|  |
| --- |
| **MODIFICATION PROPOSAL FORM** |
| **Proposer***(Company)* | **Date of receipt***(assigned by Secretariat)* | **Type of Proposal***(delete as appropriate)* | **Modification Proposal ID***(assigned by Secretariat)* |
| **Aughinish Alumina Ltd** | **11 January 2018** | **Urgent** | **Mod\_03\_18** |
| **Contact Details for Modification Proposal Originator** |
| **Name** | **Telephone number** | **Email address** |
| **Thomas O’Sullivan** |  | **Thomas.osullivan@augh.com** |
| **Modification Proposal Title** |
| **Autoproducer Credit Cover** |
| **Documents affected***(delete as appropriate)* | **Section(s) Affected** | **Version number of T&SC or AP used in Drafting** |
| **T&SC Part B** | **G4 to G15** | **7th April 2017** |
| **Explanation of Proposed Change***(mandatory by originator)* |
| The T&SC Part B has attempted to devise algebra to ensure Autoproducers are settled fairly. In the absence of a Netting Generator Unit the algebra relies on a single imbalance settlement price which the individual units are cashed out at. Under this methodology, perfectly balance responsible Autoproducer will at all times be 100% out of balance in a long direction (generation) and 100% out of balance in a short direction (demand & assetless unit).The Undefined Exposure Credit calculation in the T&SC Part B by design discourages out of balance trading. The intention of Section G is to use Standard Deviation to create non-unique assessments prices, settlement quantities and cash positions. Without a code modification (or the setting of the Analysis Percentile Parameter to zero) Autoproducers credit requirements will be very penal, estimates run into the millions. This proposed code modification attempts to fairly assess Autoproducers credit risk and apply it to the Undefined Potential Exposure Period.In essence, it looks back across the historical assessment period at the net cash position of all the individual units registered under a single autoproducer. The mean daily cash positions is uplifted by a standard deviation and used to calculate the participants billing period potential exposure.Note, no different to any other unit, an Autoproducer can be long or short in the Imbalance Market. In this proposal Aughinish have proposed that the intention of the T&SC is best served by having an ‘IF’ statement which will add or subtract the standard deviation depending on the Autoproducers imbalance position. |
| **Legal Drafting Change***(Clearly show proposed code change using* ***tracked*** *changes, if proposer fails to identify changes, please indicate best estimate of potential changes)* |

1. 1. Calculations of Required Credit Cover for the Undefined Exposure Period
		1. General
			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.
			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.
			3. The calculation of the Undefined Potential Exposure for each Adjusted Participant shall take account of the Participant’s Credit Assessment Adjustment Factor.
			4. The Market Operator shall calculate the Credit Assessment Price as set out in section G.14.2.
		2. Calculation of the Combined Credit Assessment Price
			1. The Daily Average Imbalance Settlement Price (DAPIMBd) for each Settlement Day d in the Historical Assessment Period shall be calculated by the Market Operator as follows:

where:

* + - * 1. PIMBγ is the Imbalance Settlement Price in Imbalance Settlement Period γ, as determined in accordance with section E.3.7;
				2. PSTRm is the Strike Price applicable in month m as determined in accordance with section F.16;
				3. is a summation over all Imbalance Settlement Periods γ in Settlement Day d; and
				4. is the number of all Imbalance Settlement Prices in Settlement Day d.
			1. The number of all Daily Average Imbalance Settlement Prices (NDAPIMBg) in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated as follows:

where:

* + - * 1. DAPIMBd is the Daily Average Imbalance Settlement Price for Settlement Day d calculated in accordance with paragraph G.14.2.1; and;
				2. is the number of all Daily Average Imbalance Settlement Prices in the Historical Assessment Period.
			1. The mean value of Daily Average Imbalance Settlement Prices (UMPIMBg) in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

where:

* + - * 1. DAPIMBd is the Daily Average Imbalance Settlement Price for Settlement Day d calculated in accordance with paragraph G.14.2.1;
				2. is a summation over all Settlement Days d in the Historical Assessment Period to be applied for the Undefined Exposure Period g; and
				3. NDAPIMBg 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.
			1. The standard deviation of the Daily Average Imbalance Settlement Price (SDPIMBg) in the Historical Assessment Period to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

where:

* + - * 1. NDAPIMBg 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;
				2. DAPIMBd is the Daily Average Imbalance Settlement Price for Settlement Day d as calculated in accordance with paragraph G.14.2.1; and
				3. is a summation over all Settlement Days d in the Historical Assessment Period to be applied for the Undefined Exposure Period g.
			1. The Credit Assessment Price (PCAg) for Undefined Exposure Period g shall be calculated as follows:

where:

* + - * 1. UMPIMBg is the mean value of Imbalance Settlement Prices in the Historical Assessment Period applied for the Undefined Exposure Period g;
				2. AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and
				3. SDPIMBg 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.
			1. The Market Operator shall calculate the Combined Credit Assessment Price (CCAPg) for the Undefined Exposure Period g as follows:

 *If Undefined Exposure Period g is entirely within a single Year, y:*

 *If Undefined Exposure Period g includes periods from two Years, y-1 and y:*

where:

* + - * 1. PCAg is the Credit Assessment Price for the Undefined Exposure Period g as calculated in accordance with paragraph G.14.2.5;
				2. PIMPy is the approved Imperfections Price for year y as determined in accordance with section F12.1;
				3. PIMPy-1 is the approved Imperfections Price for year y-1 as determined in accordance with section F12.1;
				4. PREVy is the approved Residual Error Volume Price for year y, as determined in accordance with section F.14.2;
				5. PREVy-1 is the approved Residual Error Volume Price for year y-1, as determined in accordance with section F.14.2;
				6. PCCy is the approved Currency Cost Price for year y, as determined in accordance with section F.15.2; and
				7. PCCy-1 is the approved Currency Cost Price for year y-1, as determined in accordance with section F.15.2.
		1. Calculations for the Undefined Exposure Period for a New Participant in respect of its Supplier Units
			1. The Credit Assessment Volume for a New Participant p (VCASpγ) 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.
			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 (EUPESpg) as follows:

where:

* + - * 1. CCAPg is the Combined Credit Assessment Price for the Undefined Exposure Period g calculated in accordance with G.14.2.6;
				2. VCASpγ is the Credit Assessment Volume for each New Participant for the Imbalance Settlement Period γ; and
				3. is a summation over Imbalance Settlement Periods γ in the Undefined Exposure Period g.
			1. A New Participant’s Exposure in respect of its Capacity Charges for its Supplier Units (EUPECCpg) shall be calculated by the Market Operator as follows:

where:

* + - * 1. CCPΩγ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ;
				2. VCASpγ is the Credit Assessment Volume for each New Participant in respect of its Supplier Units for the Imbalance Settlement Periods γ;
				3. QUPEBpg 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;
				4. (QUPEBpg X FCAApg) 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;
				5. is the summation across all Imbalance Settlement Periods γ in Undefined Exposure Period g;
				6. is the summation across all Capacity Market Units Ω; and
				7. is the summation across all Participants p.
		1. Calculations for the Undefined Exposure Period for a New Participant in respect of its Generator Units or Assetless Units
			1. The Credit Assessment Volume (VCAGpγ) 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.
			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 (EUPEGpg) as follows:

where:

* + - * 1. PCAg is the Credit Assessment Price for the Undefined Exposure Period g as calculated in accordance with section G.14.2;
				2. VCAGpγ is the Credit Assessment Volume for each New Participant for the Imbalance Settlement Period γ; and
				3. is a summation over Imbalance Settlement Periods γ in the Undefined Exposure Period g.
		1. Calculations for the Undefined Exposure Period for an Adjusted Participant in respect of its Supplier Units
			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 (EUPESpg) as follows:

where:

* + - * 1. CCAPg is the Combined Credit Assessment Price for the Undefined Exposure Period g calculated in accordance with paragraph G.14.2.6;
				2. QUPEBpg 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
				3. FCAApg 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.
			1. 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 (EUPECCpg) as follows:

where:

* + - * 1. CCPΩγ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.17;
				2. QUPEBpg 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;
				3. VCASpγ is the Credit Assessment Volume for each New Participant in respect of its Supplier Units for the Imbalance Settlement Periods γ;
				4. (QUPEBpg X FCAApg) 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;
				5. FCAApg 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;
				6. is the summation across all Imbalance Settlement Periods γ in Undefined Exposure Period g;
				7. is the summation across all Capacity Market Units Ω; and
				8. is the summation across all Participants p.
		1. Calculations for the Undefined Exposure Period for a Adjusted Participant in respect of its Generator Units or Assetless Units
			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 (EUPEGpg) as follows:

where:

* + - * 1. EUPEGpg 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
				2. FCAApg 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.
		1. Calculations for the Undefined Exposure Period for a Standard Participant in respect of its Supplier Units
			1. The following provisions of section G.14.7 do not apply to any Supplier Unit which is registered as part of an Autoproducer Site.
			2. 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.
			3. 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 (BPHAPg) shall be calculated by the Market Operator as follows:

where:

* + - * 1. DINHAP is the number of days in the Historical Assessment Period; and
				2. UEPBDg is the number of days in the Undefined Exposure Period g.
			1. The Market Operator shall calculate the Billing Period Metered Demand (QMBpgω) 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:

where:

* + - * 1. QMvγ is the Metered Quantity on Supplier Unit v in Imbalance Settlement Period γ;
				2. is a summation over all Settlement Days d in Sample Undefined Exposure Period ω;
				3. is a summation over all Imbalance Settlement Periods γ in Settlement Day d; and
				4. is a summation over all Supplier Units v registered in respect of Participant p.
			1. The mean of the Billing Period Metered Demand (QMBMpg) 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:

where:

* + - * 1. BPHAPg 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;
				2. QMBpgω 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
				3. is the sum over all the Billing Period Metered Demand values for the Sample Undefined Exposure Periods ω.
			1. The standard deviation of the Billing Period Metered Demand (QMBSDpg) 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:

where:

* + - * 1. BPHAPg 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;
				2. QMBpgω 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
				3. is the sum over all the Billing Period Metered Demand values for the Sample Undefined Exposure Periods ω.
			1. The Billing Period Undefined Potential Exposure Quantity (QUPEBpg) to be applied for Participant p in respect of its Supplier Units for the Undefined Exposure Period g shall be calculated as follows:

where:

* + - * 1. QMBMpg 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;
				2. AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and
				3. QMBSDpg 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.
			1. 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 (EUPESpg) in accordance with the following formula:

where:

* + - * 1. CCAPg is the Combined Credit Assessment Price for the Undefined Exposure Period g calculated in accordance with G.14.2.6; and
				2. QUPEBpg is the Billing Period Undefined Potential Exposure Quantity for the Undefined Exposure Period g, as calculated in accordance with paragraph G.14.7.6.
		1. Calculations in respect of Capacity Charges
			1. A Standard Participant’s Exposure in respect of its Capacity Charges for its Supplier Units (Excluding Trading Site Supplier Units registered to an autoproducer) (EUPECCpg) for Undefined Exposure Period g shall be calculated by the Market Operator as follows:

where:

* + - * 1. CCPΩγ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.17;
				2. QUPEBpg 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;
				3. VCASpγ is the Credit Assessment Volume for each New Participant in respect of its Supplier Units for the Imbalance Settlement Periods γ;
				4. (QUPEBpg X FCAApg) 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;
				5. is the summation across all Imbalance Settlement Periods γ in Undefined Exposure Period g;
				6. is the summation across all Capacity Market Units Ω; and
				7. is the summation across all Participants p.
		1. Calculations for the Undefined Exposure Period for a Standard Participant in respect of its Generator Units
			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.
			2. The following provisions of section G.14.9 and G.14.10 do not apply to any Generator Unit, which is registered as part of an Autoproducer Site.
		2. Calculations in respect of Billing Period Payments
			1. The Billing Period Cashflow (CUBpgω) 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:

where:

* + - * 1. CDAYud is the total Daily Amounts on Supplier Unit v for Settlement Day d, as calculated in accordance with section G.4.11;
				2. CDAYΩd is the total Daily Amounts on Capacity Market Unit Ω for Settlement Day d, as calculated in accordance with section G.4.12;
				3. is a summation over all Settlement Days d in each Sample Undefined Exposure Period ω in the Historical Assessment Period;
				4. is a summation over all Generator Units registered in respect of Participant p; and
				5. is a summation over all Capacity Market Units registered in respect of Participant p.
			1. The mean of the Billing Period Cashflow (CUBMpg) 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:

where:

* + - * 1. BPHAPg 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;
				2. CUBpgω 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
				3. is the sum across all the Sample Undefined Exposure Periods ω.
			1. The standard deviation of the Billing Period Cashflow (CUBSDpg) 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:

where:

* + - * 1. BPHAPg 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;
				2. CUBpgω 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
				3. is the sum across all the Sample Undefined Exposure Periods ω.
			1. The Billing Period Undefined Potential Exposure for Trading Payments (EUPEGpg) for Undefined Exposure Period g for Standard Participant p in respect of its Generator Units shall be calculated by the Market Operator as follows:

where:

* + - * 1. CUBMpg 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;
				2. AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and
				3. CUBSDpg 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.
		1. Calculations for the Undefined Exposure Period for a Standard Participant in respect of its Assetless Units
			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.
			2. The following provisions of section G.14.11 and G.14.12 do not apply to any Assetless Unit, which is registered as part of an Autoproducer Site.
		2. Calculations in respect of Billing Period Payments
			1. The Billing Period Cashflow (CUBpgω) 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:

where:

* + - * 1. CDAYud is the Total Daily Amounts on Assetless Unit u for Settlement Day d, as calculated in accordance with section G.4.11;
				2. is a summation over all Settlement Days d in each Sample Undefined Exposure Period ω; and
				3. is a summation over all Assetless Units registered in respect of Participant p.
			1. The mean of Billing Period Cashflow (CUBMpg) 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:

where:

* + - * 1. BPHAPg 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;
				2. CUBpgω 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
				3. is the sum across all the Sample Undefined Exposure Periods ω.
			1. The standard deviation of the Billing Period Cashflow (CUBSDpg) 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:

where:

* + - * 1. BPHAPg 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;
				2. CUBpgω 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
				3. is the sum over all the Sample Undefined Exposure Periods ω.
			1. The Billing Period Undefined Potential Exposure (EUPEGpg) for Undefined Exposure Period g for Participant p in respect of its Assetless Units shall be calculated as follows:

where:

* + - * 1. CUBMpg 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;
				2. AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and
				3. CUBSDpg 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.
		1. Calculations in respect of Traded Not Delivered Exposure for Participants
			1. A Participant’s Traded Not Delivered Exposure in respect of its Generator Units u, Assetless Units u and Supplier Units v (ETNDpg) for Undefined Exposure Period g shall be calculated by the Market Operator as follows:

where:

* + - * 1. qTDAxuh is the Day-ahead Trade Quantity in respect of Generator Unit u (including Assetless Units) for Day-ahead Trading Period h for Trade x;
				2. qTIDxuh is the Intraday Trade Quantity in respect of Generator Unit u (including Assetless Units) for Intraday Trading Period h for Trade x;
				3. qTDAxvh is the Day-ahead Trade Quantity in respect of Supplier Unit v for Day-ahead Trading Period h for Trade x;
				4. qTIDxvh is the Intraday Trade Quantity in respect of Supplier Unit v for Intraday Trading Period h for Trade x;
				5. DISP is the Imbalance Settlement Period Duration;
				6. DTDAx is the Day-ahead Trade Duration of Trade, x;
				7. DTIDx is the Intraday Trade Duration of Trade, x;
				8. PCAg is the Credit Assessment Price for credit assessment for Undefined Exposure Period g;
				9. is the summation across all Trades, x;
				10. is the summation across all units u in respect of Participant p;
				11. is the summation across all units v in respect of Participant p; and
				12. is the summation across all Trading Periods h in Undefined Exposure Period g.
		1. Calculations in respect of Capacity Payments
			1. The Undefined Exposure for Participant p in respect of its Capacity Payments for its Capacity Market Units (EUPECPpg) to be applied for the Undefined Exposure Period g shall be calculated by the Market Operator as follows:

where:

* + - * 1. CCPΩγ is the Capacity Payment for Capacity Market Unit Ω in Imbalance Settlement Period γ calculated in accordance with section F.17;
				2. is the summation across all Capacity Market Units Ω in respect of Participant p; and
				3. is the summation across all Imbalance Settlement Periods in Undefined Exposure Period g.
		1. Calculation of Forecast Amounts of Settlement Reallocations Agreements
			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.
			2. The Market Operator shall procure that the Forecast Amount Available for Settlement Reallocation Agreements (FAVRAapr) that apply to a Participant for Settlement Reallocation Agreement a that falls within Settlement Risk Period r shall be calculated as follows:

where:

* + - * 1. FCRpy is the Fixed Credit Requirement for Participant p in Year y, as determined in accordance with paragraph G.10.1.1;
				2. EApr 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;
				3. ETNDpd is the Traded Not Delivered Exposure for Participant p in Trading Day d as calculated in accordance with section G.14.13;
				4. EUPESpg 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;
				5. EUPEGpg 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;
				6. EUPECCpg 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
				7. EUPECPpg 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.
			1. 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.
			2. 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\_BILIMBapr, 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:

where:

* + - * 1. CDAYvd is the Total Daily Amounts for Supplier Unit v for Settlement Day d calculated in accordance with paragraph G.5.6.1;
				2. CDAYud is the Total Daily Amounts for Generator Unit u for Settlement Day d calculated in accordance with paragraph G.4.11.1;
				3. CDAYΩd is the Total Daily Amounts for Capacity Market Unit Ω for Settlement Day d calculated in accordance with paragraph G.4.12.1;
				4. CFCub is the Fixed Cost Payment or Charge for Generator Unit u calculated for the Billing Period calculated in accordance with section F.11;
				5. is the summation across all Supplier Units v registered in respect of Participant p;
				6. is the summation across all Generator Units u registered in respect of Participant p;
				7. is the summation across all Capacity Market Unit Ω registered in respect of Participant p;
				8. is the summation across all Settlement Days d in Billing Period b; and
				9. is the summation across all Billing Periods b related to Settlement Reallocation Agreement a.
			1. 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\_BILCAPapr, 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:

where:

* + - * 1. CCPΩγ is the Capacity Payment for a Capacity Market Unit Ω Imbalance Settlement Periods γ calculated in accordance with section F.17;
				2. CCCvγ is the Capacity Charge for a Supplier Unit v in Imbalance Settlement Periods γ calculated in accordance with section F.19;
				3. is the summation across all Supplier Units v registered in respect of Participant p;
				4. is the summation across all Generator Units u registered in respect of Participant p;
				5. is the summation across all Capacity Market Unit Ω registered in respect of Participant p;
				6. is the summation all Imbalance Settlement Periods γ in Billing Period b; and
				7. is the summation across all Billing Periods b related to Settlement Reallocation Agreement a.
			1. 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\_UNBIMBapr, 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:

where:

* + - * 1. EUPESpg 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;
				2. EUPEGpg 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;
				3. DUMBIMBa is the number days of unbilled imbalance settlement in Undefined Exposure Period g for each Settlement Document associated with Settlement Reallocation Agreement a;
				4. UEPBDg is the number of days in the Undefined Exposure Period g;
				5. ETNDpd is the Traded Not Delivered Exposure for Participant p in Trading Day d, as calculated in accordance with section G.14.13;
				6. is the summation across all Settlement Days d in Billing Period b; and
				7. is the summation across all Billing Periods b related to Settlement Reallocation Agreement a.
			1. 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\_UNBCAPapr, 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:

where:

* + - * 1. EUPECCpg 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;
				2. EUPECPpg 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;
				3. DUNBCAPa is the number days of unbilled Capacity settlement in Undefined Exposure Period g for each Settlement Document associated with Settlement Reallocation Agreement a; and
				4. UEPBDg is the number of days in the Undefined Exposure Period g.
			1. The Market Operator shall procure that the Forecast Amount Available for Settlement Reallocation Agreements (FAVRAapr) for each Settlement Reallocation Agreement a, in Settlement Risk Period r, for each Participant p that is Secondary Participant to the agreement as follows:

where:

* + - * 1. EC\_BILIMBapr 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;
				2. CC\_BILCAPapr 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;
				3. EC\_UNBIMBapr 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;
				4. CC\_UNBCAPapr 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
				5. FCRpy 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.
			1. The Market Operator shall procure that the Forecast Amount for Settlement Reallocation Agreement (FASRASapr) for any Participant that is the Secondary Participant p to a Settlement Reallocation Agreement a shall be calculated as follows:

where:

* + - * 1. FAVRAapr 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
				2. is the summation over all Settlement Reallocation Agreements a in Settlement Risk Period r.
			1. The Market Operator shall procure that the Forecast Amount of the Settlement Reallocation Agreement (FASRAPapr) for any Participant that is the Principal Participant p to a Settlement Reallocation Agreement a shall be calculated as follows:

where:

FAVRAapr 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.

* + 1. Calculations for the Undefined Exposure Period for a Participant who has a registered Autoproducer, in respect of its Units which are registered as part of an Autoproducer Site.
			1. The Market Operator shall procure that, where the Participant is a Participant who has a registered Autoproducer, the Participant’s Undefined Exposure in respect of its Units which are registered as part of an Autoproducer Site, will be calculated according to the procedures set out in section G.14.17.
		2. Calculations in respect of Billing Period Payments
			1. The Billing Period Cashflow (CUBpgω) for Participant p in respect of its Units which are registered as part of an Autoproducer Site, 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:

where:

* + - * 1. CDAYud is the total Daily Amounts on Generator Unit (including Assetless Units) for Settlement Day d, as calculated in accordance with section G.4.11;
				2. CDAYΩd is the total Daily Amounts on Capacity Market Unit Ω for Settlement Day d, as calculated in accordance with section G.4.12;
				3. CDAYd is the total Daily Amounts on Supplier Unit v registered as part of an Autoproducer Site for Settlement Day d, as calculated in accordance with section G.6.1
				4. is a summation over all Settlement Days d in each Sample Undefined Exposure Period ω in the Historical Assessment Period;
				5. is a summation over all Generator Units (including Assetless Units) registered in respect of Participant p registered as part of an Autoproducer Site.
				6. is a summation over all Capacity Market Units registered in respect of Participant p registered as part of an Autoproducer Site.
				7. is a summation over all Supplier Units registered in respect of Participant p registered as part of an Autoproducer Site.
			1. The mean of Billing Period Cashflow (CUBMpg) for Participant p in respect of its Units registered as part of an Autoproducer Site, 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:

where:

BPHAPg 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;

CUBpgω 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.14.17.1; and

is the sum across all the Sample Undefined Exposure Periods ω.

* + - 1. The standard deviation of the Billing Period Cashflow (CUBSDpg) for Participant p in respect of its Units registered as part of an Autoproducer Site, 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:

where:

BPHAPg 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;

CUBpgω is the Billing Period Cashflow for Participant p in respect of its Units registered as part of an Autoproducer Site, 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.14.17.1; and

is the sum over all the Sample Undefined Exposure Periods ω.

* + - 1. The Billing Period Undefined Potential Exposure (EUPEASpg) for Undefined Exposure Period g for Participant p in respect of its Units registered as part of an Autoproducer Site shall be calculated as follows:

If CUBMpg => 0 then:

If CUBMpg < 0 then:

where:

CUBMpg is the mean of the Billing Period Cashflow for Participant p in respect of its Units registered as part of an Autoproducer Site, 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.14.17.2;

AnPP is the Analysis Percentile Parameter applicable for Undefined Exposure Period g; and

CUBSDpg is the standard deviation of the Billing Period Cashflow for Participant p in respect of its Units registered as part of an Autoproducer Site 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.14.17.3.

* 1. Calculations of Required Credit Cover for Participants
		+ 1. The Market Operator shall procure that the Required Credit Cover (RCCpr) for each Participant p in respect of the Settlement Risk Period r shall be calculated as follows:

where:

* + - * 1. FCRpy is the Fixed Credit Requirement for Participant p in year y;
				2. EApr 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;
				3. ETNDpd is the Traded Not Delivered Exposure for Participant p in Trading Day d, as calculated in accordance with section G.14.13;
				4. EUPESpg 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;
				5. EUPEGpg 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;
				6. EUPECCpg 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;
				7. EUPECPpg 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;
				8. FASRASapr is the forecast amount of the Settlement Reallocation Agreement a applicable for Secondary Participant p, as calculated in accordance with paragraph G.14.15;
				9. FASRAPapr is the forecast amount of the Settlement Reallocation Agreement a applicable for Principal Participant p, as calculated in accordance with paragraph G.14.15;
				10. is a summation overall Settlement Reallocation Agreements registered in respect of the Principal Participant p; and
				11. EUPEASpg is the exposure for Trading Charges for Undefined Exposure Period g for Participant p in respect of its Units registered as part of an Autoproducer Site, as calculated in accordance with paragraph G.14.17.4.

|  |
| --- |
| **Modification Proposal Justification***(Clearly state the reason for the Modification)* |
| The unique imbalance position of Trading Sites was recognised in the SEM Committee decision I-SEM ETA Markets (SEM-15-065) back in 2015*“The principle of the existing treatment of trading sites will be retained in I-SEM. This will be progressed further through the implementation phase.”*The current drafting of the Trading & Settlement Code Part B results in unnecessarily high credit cover requirements for Participants with units registered under an Autoproducer. This proposed modification corrects the determination of required credit cover, thereby reducing the required credit cover requirements for Participants in respect of their Autoproducer. The change proposed is in line with the intended design of this mechanism.  |
| **Code Objectives Furthered***(State the Code Objectives the Proposal furthers, see Section 1.3 of T&SC for Code Objectives)* |
| Code objectives taken from Section A.2.1.41. to facilitate the efficient, economic and coordinated operation, administration and development of the Single Electricity Market in a financially secure manner;
2. to promote competition in the Single Electricity Market;
3. to provide transparency in the operation of the Single Electricity Market;
4. to ensure no undue discrimination between persons who are parties to the Code; and
5. 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.

Code objectives furthered by this proposal:1. Facilitates participation by removing unnecessarily and inappropriately burdensome credit requirements
2. promote competition by putting Autoproducers under the same credit assessment as other units in the market
3. this proposal provide better transparency for autoproducers
4. this proposal removes undue discrimination created following the removal on Netting Generator Units in the transition from part A to part B
5. removal of the unfair treatment will allow generators remain independent and promote the short-term and long-term interests of consumers of electricity on the island of Ireland
 |
| **Implication of not implementing the Modification Proposal***(State the possible outcomes should the Modification Proposal not be implemented)* |
| The all island market has only one dispatchable Autoproducer that we know of. Aughinish exports baseload power 363 days a year. The high efficient CHP technology embedded in the alumina plant has for the last 12 years provided customers with the cheapest reliable power whilst at the same time reducing carbon emissions.Failure to implement a remedy to the credit requirements:* Would result in over collateralisation of the electricity market at the expense of one participant.
* Would result in irrational energy trading as Aughinish would be prevented from fully participating in the DAM and IDM.
* Would result in increased carbon emissions as high efficient CHP is substituted for less clean alternatives.
* Would jeopardise the 700 jobs on site in West Limerick. The alternative price of steam would be uncompetitive in a global alumina market.

 |
| **Working Group***(State if Working Group considered necessary to develop proposal)* | **Impacts***(Indicate the impacts on systems, resources, processes and/or procedures; also indicate impacts on any other Market Code such as Capacity Marker Code, Grid Code, Exchange Rules etc.)* |
|  |  |
| ***Please return this form to Secretariat by email to*** ***modifications@sem-o.com*** |

**Notes on completing Modification Proposal Form:**

1. **If a person submits a Modification Proposal on behalf of another person, that person who proposes the material of the change should be identified on the Modification Proposal Form as the Modification Proposal Originator.**
2. **Any person raising a Modification Proposal shall ensure that their proposal is clear and substantiated with the appropriate detail including the way in which it furthers the Code Objectives to enable it to be fully considered by the Modifications Committee.**
3. **Each Modification Proposal will include a draft text of the proposed Modification to the Code unless, if raising a Provisional Modification Proposal whereby legal drafting text is not imperative.**
4. **For the purposes of this Modification Proposal Form, the following terms shall have the following meanings:**

**Agreed Procedure(s): means the detailed procedures to be followed by Parties in performing their obligations and functions under the Code as listed in either Part A or Part B Appendix D “List of Agreed Procedures”. The Proposer will need to specify whether the Agreed Procedure to modify refers to Part A, Part B or both.**

**T&SC / Code: means the Trading and Settlement Code for the Single Electricity Market. The Proposer will also need to specify whether all Part A, Part B, Part C of the Code or a subset of these, are affected by the proposed Modification;**

**Modification Proposal: means the proposal to modify the Code as set out in the attached form**

**Derivative Work: means any text or work which incorporates or contains all or part of the Modification Proposal or any adaptation, abridgement, expansion or other modification of the Modification Proposal**

**The terms “Market Operator”, “Modifications Committee” and “Regulatory Authorities” shall have the meanings assigned to those terms in the Code.**

**In consideration for the right to submit, and have the Modification Proposal assessed in accordance with the terms of Section 2 of Part A or Chapter B of Part B of the Code (and Part A Agreed Procedure 12 or Part B Agreed Procedure 12) , which I have read and understand, I agree as follows:**

**1. I hereby grant a worldwide, perpetual, royalty-free, non-exclusive licence:**

* 1. **to the Market Operator and the Regulatory Authorities to publish and/or distribute the Modification Proposal for free and unrestricted access;**
	2. **to the Regulatory Authorities, the Modifications Committee and each member of the Modifications Committee to amend, adapt, combine, abridge, expand or otherwise modify the Modification Proposal at their sole discretion for the purpose of developing the Modification Proposal in accordance with the Code;**
	3. **to the Market Operator and the Regulatory Authorities to incorporate the Modification Proposal into the Code;**

**1.4 to all Parties to the Code and the Regulatory Authorities to use, reproduce and distribute the Modification Proposal, whether as part of the Code or otherwise, for any purpose arising out of or in connection with the Code.**

**2. The licences set out in clause 1 shall equally apply to any Derivative Works.**

**3. I hereby waive in favour of the Parties to the Code and the Regulatory Authorities any and all moral rights I may have arising out of or in connection with the Modification Proposal or any Derivative Works.**

**4. I hereby warrant that, except where expressly indicated otherwise, I am the owner of the copyright and any other intellectual property and proprietary rights in the Modification Proposal and, where not the owner, I have the requisite permissions to grant the rights set out in this form.**

**5. I hereby acknowledge that the Modification Proposal may be rejected by the Modifications Committee and/or the Regulatory Authorities and that there is no guarantee that my Modification Proposal will be incorporated into the Code.**