period, γ, calculated in accordance with section E.4.6;

(b) $QMLF_\gamma$ is the Loss-Adjusted Metered Quantity (expressed in MWh) for each Generator Unit or Supplier Unit, in Imbalance Settlement Period, γ; and

(c) QEX_γ is the Ex-Ante Quantity (expressed in MWh) for each Generator Unit or Supplier Unit in Imbalance Settlement Period, γ.

G.17.3.2 For all Imbalance Settlement Periods, γ, for which Administered Imbalance Settlement is in effect, the Market Operator shall set the following amounts equal to zero for all Generator Units and Supplier Units as applicable:

(a)   Premium Component Payment ($CPREMIUM_\gamma$);

(b)   Discount Component Payment ($CDISCOUNT_\gamma$);

(c)   Offer Price Only Accepted Offer Payment or Charge ($CAOOPO_\gamma$);

(d)   Bid Price Only Accepted Bid Payment or Charge ($CABBPO_\gamma$);

(e)   Curtailment Payment or Charge ($CCURL_\gamma$);

(f)   Uninstructed Imbalance Charge ($CUNIMB_\gamma$);

(g)   Fixed Cost Payment or Charge (CFC_γ);

(h)   Information Imbalance Charge (CII_γ);

(i)   Testing Charge ($CTEST_\gamma$);

(j)   Imperfections Charge (CIMP);

(k)   Residual Error Volume Charge ($CREV_\gamma$);

(l)   Currency Adjustment Payment or Charge (CCA_γ);

(m)   Difference Payment Socialisation Charge ($CSOCDIFFP_\gamma$); and

(n)   Achievable Difference Payment (CDIFFPACHIEVE$_\gamma$).

G.17.3.3 In the event of Administered Settlement resulting from General System Failure, following the relevant system returning to service and the Market Operator being able to calculate all Settlement amounts, the Market Operator shall procure that a Settlement Rerun shall be undertaken as soon as reasonably possible in respect of the relevant Imbalance Settlement Periods and that revised Settlement Statements and if necessary Settlement Documents in respect of the relevant Billing Period or Periods shall be issued to Participants.

G.18   MANAGEMENT OF VAT AND TAXES

G.18.1.1 The following paragraphs deal with the treatment of VAT for the purposes of the Code subject to and in accordance with VAT requirements of the Revenue Commissioners (ROI) and HM Revenue & Customs (UK) as to the treatment for taxation purposes of any transactions as envisaged by the Code or amounts payable or receivable by any Participant and, if applicable, any VAT agreement between the Irish Revenue Commissioners and HMRC or between either of them and the Market Operator as each may be amended from time to time. The Market Operator shall ensure that relevant details of any such agreement are provided to each Participant upon its becoming a Participant and upon any change in such agreement. Each Participant agrees that it will be bound by any such agreement (whether before or after the entry into effect or force of the Code) and will not act in any way prejudicial to such agreement.

G.18.1.2 The Market Operator shall for each Participant prepare and provide Settlement Documents in respect of the relevant settlement periods or payment dates setting out the amounts payable or receivable by a Participant (in this section G.18 called "**Participant Settlement Amounts**") for the purposes of enabling a Participant to calculate amounts in respect of any VAT chargeable or accountable, where applicable, by that Participant and attributable to such Participant Settlement Amounts. The Market Operator is not obliged to calculate and/or reflect any amount in respect of VAT which may be so chargeable or accountable in respect of any such Participant Settlement Amounts. Without prejudice to the other paragraphs of this section G.18, Settlement Documents may include information, if any, required by the Irish Revenue Commissioners and/or HMRC for the purposes of any VAT agreement referred to in paragraph G.18.1.1 and which may be updated or amended from time to time and save where so required, at the Market Operator's absolute discretion, Settlement Documents may inform Participants of certain of their VAT obligations, including a requirement to self-account for VAT on a reverse charge basis and/or which may be accompanied by relevant information in respect thereof.

G.18.1.3 Notwithstanding paragraph G.18.1.2, each Participant shall remain responsible and liable for satisfying all applicable VAT requirements applicable to it and complying with its obligations under applicable VAT legislation including in respect of VAT invoices and the maintenance and retention of relevant VAT records. It may be the case that for the purposes of this Code, a Settlement Document may be acceptable to a Revenue Authority (including pursuant to the terms of the VAT agreement referred to in paragraph G.18.1.1) as the equivalent of a VAT invoice for the purposes of a Participant's compliance with VAT invoicing obligations attributable to it in respect of supplies or purchases of electricity and details of any such confirmation provided to the Market Operator shall be provided by the Market Operator in accordance with paragraph G.18.1.1. Save in respect of any such agreement or confirmation provided

by a Revenue Authority to the Market Operator, there shall be no obligation on the Market Operator to provide VAT invoices or Settlement Documents which are the equivalent to VAT invoices on behalf of any Participant or to seek any such agreement or confirmation from a Revenue Authority and the Market Operator shall have no liability in respect of compliance with any applicable VAT obligations under applicable VAT laws attributable to a Participant or on behalf of a Participant in any jurisdiction or in respect of any supplies or purchases of electricity made by any Participant in any jurisdiction.

G.18.1.4 All Participants shall indemnify and keep indemnified the Market Operator, its officers, employees and agents against any liability which the Market Operator may incur (including without limitation by way of any reduction in the amount of VAT which it is entitled to recover by way of credit or repayment or otherwise) in respect of VAT (other than in respect of the Market Operator Charges) including without limitation as a result of any failure of any Participant to comply with any applicable VAT obligations under applicable VAT laws attributable to it and also including without limitation any failure to pay or account for any VAT (including interest and penalties) due on or in respect of any amounts set out or incorporated in any Settlement Document and/or in respect of any invoice or transaction relating thereto.

G.18.1.5 If any Participant shall fail properly to pay or account for any amount of VAT (including interest and penalties) payable or receivable by it, that Participant shall indemnify and keep indemnified each non-defaulting Participant (on an after tax basis, but taking account of any tax relief available to the relevant Participant, as the case may be) against any liability which such non-defaulting Participant or Participants shall incur consequently.

G.18.1.6 The Market Operator shall prepare invoices for Market Operator Charges including an amount in respect of any VAT (where applicable) in accordance with applicable VAT legislation.

G.18.1.7 Any difference between any applicable VAT paid by the Market Operator and applicable VAT received by the Market Operator in respect of Trading Charges, Trading Payments, Capacity Charges or Capacity Payments shall be treated as a component of the Balancing Cost.

G.18.1.8 For the avoidance of doubt, each Party and Participant must obtain their own independent VAT/indirect tax advice in relation to the implications of any transaction envisaged by and under this Code and there is no obligation on the Market Operator to provide such advice or guidance if requested by any Party or Participant.

G.18.1.9 The Market Operator shall retain records of all Settlement Documents and any VAT invoices issued by it together with records of all amounts of electricity deemed to be a cross border supply for VAT purposes for such period as may be required by law and may, upon request, make such information available to any Revenue Authority and may cooperate in any investigation by any Revenue Authority relating to supplies to or from Participants or amounts set out and/or incorporated in Settlement Documents.

G.18.1.10 Each Participant shall, for the purposes of enabling the Market Operator to comply with its obligations under applicable VAT legislation and under the Code in respect of VAT, notify the Market Operator such information about that Participant relating to VAT as the Market Operator so requests and each Participant shall notify as soon as it has actual knowledge that any such information which it has given to the Market Operator in accordance with this paragraph is incorrect, may change, will change or

has changed. The Market Operator shall remain entitled (though not obliged) to charge additional amounts (where applicable) in respect of VAT and to require VAT invoices from Participants where in a particular case it reasonably believes this is required or where there has been a relevant change in relation to VAT including without limitation in respect of any relevant facts and/or circumstances concerning the Participant, any change in any applicable VAT legislation and/or in any VAT agreement referred to in paragraph G.18.1.1.

H. INTERIM ARRANGEMENTS

H.1 INTRODUCTION

H.1.1 **Purpose**

H.1.1.1 This Chapter specifies certain interim arrangements that will apply following the Cutover Time for a transitional period which is specified in the case of each arrangement.

H.1.2 **Chapter H Prevails**

H.1.2.1 This Chapter H has priority over the other Chapters of this Part B of the Code, and, in the event of any inconsistency or conflict between a provision of this Chapter H and any other provision of this Part B of the Code, the provision of Chapter H prevails to the extent of the inconsistency.

H.2 FIRST CAPACITY YEAR CALCULATIONS

H.2.1.1 In making the calculations under paragraph F.17.1.1 and section F.18.3 for each Imbalance Settlement Period, γ, in the first Capacity Year, y, the Market Operator shall set $ISPIY_y$ to 17,520.

H.3 FIRST IMBALANCE SETTLEMENT PERIOD CALCULATIONS

H.3.1.1 The first Imbalance Settlement Period commences at the Cutover Time.

H.3.1.2 In making the calculations under paragraph F.18.7.4 and F.18.7.5 for the first Imbalance Settlement Period, the Market Operator shall set $CDIFFCNPA_{\Omega(\gamma-1)}$ and $CDIFFCNPB_{\Omega(\gamma-1)}$ for Capacity Market Unit, Ω, to zero.

H.3.1.3 In making the calculations under paragraph F.18.7.7 and F.18.7.8 for the first Imbalance Settlement Period, the Market Operator shall set $CDIFFCNPA_{s(\gamma-1)}$ and $CDIFFCNPB_{s(\gamma-1)}$ for Trading Site, s, to zero.

H.4 FIRST SETTLEMENT DAY CALCULATIONS

H.4.1.1 The first Settlement Day commences at the Cutover Time and ends at 24:00 the same day.

H.4.1.2 In making the calculations under paragraph F.20.5.2 for the first Settlement Day, d, the Market Operator shall set $CSHORTDIFFPTRACK_{v(d-1)}$ and $CREIMDIFFP_{v(d-1)}$ for Supplier Unit, v, to zero.

H.4.1.3 In making the calculations under paragraph F.21.1.1 for the first Settlement Day, the Market Operator shall set $CBSOCI_{(d-1)}$ to zero.

H.5 FIRST YEAR CALCULATIONS

H.5.1.1 The first Year commences at the Cutover Time and ends at 24:00h on the next occurring 31 December.

H.5.1.2 In making the calculations under paragraph G.14.2.6 for the first Year, the Market Operator shall set $PIMP_{y-1}$, $PREV_{y-1}$ and PCC_{y-1} to zero.