Trading and Settlement Code Part B v1.0 Appendices

[APPENDIX A: Standard Letter of Credit 1](#_Toc477458007)

[Template for Standard Letter of Credit 1](#_Toc477458008)

[APPENDIX B: Dispute Resolution Agreement 4](#_Toc477458009)

[Template for Dispute Resolution Agreement 4](#_Toc477458010)

[APPENDIX C: Form of Authority 10](#_Toc477458011)

[Template for Form of Authority for Appointment of an Intermediary 10](#_Toc477458012)

[APPENDIX D: List of Agreed Procedures 14](#_Toc477458013)

[APPENDIX E: Data Publication 17](#_Toc477458014)

[APPENDIX F: Other Communications 31](#_Toc477458015)

[Introduction 31](#_Toc477458016)

[Generator Unit Under Test Notice 31](#_Toc477458017)

[Maintenance Schedules Data Transactions 31](#_Toc477458018)

[APPENDIX G: Settlement Statements, Settlement Reports and Settlement Documents 33](#_Toc477458019)

[APPENDIX H: Data Requirements for Registration 40](#_Toc477458020)

[Introduction 40](#_Toc477458021)

[Participation Notice 40](#_Toc477458022)

[Agreed Procedure 44](#_Toc477458023)

[Currency 44](#_Toc477458024)

[Missing Data 44](#_Toc477458025)

[Communications Channels 44](#_Toc477458026)

[Registration Withdrawal 44](#_Toc477458027)

[APPENDIX I: Offer Data 45](#_Toc477458028)

[Introduction 45](#_Toc477458029)

[Commercial Offer Data 45](#_Toc477458030)

[Commercial Offer Data Elements 45](#_Toc477458031)

[Commercial Offer Data Submission 45](#_Toc477458032)

[Commercial Offer Data for Generator Units 45](#_Toc477458033)

[Technical Offer Data 46](#_Toc477458034)

[Technical Offer Data Submission 47](#_Toc477458035)

[Restrictions on Technical Offer Data Submission 47](#_Toc477458036)

[Technical Offer Data for Generator Units 47](#_Toc477458037)

[Physical Notification Data 58](#_Toc477458038)

[Physical Notification Data Elements 58](#_Toc477458039)

[Physical Notification Data Submission 58](#_Toc477458040)

[Physical Notification Data for Generator Units and Supplier Units 59](#_Toc477458041)

[APPENDIX J: Data Transactions from Market Operator to System Operator 61](#_Toc477458042)

[Registration Data 61](#_Toc477458043)

[Commercial Offer Data, Technical Offer Data and Physical Notifications 61](#_Toc477458044)

[Suspension Orders 62](#_Toc477458045)

[Commencement Notice 62](#_Toc477458046)

[Communication Channels 62](#_Toc477458047)

[APPENDIX K: Other Market Data Transactions 63](#_Toc477458048)

[Introduction 63](#_Toc477458049)

[Data Transactions 63](#_Toc477458050)

[Data Transactions from System Operator to Market Operator 63](#_Toc477458051)

[Data Transactions from Interconnector Administrator to Market Operator 63](#_Toc477458052)

[Contingency Data 63](#_Toc477458053)

[Data Transactions from System Operator to Market Operator 64](#_Toc477458054)

[Data Transaction and Data Records 64](#_Toc477458055)

[System Parameters Data Transaction 64](#_Toc477458056)

[Generator Unit Technical Characteristics Data Transaction 66](#_Toc477458057)

[Short Term Reserve Data Transaction 68](#_Toc477458058)

[System Operator Flags Data Transaction 69](#_Toc477458059)

[Demand Control Data Transaction 70](#_Toc477458060)

[System Characteristics Data Transaction 70](#_Toc477458061)

[Dispatch Instruction Data Transaction 71](#_Toc477458062)

[SO Interconnector Trade Data Transaction 73](#_Toc477458063)

[SO Interconnector Physical Notifications Transaction for IRCU 74](#_Toc477458064)

[Annual Load Forecast Data Transaction 75](#_Toc477458065)

[Monthly Load Forecast Data Transaction 76](#_Toc477458066)

[Four Day Load Forecast Data Transaction 77](#_Toc477458067)

[Wind Power Unit Forecast Data Transaction 78](#_Toc477458068)

[Uninstructed Imbalance Parameter Data Transaction 79](#_Toc477458069)

[Testing Tariffs Data Transaction 80](#_Toc477458070)

[Strike Price Parameters Data Transaction 81](#_Toc477458071)

[Interconnector Capacity Market Availability Data Transaction 82](#_Toc477458072)

[APPENDIX L: Meter Data Transactions 84](#_Toc477458073)

[APPENDIX M: Capacity Market Data Transactions 86](#_Toc477458074)

[Introduction 86](#_Toc477458075)

[Data Transactions 86](#_Toc477458076)

[Data Transaction and Data Records 86](#_Toc477458077)

[Demand Side Non-Delivery Percentage Data Transaction 86](#_Toc477458078)

[Contract Register Data Transaction 87](#_Toc477458079)

[Commissioned Capacity Quantity Data Transaction 89](#_Toc477458080)

[De-Rating Factor Data Transaction 90](#_Toc477458081)

[Gross De-Rated Capacity Quantity Data Transaction 91](#_Toc477458082)

[APPENDIX N: Flagging and Tagging 93](#_Toc477458083)

[System Operator and Non-Marginal Flagging 93](#_Toc477458084)

[Net Imbalance Volume Tagging 94](#_Toc477458085)

[Setting the Value of the Initial Net Imbalance Volume Tag 94](#_Toc477458086)

[Calculation of the Residual Tagged Quantity 94](#_Toc477458087)

[Setting the Net Imbalance Volume Tag in the Case of a Positive Net Imbalance Volume Quantity 94](#_Toc477458088)

[Setting the Net Imbalance Volume Tag in the Case of a Negative Net Imbalance Volume Quantity 95](#_Toc477458089)

[Price Average Reference Tagging 96](#_Toc477458090)

[Setting the Price Average Reference Tag if –QPAR ≤ QNIVφ ≤ QPAR 96](#_Toc477458091)

[Setting the Price Average Reference Tag if QNIVφ > QPAR 96](#_Toc477458092)

[Setting the Price Average Reference Tag if QNIVφ < -QPAR 97](#_Toc477458093)

[APPENDIX O: Instruction Profiling Calculations 98](#_Toc477458094)

[Capture Input Data 99](#_Toc477458095)

[Dispatch Instruction and Pseudo Dispatch Instruction Validation 107](#_Toc477458096)

[Profile Operating Modes 111](#_Toc477458097)

[Create Instruction Profiles 113](#_Toc477458098)

[Calculate Dispatch Quantity for Uninstructed Imbalance Calculation 118](#_Toc477458099)

1. Standard Letter of Credit
	* + 1. This Appendix A contains a standard template for a Letter of Credit.
	1. Template for Standard Letter of Credit

Form of Doc Credit: IRREVOCABLE STANDBY LETTER OF CREDIT

Documentary Credit Number:

Date of Issue:

Applicable Rules: UCP [LATEST VERSION NO]

Date and Place of Expiry:

Applicant [insert Participant’s name] or [insert company name] on behalf of [insert Participant’s name]

Beneficiary: EirGrid plc and SONI Limited, trading as “SEMO”, being the Market Operator under the SEM Trading and Settlement Code. [address]

Currency Code, Amount (Maximum total amount):

Available With (ADVISING BANK IE SEMO'S BANK BY PAYMENT)

Partial Shipments/Drawings: Allowed

Documents required:

Beneficiary Statement, as detailed below, must be on Market Operator letterhead

QUOTE:

"We, the Market Operator under the Trading and Settlement Code (the “Beneficiary”) hereby state that [insert Participant’s name] is in default of its obligation to pay pursuant to the Trading and Settlement Code (to which the Participant is a party) under paragraph [ insert details] and as a result we hereby demand …………..[insert amount being claimed] under Standby Letter of Credit number…….... issued by …………[insert name of Issuing Bank]. Payment in respect of this Beneficiary Statement shall be effected immediately to [insert relevant account details]. We confirm that the signatory(ies) to this Beneficiary Statement are empowered to sign and make this Beneficiary Statement on behalf of the Beneficiary.

Terms defined in the Standby Letter of Credit referred to above have the same meaning when used in this Beneficiary Statement."

SIGNED FOR AND ON BEHALF OF THE MARKET OPERATOR.

NAME...................... TITLE.............

UNQUOTE

Additional Conditions:

1. Not Used.

2. This irrevocable Standby Letter of Credit is available by payment at sight against presentation to the Advising Bank of a Beneficiary Statement as detailed in Documents required.

3. The Beneficiary Statement must be made on original letterhead paper of the Beneficiary and signed on its behalf, and must be presented to the Advising Bank on or before the Expiry Date.

4. Upon receipt of a signed Beneficiary Statement in compliance with the above conditions the Advising Bank is required promptly to notify us by SWIFT of receipt of such Beneficiary Statement and inform us of the relevant details of such Beneficiary Statement. Provided such notification is received by us no later than 14:00 hrs on any weekday on which banks are open for business in Dublin and Belfast, we shall make payment under this Standby Letter of Credit for Same Day Value on that day or if received after 14.00hrs on the next such weekday in accordance with such notification and shall confirm payment by notifying the Advising Bank by SWIFT.

5. Where we, the Issuing Bank are also the Advising Bank, we may revise the above notification requirements as appropriate provided that this shall in no way affect the obligation on us to make payment under this Standby Letter of Credit.

6. We the Issuing Bank hereby waive any right to set off or counterclaim whatsoever against any amounts payable under this Standby Letter of Credit in respect of any claims we may have against the Beneficiary and such amounts shall be paid free and clear of all deductions or withholdings whatsoever.

7. Effective From:

8. This Standby Letter of Credit is personal to you and your rights hereunder including the right to receive proceeds to this Standby Letter of Credit, are not assignable.

This Letter of Credit shall be governed by and construed in accordance with the laws of Northern Ireland and the parties submit to the jurisdiction of the Courts of Ireland and the Courts of Northern Ireland (and no other court) for all disputes arising under, out of, or in relation to this Letter of Credit.

Charges:

All Issuing Bank charges are for the account of the Applicant.

All Advising Bank charges are for the account of the Beneficiary.

Confirmation:

CONFIRMATION WITH OR WITHOUT? (THIS INSTRUCTION IS TO SEMO'S BANK TO ADD CONFIRMATION OR NOT)

Instruction to Pay:

PLEASE REFER TO ADDITONAL CONDITIONS.

ADVISING BANK TO CLAIM REIMBURSEMENT BY SWIFT AND RETAIN BENEFICIARY STATEMENT ON FILE.

**APPENDIX**

[Market Operator letterhead]

We, the Market Operator under the Trading and Settlement Code (the “Beneficiary”) hereby state that [insert Participant’s name] is in default of its obligation to pay pursuant to the Trading and Settlement Code (to which the Participant is a party) under paragraph [ insert details]

and as a result we hereby demand …………..[insert amount being claimed] under Standby Letter of Credit number…….... issued by …………[insert name of Issuing Bank]. Payment in respect of this Beneficiary Statement shall be effected immediately to [insert relevant account details]. We confirm that the signatory(ies) to this Beneficiary Statement are empowered to sign and make this Beneficiary Statement on behalf of the Beneficiary.

Terms defined in the Standby Letter of Credit referred to above have the same meaning when used in this Beneficiary Statement.

1. Dispute Resolution Agreement
	* + 1. This Appendix B contains the template for a Dispute Resolution Agreement.
			2. Words in square brackets should be deleted as appropriate depending on whether there is a one member DRB or a three member DRB.
	1. Template for Dispute Resolution Agreement

**DISPUTE RESOLUTION AGREEMENT**

**GENERAL CONDITIONS OF DISPUTE RESOLUTION AGREEMENT FOR A DISPUTE RESOLUTION BOARD**

BETWEEN:-

1 THE DISPUTING PARTIES, REFERRED TO IN ANNEX 1

AND

2 EACH MEMBER OF THE DISPUTE RESOLUTION BOARD, REFERRED TO IN ANNEX 2 (“MEMBER” OR “THE MEMBERS” AS APPLICABLE)

RECITALS

A. The Disputing Parties are, directly or via the Accession Deed, adhering parties to the Framework Agreement dated xxx, by which they agree to be bound by the terms of the Trading and Settlement Code (“Code).

B. The Disputing Parties are parties to a Dispute within the meaning of the Code.

C. The Dispute has, in accordance with section B.19 of the Code, been referred to a [single member / three member] Dispute Resolution Board (“DRB”) for resolution.

D. In order to facilitate the resolution of the Dispute by the DRB, the Disputing Parties wish to enter into this Agreement with each of the Members, setting out the terms and conditions upon which each Member is engaged to hear and determine the Dispute.

1. Definitions and Interpretation

1.1 Unless the context requires otherwise, words and expressions which are not otherwise defined in this Dispute Resolution Agreement (including the Recitals) shall have the meanings assigned to them in the Code.

1.2 Where the DRB is comprised of a single member, references to “the Members” shall be construed as references to “the Member” and references to “each Member” shall be construed as references to “the Member”.

**2. General Provisions**

2.1 Each Disputing Party engages each Member to constitute a Dispute Resolution Board to hear and determine the Dispute.

2.2 Each Member accepts that engagement.

2.3 Each Member agrees to hear and determine the Dispute:

1. in accordance with the Code, the Framework Agreement and Applicable Laws; and

2. on the terms and conditions set out in this Agreement.

2.4 This Agreement shall take effect when signed by all parties to this Agreement, on the last date of signature by a party.

2.5 The appointment of the Members pursuant to this Agreement is a personal appointment. At any time, the Members may give not less than 14 days’ notice of resignation to the Disputing Parties and to the Market Operator, and, where the Market Operator is a Disputing Party, to the Regulatory Authorities, and the Dispute Resolution Agreement shall terminate upon the expiry of this period.

2.6 No assignment or subcontracting of the Dispute Resolution Agreement is permitted without the prior written agreement of all the Disputing Parties to it and of the Members.

2.7 When appointing each Member, the Disputing Parties shall request of the relevant Member and shall be entitled to rely upon the Member’s representations that he/she:

1. is experienced in and familiar with alternative dispute resolution procedures; or

2. has appropriate experience of the electricity industry, or the particular matters the subject of the dispute,

and that he/she is familiar with, or shall, prior to the commencement of the hearing of the Dispute, be familiar with, the provisions of the Code.

**3. Warranties**

3.1 The Members warrant and agree that they are and shall be impartial and independent of the Market Operator and the Disputing Parties. Each Member shall promptly disclose, to each Disputing Party and to the other Members, any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

**4. Objectives of the Dispute Resolution Procedure**

4.1 It is intended that procedures effected under this Dispute Resolution Agreement should to the extent possible:

1. be simple, quick and inexpensive;

2. preserve or enhance the relationship between the Disputing Parties;

3. without prejudice to the obligations of each of the Disputing Parties pursuant to the Code and in particular paragraph B.19.1.7 thereof, preserve and allow for the continuing and proper operation of the Code and the Single Electricity Market;

4. resolve disputes on an equitable basis in accordance with the provisions of the Code; and

5. encourage resolution of disputes without formal legal representation or reliance on legal procedures.

**5. General Obligations of the Members**

5.1 Each Member shall:

1. have no interest financial or otherwise in the Disputing Parties, nor any financial interest in the Code except for payment under the Dispute Resolution Agreement;

2. not previously have been employed as a consultant or otherwise by any of the Disputing Parties, except in such circumstances as were disclosed in writing to all of the Disputing Parties before they signed the Dispute Resolution Agreement;

3. have disclosed in writing to the Disputing Parties and the other Members, before entering into the Dispute Resolution Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer or employee of the Disputing Parties, and any previous involvement in the SEM;

4. not, for the duration of the Dispute Resolution Agreement, be employed as a consultant or otherwise by any of the Disputing Parties, except as may be agreed in advance in writing by the Disputing Parties and the other Members;

5. comply with the applicable provisions of section B.19 of the Code;

6. not, while a Member, enter into discussions or make any agreement with any of the Disputing Parties regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Resolution Agreement;

7. ensure his/her availability for all site visits and hearings as are necessary;

8. be knowledgeable of the Code and all elements of the Dispute by studying all documents received prior to commencement of the hearing of the Dispute; and

9. treat the details of the DRB’s activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Disputing Parties and the other Members.

**6. General Obligations of the Disputing Parties**

6.1 The Disputing Parties and the Disputing Parties’ employees, officers, servants or agents shall not request advice from or consult with the Members regarding the Code, otherwise than in accordance with the procedures determined by the DRB under the Code and the Dispute Resolution Agreement, and except to the extent that prior agreement is given by all other Disputing Parties and the other Members. The Disputing Parties shall be responsible for compliance with this provision by the Disputing Parties’ employees, officers, servants or agents.

6.2 The Disputing Parties undertake to each other and to the Members that the Members shall not, except as otherwise agreed in writing by the Disputing Parties and the Members, be liable for any claims for anything done or omitted in the discharge or purported discharge of the Members’ functions, unless the act or omission is shown to be in bad faith.

6.3 The Disputing Parties hereby jointly and severally indemnify and hold each Member harmless from and against claims from which he/she is relieved from liability under the preceding clause 6.2.

**7. Breach of this Agreement**

7.1 The parties acknowledge that the failure by a Disputing Party to comply with a requirement or determination of the Dispute Resolution Board:

1. does not constitute a breach of this Agreement; but

2. is a breach of the Code that may be referred to the Market Operator as an alleged breach of the Code, to be dealt with in accordance with the terms of the Code.

**8. Payment**

8.1 The Members’ basis for charging shall be [insert basis for charging].

8.2 The Disputing Parties hereby agree to share equally the costs of the Members amongst them, subject to the terms of the Code and, in particular, any decision of the Dispute Resolution Board including as to costs.

**9. Termination**

9.1 At any time:

1. the Disputing Parties may jointly terminate the Dispute Resolution Agreement by giving 21 days’ notice to the Members; or

2. the Members may resign as provided for in clause 2.

9.2 If any of the Members fails to comply with the Dispute Resolution Agreement, the Disputing Parties may, without prejudice to their other rights, jointly terminate it by notice to the Members. The notice shall take effect when received by the Members.

9.3 Any such notice, resignation and termination shall be final and binding on the Disputing Parties and the Members. However, a notice for the purposes of clause 9.1(1) or 9.2 by a Disputing Party, but not by all, shall be of no effect.

9.4 Termination of this Agreement shall be without prejudice to the rights and obligations of the parties having accrued prior to the date of termination.

**10. Default of the Members**

10.1 If a Member fails to comply with any obligation under clause 5, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Disputing Parties for any fees and expenses received by the Member and the other Members, for proceedings or decisions (if any) of the DRB which are rendered void or ineffective.

**11. Severability**

11.1 If any part of this Agreement becomes invalid, illegal or unenforceable the parties shall in such an event negotiate in good faith in order to agree the terms of a mutually satisfactory provision to be substituted for the invalid, illegal or unenforceable provision which as nearly as possible gives effect to their intentions as expressed in this Agreement. Failure to agree on such a provision within one month of commencement of those negotiations shall result in automatic termination of this Agreement. The obligations of the parties under any invalid, illegal or unenforceable provision of the Agreement shall be suspended during such a negotiation.

**12. Waiver**

12.1 The failure of a party to exercise or enforce any right under this Agreement shall not be deemed to be a waiver of that right nor operate to bar the exercise or enforcement of it at any time or times thereafter.

**13. Entire Agreement**

13.1 This Agreement and the Code, constitute the entire, complete and exclusive agreement between the parties in relation to the subject matter hereof, being the terms of engagement of the Members by the Disputing Parties.

**14. Governing Law and Jurisdiction**

14.1 Any dispute or claim arising out of or in connection with this Dispute Resolution Agreement shall be governed by the laws of Northern Ireland and the parties hereby submit to the jurisdiction of any of the Courts of Ireland and the Courts of Northern Ireland (and no other court) for all disputes arising out of, under or in relation to this Dispute Resolution Agreement, in accordance with the terms of the Code.

EXECUTED THIS DAY OF

BY

……………………………..

DISPUTING PARTY

…………………………….

DISPUTING PARTY

…

…………………………….

DRB MEMBER

…………………………….

DRB MEMBER

…………………………….

DRB MEMBER

1. Form of Authority
	* + 1. This Appendix C contains a standard template for a Form of Authority for Appointment of an Intermediary.
	1. Template for Form of Authority for Appointment of an Intermediary

THIS FORM OF AUTHORITY dated the [ ] day of [ ] [20 ] is entered into as a deed between:

(I) [Insert name of generator (if a company, please give full corporate name)]:

(“Licensed Generator”)

having its place of business at [Insert address of Licensed Generator]

being a [registered company/partnership/sole trader etc.] registered under the laws of [insert country of registration if a company] and whose company registration number is [insert if a company];

and

(II) [Insert name of proposed intermediary (if a company, please give full corporate name)]

(“Intermediary”)

having its place of business at [Insert address of Intermediary]

being a [registered company/partnership/sole trader etc.] registered under the laws of [insert country of registration if a company] and whose company registration number is [insert if a company].

In respect of

[Insert description of generator unit or units to which this Form of Authority applies]

(“Units”)

Whereas:

1. The Licensed Generator legally controls the Units and is the subject of [a [licence/authorisation/exemption] issued by the CER to use the Units for the purpose of generation of electricity in Ireland] [and] [a [licence/authorisation/exemption] issued by the NIAUR to use the Units for the purpose of generation of electricity in Northern Ireland].

2. The Licensed Generator and the Intermediary are parties to a contract (“the Contract”) which satisfies criteria for appointment of an Intermediary pursuant to Regulatory Authorities’ Decision Paper SEM/17/025. The Licensed Generator wishes to appoint the Intermediary to act as the Participant in respect of the Units under (i) the Trading and Settlement Code, and (ii) the Capacity Market Code, and the Intermediary wishes to accept such appointment, in accordance with the following terms.

3. By letter dated [x] (“the Consent”) addressed to the Licensed Generator and the Intermediary the Regulatory Authorities consent to the appointment by the Licensed Generator of the Intermediary to act as such.

1. Interpretation

1.1 In this Form of Authority, “Trading and Settlement Code” or “TSC” means the code of that name that governs the balancing market and settlement arrangements for the capacity market in Ireland and Northern Ireland, as modified, amended, varied or replaced from time to time.

1.2 In this Form of Authority, “Capacity Market Code” or “CMC” means the code of that name that governs the capacity market in Ireland and Northern Ireland, as modified, amended, varied or replaced from time to time.

1.3 Capitalised terms which are not defined in this Form of Authority shall have the meanings ascribed thereto in the Trading and Settlement Code.

1. Authorisation under the Trading and Settlement Code

2.1 The Licensed Generator hereby appoints and authorises the Intermediary to register the Units as Generator Units for the purposes of participation in the Balancing Market, and to participate in the Balancing Market in respect of the Units, under the Trading and Settlement Code, and the Intermediary accepts such appointment.

2.2 The Licensed Generator authorises the Intermediary, subject to the Intermediary becoming a Party to the Trading and Settlement Code and successfully registering the Units under the TSC, to undertake all of the obligations, covenants, undertakings, duties and liabilities of a Participant in respect of the Units under the TSC [for the duration of the Contract] [insert alternative period], and the Intermediary agrees to such.

2.3 The Licensed Generator authorises the Intermediary, subject to the Intermediary becoming a Party to the Trading and Settlement Code and successfully registering the Units under the TSC, to benefit from all of the rights of a Participant under the TSC, including the right to receive payments in respect of the Units under the TSC [for the duration of the Contract] [insert alternative period], and the Intermediary agrees to such.

**AND WHERE APPLICABLE:**

1. [Authorisation under the Capacity Market Code

3.1TheLicensed Generator hereby appoints and authorises the Intermediary to register or provisionally register the Units for the purposes of participation in the Capacity Market, and to participate in respect of the Units in the Capacity Market, under the Capacity Market Code, and the Intermediary accepts such appointment.

3.2 The Licensed Generator authorises the Intermediary, subject to (1) the Intermediary becoming a Party to the Capacity Market Code and (2)(i) successfully registering the Units under the TSC, or (2)(ii) registering or provisionally registering the Units under the CMC, to undertake all of the obligations, covenants, undertakings, duties and liabilities of a Participant in respect of the Units under the CMC [for the duration of the Contract] [insert alternative period], and the Intermediary agrees to such.

3.3 The Licensed Generator authorises the Intermediary, subject to (1) the Intermediary becoming a Party to the Capacity Market Code and (2)(i) successfully registering the Units under the TSC, or (2)(ii) registering or provisionally registering the Units under the CMC, to benefit from all of the rights of a Participant in respect of the Units under the CMC (including the right to participate in Capacity Auctions) [for the duration of the Contract] [insert alternative period], and the Intermediary agrees to such.]

4 Other matters

4.1 This Form of Authority, and any disputes arising under, out of, or in relation to, this Form of Authority shall be interpreted, construed and governed in accordance with the laws of Northern Ireland.

4.2 The parties hereby submit to the jurisdiction of the Courts of Ireland and the Courts of Northern Ireland (and no other court) for all disputes arising out of, under or in relation to this Form of Authority.

4.3 The Market Operator under the TSC and the System Operators under the CMC are entitled to rely on this Form of Authority.

4.4 The Registered Generator may revoke this Form of Authority by giving [20] Working Days notice in writing.

4.5 Where the Regulatory Authorities consider that the basis on which the Regulatory Authorities gave the Consent no longer applies, they may revoke the Consent and this Form of Authority by giving 20 Working Days notice in writing to the Registered Generator and the Intermediary. If the Regulatory Authorities revoke this Form of Authority, the Intermediary shall promptly notify the Market Operator under the TSC and, if applicable, the System Operators under the CMC.

 [To be executed as a Deed and (where appropriate to the legal form of the Licensed Generator) under seal]

1. List of Agreed Procedures
	* + 1. This Appendix D describes, and sets out the scope of, each Agreed Procedure.
			2. **Agreed Procedure 1 “Registration”**: sets out the detailed procedures applying to the Market Operator, Parties and (where applicable) Applicants in relation to:
				1. the data requirements set out in Appendix H;
				2. the operation of the registration process under sections B.7 to B.11;
				3. the operation of the data validation process set out in Chapter C (Data and Information Systems); and
				4. the Data Transaction (timelines and format) under which the Market Operator shall inform a Participant of the Required Credit Cover for a Unit prior to the registration of that Unit.
			3. **Agreed Procedure 2:** Not used
			4. **Agreed Procedure 3 “Communication Channel Qualification”:** sets out the detailed procedures applying to the Participants in relation to the obtaining and maintenance of a functioning Type 2 Channel or Type 3 Channel, and the security required for these Communication Channels, and also sets out the manner in which Participants and (in the case of suspension of Communication Channel Qualification) the Market Operator shall perform the following functions in order that Participants may "issue", "submit", "send" or "receive" Data Transactions and to maintain a secure IT system:
				1. registering Type 2 Channel and Type 3 Channel communications;
				2. testing Participant qualification in respect of Type 2 Channel and Type 3 Channel communications;
				3. accessing the Market Operator's Isolated Market System;
				4. maintaining Communication Channel Qualification status in respect of both Type 2 Channel and Type 3 Channel; and
				5. suspension of Communication Channel Qualification status in respect of Type 2 Channel and Type 3 Channel.
			5. **Agreed Procedure 4 “Transaction Submission and Validation”**: sets out the detailed obligations of the Parties in relation to the submission of data under Chapter D “Balancing Market Data Submission” and Settlement Reallocation Agreements.
			6. **Agreed Procedure 5 “Data Storage and IT Security”**: sets out the detailed procedures applying to the Market Operator and Parties in relation to:
				1. the technical security, data storage and data access specifications and standards with which the Isolated Market System of the Market Operator and of each Participant must comply;
				2. the technical security specifications and standards that must be maintained in order to gain access to the Market Operator’s Isolated Market System;
				3. the security standards for data communications that must be complied with in respect of Type 2 Channel and Type 3 Channel communications;
				4. computational machine precision and methods of rounding; and
				5. other relevant matters under Chapter C “Data and Information Systems”.
			7. **Agreed Procedure 6 “Data Publication and Data Reporting”:** sets out the detailed procedures applying to the Market Operator and Parties in relation to:
				1. the method of publication of data, and the updating of published data;
				2. the data listed in Appendix E “Data Publication” that must be provided by the Market Operator in response to a request made by a Participant, and the method of such response;
				3. the data that must be provided by the Market Operator to certain Participants only (or all of them), and the method by which the Market Operator must make such data available;
				4. the matters set out in paragraphs A.4.1.1(o), A.4.2.1(l), B.17.22.2, B.32.4.1, C.2.4.2 and C.4.1.3 and sections B.28, B.29 and C.7.
			8. **Agreed Procedure 7 “Emergency Communications”:** sets out the detailed procedures applying to the Market Operator and Parties that arise in the event of and for the duration of a General Communication Failure, a General System Failure or a Limited Communication Failure in relation to:
				1. the processes for communication of data required for market settlement;
				2. the process to be followed by the Market Operator in notifying the market that a General Communication Failure or a General System Failure is in effect;
				3. general responsibilities of Parties;
				4. updates to be issued by the Market Operator;
				5. estimation to be carried out by the Market Operator as to how long the emergency situation will remain in effect; and
				6. the matters set out in paragraphs C.3.1.5, C.3.1.10 and sections C.4 and C.5.
			9. **Agreed Procedure 8:** Not used
			10. **Agreed Procedure 9 “Management of Credit Cover and Credit Default”:** sets out the detailed procedures applying to the Market Operator and Participants in relation to:
				1. the processes for managing the Credit Cover that is required to be maintained by Participants;
				2. the process that is to be invoked in the event of a default by a Participant in relation to Credit Cover; and
				3. other relevant matters under Chapter G (Financial and Settlement).
			11. **Agreed Procedure 10 “Settlement Reallocation”:** sets out the detailed procedures applying to the Market Operator and Participants in relation to Settlement Reallocation Agreements and the cancellation of Settlement Reallocation Agreements, and the matters set out in section G.17.
			12. **Agreed Procedure 11 “Market System Operation, Testing, Upgrading and Support”:** sets out the detailed procedures applying to the Market Operator in relation to the:
				1. provision of advice to Parties in relation to the operation of the Market Operator’s Isolated Market System and Communication Channels;
				2. provision to Parties of a facility for the reporting of incidents;
				3. implementation and coordination of the Market Operator’s Isolated Market System and its interfaces to Communication Channels;
				4. scheduled testing and down-time of the Market Operator’s Isolated Market System or its interfaces to Communication Channels;
				5. commissioning of an externally-audited report in the event of a General Communication Failure or General System Failure;
				6. restoration of the Market Operator’s Isolated Market System in the event of a General System Failure; and
				7. the matters set out in paragraphs C.2.2.5, C.2.5.1, C.2.5.3, C.5.4.4 and C.5.5.1.
			13. **Agreed Procedure 12 “Modifications Committee Operation”:** sets out the detailed procedures applying to the Market Operator and Parties in relation to the rules and proceedings of the Modifications Committee under section B.17.
			14. **Agreed Procedure 13 “Settlement Queries”:** sets out the detailed procedures applying to the Market Operator and Parties in relation to the raising and processing of Settlement Queries raised in accordance with section G.3.
			15. **Agreed Procedure 14 “Disputes”:** sets out the detailed obligations of the Market Operator and Parties in relation to the procedures governing Disputes under section B.19.
			16. **Agreed Procedure 15 “Settlement and Billing”:** sets out the detailed procedures applying to the Market Operator and Parties in relation to the issuing of Market Operator invoices, Settlement Statements and Settlement Documentsin accordance with Chapter G (Financial and Settlement) and Appendix G “Settlement Statements, Settlement Reports and Settlement Documents”.
			17. **Agreed Procedure 16 “Provision of Meter Data”:** sets out the detailed procedures applying to Meter Data Providers in relation to the grouping of Meter Data for provision to the Market Operator, and the timing of such provision.
			18. **Agreed Procedure 17 “Banking and Participant Payments”:** sets out the detailed procedures applying to the Participants and the Market Operator in relation to the banking arrangements required under the Code for Settlement, including the manner in which Participants are required to make payments to the Market Operator, and the manner in which the Market Operator is required to make payments to Participants. Agreed Procedure 17 “Banking and Participant Payments” also sets out the detailed obligations of the Parties in relation to the management of SEM Collateral Reserve Accounts.
			19. **Agreed Procedure 18 “Suspension and Termination”:** sets out the detailed timings and procedures regarding the operation of section B.18.
2. Data Publication
	* + 1. A list of data items that the Market Operator shall be required to publish, and the timing with which the Market Operator shall be required to publish them, is contained in the tables in this Appendix E. Procedures for the updating of publications and the method of publication are contained in Agreed Procedure 6 “Data Publication and Data Reporting”.
			2. All data received by the Market Operator over a Type 2 or Type 3 Communication Channel, or calculated by the Market Operator, shall be published according to the specific timelines set out in this Appendix.
			3. Agreed Procedure 6 “Data Publication and Data Reporting”, sets out the manner in which the Market Operator shall be required to comply with requests by Participant for reports with any data detailed in paragraph 2 of this Appendix above to be made available for communication over Type 2 or Type 3 Communication Channels. Further details of data publication will be available in technical specification documents which will be published on the Market Operator’s website. Subject to data confidentiality, and the timelines set out in this Appendix, all such reports will be published on the Market Operator’s website and/or the Balancing Market Interface as defined in Agreed Procedure 6 “Data Publication and Data Reporting”.
			4. Agreed Procedure 6 “Data Publication and Data Reporting”, will follow the following principles set out in the following sections, paragraphs or sub-sections of the Code: A.4.1.1(o), A.4.1.1(p), B17.22.2, B.28.1.3, B.29.1.1, B.32.4.1, C.2.4.2, C.4.1.3 and C.7.1 to C.7.5.

**Table 1 – Data publication list part 1: updated periodically as required**

| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| --- | --- | --- | --- |
| **Periodically as required** |  |  |  |
| No less frequently than twice yearly in line with the Scheduled Release | The Code (including Agreed Procedures) |  |  |
| At least once a year and no later than two weeks prior to the first meeting in the schedule | Schedule of Modification Panel meetings |  |  |
| As soon as practical but no later than two Working Days after receipt of Modification Proposal  | Modification Proposal  |  |  |
| As soon as practical but no later than two Working Days after receipt of consultation on Modification Proposal | Public Consultation on Modification Proposal  |  |  |
| As soon as practical but no later than two Working Days after closing of consultation on Modification Proposal | Responses to Public Consultation on Modification Proposal  |  |  |
| As soon as practical but no later than two Working Days after receipt of further information on Modification Proposal | Further information on Modification Proposal  |  |  |
| As soon as practical but no later than two Working Days after issue of Final Recommendation Report to the Regulatory Authorities | Final Recommendation Report |  |  |
| As soon as practical but no later than two Working Days after receipt of Regulatory Authority decision on Final Modification Recommendation | Regulatory Authority decision on Final Modification Recommendation  |  |  |
| As updated and at least within five Working Days of a successful application for Registration or Deregistration | List of Parties, Participants and each of their Generator Units and Supplier Units  |  |  |
| As soon as practical after being issued and at least within two Working Days of issue | Making or lifting of a Suspension Order  |  |  |
| As soon as practical after being issued and at least within two Working Days of issue | Termination Order |  |  |
| As received and at least within two Working Days of issue | Generator Unit Under Test Notice |  |  |
| As soon as practical after being updated | Proposed Market Operator Isolated Market System Testing Schedule |  |  |
| As updated and at least within five Working Days of update | Details of the Accession Fees and Participation Fees |  |  |
| As updated and at least two weeks in advance of the Meeting | Date of the next meeting of the Modifications Committee  |  |  |
| Within one Working Day of receipt from the Regulatory Authorities | Supplier Suspension Delay Period |  | e |
| Within one Working Day of receipt from the Regulatory Authorities | Generator Suspension Delay Period |  | e |
| As updated and at least within two Working Days of update | Members and chairperson of the Modification Committee |  |  |
| As soon as possible after calculation  | Calculations and methodology used by the Market Operator during Administered Settlement |  |  |
| As required | REMIT Data Transaction |  | h |
| Updated as required from time to time | Price Materiality Threshold |  |  |
| Updated as required from time to time | Settlement Recalculation Threshold |  |  |
| Within five Working Days of receipt from the Regulatory Authorities approval | Imbalance Weighting Factor | WFIMB | γy |
| Within five Working Days of receipt from the Regulatory Authorities approval or two months before effective day whichever is later | De Minimis Acceptance Threshold |  |  |
| At least four Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Full Administered Scarcity Price | PFAS |  |
| Within five Working Days of receipt from the Regulatory Authorities approval or two months before effective day whichever is later | Reserve Scarcity Price Curve | PRSC | Θ |
| Within five Working Days of receipt from the Regulatory Authorities approval or two months before effective day whichever is later | Price Average Reference Quantity |  |  |
| Within five Working Days of receipt from the Regulatory Authorities approval | Information Imbalance Quantity Weighting Factor | WFQII | uβγ |
| Within five Working Days of receipt from the Regulatory Authorities approval | Information Imbalance Tolerance | TOLII | uβγ |
| Within five Working Days of receipt from the Regulatory Authorities approval | Information Imbalance Price | PII | uγ |
| Within five Working Days of receipt from the Regulatory Authorities approval | Tracked Difference Payment Shortfall Amount | CSHORTDIFFPTRACK | vd |
| Within five Working Days of receipt from the Regulatory Authorities approval | Carbon Price | PCARBON | m |
| Within five Working Days of receipt from the Regulatory Authorities approval | Natural Gas Fuel Price | PFUELNG | m |
| Within five Working Days of receipt from the Regulatory Authorities approval | Oil Fuel Price | PFUELO | m |
| Within five Working Days of receipt from the Regulatory Authorities approval | Peaking Unit Theoretical Efficiency | FTHEORYPU | y |
| Within five Working Days of receipt from the Regulatory Authorities approval | Natural Gas Carbon Intensity Factor | FCARBONING | y |
| Within five Working Days of receipt from the Regulatory Authorities approval | Oil Carbon Intensity Factor | FCARBONIO | y  |
| Within five Working Days of receipt from the Regulatory Authorities determination | Aggregated Settlement Period | α |  |
| At least two Months before start of the Capacity Auction, or within five Working Days of its approval from the Regulatory Authorities, whichever is later | Annual Stop-Loss Limit Factor | FSLLA | uy |
| At least two Months before start of the Capacity Auction, or within five Working Days of its approval from the Regulatory Authorities, whichever is later | Billing Period Stop-Loss Limit Factor | FSLLB | ub |
| After every Capacity Auction | Total Capacity Awarded | CCP | Ωc |
| Within five Working Days of receipt from the Regulatory Authorities  | Response Period Duration |  |  |

**Table 2 – Data publication list part 2: updated annually and as required**

| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| --- | --- | --- | --- |
| **Annual** |  |  |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Annual Capacity Charge Exchange Rate  | XRCCA | y |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Capacity Duration Exchange Rate  | XRCD | ny |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Capacity Charge Metered Quantity Factor | FQMCC | γ |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Supplier Capacity Charge Price | PCCSUP | y |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Difference Payment Socialisation Multiplier | FSOCDIFFP | y |
| At least four Months before start of Year | Annual Load Forecast  |  |  |
| At least four Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Market Price Cap | PCAP | y |
| At least four Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Market Price Floor | PFLOOR | y |
| At least four Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Residual Meter Volume Interval Proportion | RMVIP | ey |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Residual Error Volume Price | PREV | y |
| At least one Month before start of Year | Fixed Market Operator Charge (Supplier Unit) | CMOAV | vy |
| At least one Month before start of Year | Fixed Market Operator Charge (Generator Unit) | CMOAU | uy |
| At least one Month before start of Year | Variable Market Operator Price | PVMO | y |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Engineering Tolerance | TOLENG |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | MW Tolerance | TOLMW | t |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | System per Unit Regulation Factor  | FUREG |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Discount for Over Generation Factor  | FDOG | uγ |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Premium for Under Generation Factor | FPUG | uγ |
| Four Weeks before start of Audit, or within one Working Day of its receipt from the Regulatory Authorities, whichever later | Terms of Reference for Market Operator Audit |  |  |
| Within five Working Days after delivery of Audit Report in its final form to the Regulatory Authorities, or within one Working Day of its receipt from the Regulatory Authorities, whichever later | Audit Report |  |  |
| At least two Months before start of Tariff Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later | Transmission Loss Adjustment Factors | FTLAF | uγ for Generator Units, lγ for Interconnector |
| At least two Months before start of Tariff Year, or within five Working Days of its receipt from the relevant System Operator, whichever is later | Distribution Loss Adjustment Factors | FDLAF | uγ for Generator Units, lγ for Interconnector |
| At least two weeks before start of Tariff Year, or within five Working Days of its receipt from the relevant System Operator, whichever is later | Combined Loss Adjustment Factors | FCLAF | uγ for Generator Units, lγ for Interconnector |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Imperfections Price | PIMP | y |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Imperfections Charge Factor | FCIMP | γy |
| Four Months before start of Year | Testing Tariff | PTESTTARIFF | uγ  |
| Four Months before start of Year | Settlement Calendar |  |  |
| Four Months before start of Year, and as updated | Schedule of Testing Tariffs |  |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Fixed Credit Requirement, in respect of Generator and/or Supplier Units | FCR | py |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Days in Historical Assessment Period | DINHAP |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Analysis Percentile Parameter | AnPP |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Credit Cover Adjustment Trigger |  |  |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Currency Cost Price | PCC | y |
| At least two Months before start of Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever later | Currency Cost Charge Factor | FCCA | y |
| In April of each Year | Annual Maintenance Schedule - Transmission Line Outages |  |  |
| At least two Months before start of Year | Two Year Maintenance Schedule - Generator Outages Schedule |  |  |

**Table 3 – Data publication list part 3: updated Monthly**

| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| --- | --- | --- | --- |
| **Monthly** |  |  |  |
| Within five Working Days of its creation | Market Operator Performance Report  |  |  |
| At least one Working Day before start of Month | Monthly Maintenance Schedule – Generator Unit outages | -- | -- |
| At least one Working Day before start of Month | Monthly Maintenance Schedule – Transmission System line outages  |  |  |
|  At least one Working Day before start of Month | Monthly Load Forecast and assumptions | -- | -- |
| At least once every Month | Registered Capacity | RC | u |

**Table 4 – Data publication list part 4: updated daily in advance of the Trading Day**

|  |  |  |  |
| --- | --- | --- | --- |
| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| **Daily, in advance of the Trading Day** |  |  |  |
| By 11:00 on the day of the Gate Closure 1 in respect of the Trading Day | Trading Day Exchange Rate between euro (€) and pounds sterling (£)  | - | - |
| By 17:00 on the day prior to the Trading Day, plus as updated | Unit Under Test |  |  |
| By 17:00 on the day prior to the Trading Day, plus as updated | Net Transfer Capacity |  |  |
| By 17:00 on the day prior to the Trading Day, plus as updated | Four Day Load Forecast | - | - |
| By17:00 on the day prior to the Trading Day, plus as updated | Four Day Rolling and Solar Wind Power Unit Forecast by Unit |  |  |
| By 17:00 on the day prior to the Trading Day, plus as updated | Four Day Rolling Wind and Solar Power Unit Forecast aggregated by Jurisdiction | - | - |
| By 17:00 on the day prior to the Trading Day, plus as updated | Four Day Rolling Wind and Solar Power Unit Forecast by Market | - | - |
| By 17:00 on the day prior to the Trading Day | Daily Transmission Outage Schedule Report |  |  |
| By 17:00 on the day prior to the Trading Day  | Forecast Availability | - | uγ |

**Table 5 – Data publication list part 5: updated hourly or half hourly prior to the Imbalance Settlement Period (ISP)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| **Hourly or half hour prior to each ISP** |  |  |  |
| Every hour prior to each ISP | Forecast Imbalance |  | γ |
| Every half hour prior to each ISP | Net Imbalance Volume Forecast  |  | γ |

**Table 6 – Data publication list part 6: updated following each Gate Closure 1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| **Following each Gate Closure 1** |  |  |  |
| After each Gate Closure 1 | Aggregated Final Physical Notifications |  | γ |

**Table 7 – Data publication list part 7: updated following each Imbalance Pricing Period (IPP) or Imbalance Settlement Period (ISP)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Time** | **Item / Data Record** | **Term** | **Subscript** |
| **Following each IPP or ISP** |  |  |  |
| Following each IPP | Imbalance Price by IPP | PIMB | φ |
| Following each ISP | Imbalance Settlement Price by ISP | PIMB | γ |
| Following each IPP | Net Imbalance Volume Quantity by IPP | QNIV | φ |
| Following each ISP | Net Imbalance Volume Quantity by ISP | QNIV | γ |
| Following each IPP | Net Imbalance Volume Tag | TNIV | ukφ |
| Following each IPP | Demand Control Quantity | QDC | Φ |
| Following each IPP | Marginal Energy Action Price | PMEA | Φ |
| Following each IPP | Price Average Reference Tag | TPAR | ukφ |
| Following each IPP | Bid Offer Price | PBO | ukφ |
| Following each IPP | Accepted Bid Quantity | QAB | ukφ |
| Following each IPP | Accepted Offer Quantity | QAO | ukφ |
| Following each IPP | System Operator Flag | FSO | ukφ |
| Following each IPP | Non-Marginal Flag | FNM | ukφ |
| Following each ISP | Anonymised Incremental/ Decremental Price Quantity Pairs |  |  |

**Table 8 – Data publication list part 8: updated daily post Trading Day or Settlement Day**

| **Time** | **Item** | **Term** | **Subscript** |
| --- | --- | --- | --- |
| **Daily, post Trading Day or Settlement Day** |  |  |  |
| By 16:00 Trading Day +1 | Technical Offer Data Accepted  |  | ut |
|  |  |  |  |
| By 16:00 Trading Day +1 | Outturn Availability |  | uγ |
| By 16:00 Trading Day +1 | Final Physical Notifications |  | uγ |
| By 16:00 Trading Day +1 | Commercial Offer Data Accepted  |  | uγ |
| By 16:00 Trading Day +1 | Daily Generator Outage Schedules |  |  |
| By 16:00 Trading Day +1 | Demand Control Data Transaction | QDC | φ |
| By 16:00 Trading Day +1 and by 17:00 Trading Day +5 | Dispatch Instructions | - | - |
| By 16:00 Trading Day +1 | SO Interconnector Trades |  PBO, QAO, QAB | u |
| By 16:00 Trading Day +1 | Market Back Up Prices | PMBU | y |
| By 17:00 Trading Day +5 | Initial Interconnector Flows and Residual Capacity |  |  |
| By 16:00 Trading Day +1 | Generator Unit Technical Characteristics Data Transaction  |  |  |
| By 16:00 Trading Day +1 | Nominal System Frequency | FRQNOR | γ |
| By 16:00 Trading Day +1 | Average System Frequency | FRQAVG | γ |
| By 16:00 Working Day +1 and by 17:00 Trading Day +5 | Metered Generation by Unit  | QM | uγ, vγ |
| By 16:00 Working Day +1 and by 17:00 Trading Day +5 | Metered Generation by Jurisdiction  | QM, | ue or ve |
| By 16:00 each Working Day  | Credit Assessment Price for the Undefined Exposure Period for Billing Periods | PCA | g |
| By 16:00 each Working Day | Dispatch Quantity | DQ | uγ |
| By 16:00 each Working Day | Billing Period Undefined Potential Exposure Quantity | QUPEB | pg |
| By 16:00 on Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day  | Tolerance for Over Generation  | TOLOG | uγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Tolerance for Under Generation | TOLUG | uγ |
| By 16:00 Two Working Days after Trading Day, by 17:00 Five Working Days after end Trading Day and as updated at 17:00 the day of recalculation | Trading Payments and Charges D+1  | CIMB, CPREMIUM, CDISCOUNT, CAOOPO, CABBPO, CCURL, CUNIMB, CII, CFC, CIMP, CTEST, CREV, CCA  | uγ, uk or vγ as appropriate |
| By 16:00] Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Capacity Quantity Scaling Factor | FSQC | γ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Required Capacity Quantity | qCREQ | y |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Reserve Adjustment Capacity | qCREQAR | y |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Net Capacity Quantity | QCNET | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Obligated Capacity Quantity | QCOB | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Loss-Adjusted Commissioned Capacity Quantity | qCCOMMISSLF | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | De-Rating Factor | FDERATE | Ω |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Above De-Rated Capacity Factor | FCADERATE | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Capacity Quantity | qC | Ωn |
| By 16:00 Two by Working Days after Trading Day and 17:00 Five Working Days after Trading Day | Initial Primary Auction Capacity Payment Price | PCPIPA | y |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Day-ahead Difference Quantity | QDIFFDA | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Day-ahead Trade Quantity | qTDA | xuh |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Day-ahead Trade Price for Trade | PTDA | xuh |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Day-ahead Difference Charge | CDIFFCDA | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Day-ahead Difference Charge Metered Quantity | QMDIFFCDA | vγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Strike Price for Month | PSTR | m |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Loss-Adjusted Accepted Offer Quantity | QAOLF | uoiγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Loss-Adjusted Accepted Bid Quantity | QABLF | uoiγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Loss-Adjusted Offer Price Only Accepted Offer Quantity | QAOOPOLF | uoiγ |
| By 16:00 Two Working Days after Trading Day and 17:00 Five Working Days after Trading Day | Biased Accepted Offer Quantity | QAOBIAS | uoiγ |
| B 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Loss-Adjusted Trade Opposite TSO Accepted Offer Quantity | QAOTOTSOLF | uoiγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Within-day Trade Difference Quantity | QDIFFCTWD | Ωγk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Within-day Trade Difference Charge | CDIFFCTWD | Ωγk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Within-day Difference Charge Metered Quantity | QMDIFFCWD | sγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | System Service Flag | FSS | uγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | System Service Difference Quantity | QDIFFCSS | uγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Non-performance Difference Quantity | QDIFFCNP | Ωγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Loss-Adjusted Maximum Import Capacity Market Availability Quantity for Interconnector | qCMAMAXILF | lγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Annual Cumulative Non-performance Difference Charge | CDIFFCNPA | Ω(γ-1) |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Billing Period Cumulative Non-performance Difference Charge | CDIFFCNPB | Ω(γ-1) |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Total Difference Charge | CDIFFCTOT | pγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Day-ahead Difference Payment | CDIFFPDA | vd |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Intraday Trade Quantity for Trade | qTID | xuhk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Intraday Trade Price for Trade | PTID | xvhk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Intraday Trade Difference Quantity | QDIFFPTID | vγk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Intraday Trade Difference Payment | CDIFFPTID | vγk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Tracked Difference Quantity | QDIFFTRACK | vγk |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Imbalance Difference Quantity | QDIFFPIMB | vγ |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Total Difference Payment | CDIFFPTOT | vd |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Daily Total Difference Payment | CDIFFPTOTD | d |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Difference Payment Shortfall Amount | CSHORTDIFFP | vd |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Difference Payment Socialisation Balance in Settlement Day | CBSOCDIFFP | d |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Difference Payment Reimbursement Payment | CREIMDIFFP | v(d-1) |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Tracked Difference Payment Shortfall Charge | CSHORTDIFFPTRACK | vd |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Achievable Difference Payment | CDIFFPACHIEVE | vd |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Total Achievable Difference Payment | CDIFFPACHIEVETOT | pd |
| By 16:00 Two Working Days after Trading Day and by 17:00 Five Working Days after Trading Day | Initial Socialisation Balance | CBSOCI | d |

**Table 9 – Data publication list part 9: updated on a Capacity Period basis, post end of Capacity Period (all variables Capacity Period+3 WD and Capacity Period +7WD)**

| **Time** | **Item** | **Term** | **Subscript** |
| --- | --- | --- | --- |
| **Each Capacity Period, post end of Capacity Period** |  |  |  |
| By 17:00] Three Working Days and by 12:00 Seven Working Days after end of Capacity Period,  | Capacity Payment Price | PCP | Ωn |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period,  | Capacity Payments to each Capacity Market Unit | CCP | Ωc |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Supplier Capacity Charge Price | PCCSUP | y |
| By 17:00] Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Difference Payment Socialisation Multiplier | FSOCDIFFP | y |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Capacity Charge Metered Quantity Factor | FQMCC | γ |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Capacity Charge | CCC | vc |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Total Capacity Charge | CCCTOT | pc |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Difference Payment Socialisation Charge | CSOCDIFFP | vc |
| By 17:00 Three Working Days and by 12:00 Seven Working Days after end of Capacity Period, | Total Difference Payment Socialisation Charge | CSOCDIFFPTOT | pc |

**Table 10 - Data publication list part 10: updated every hour, containing data for the previous hour**

| **Time** | **Item/Data Record** | **Term** | **Subscript** |
| --- | --- | --- | --- |
| Every hour for the previous hour | Outturn Availability |  | uγ |
| Every hour for the previous hour | Hourly Dispatch Instructions  | - | u |
| Every hour for the previous hour | Hourly SO Interconnector Trades  | - | Iγ or Iφ |

1. Other Communications
	1. Introduction
		* 1. This Appendix F outlines the detailed Data Record requirements for miscellaneous Data Transactions under the Code not related to Notices of Dispute, Suspension or Termination, or operation of the Modifications Committee.
			2. Agreed Procedure 13 "Settlement Queries" sets out the detail of Notices related to the Query process.
			3. Agreed Procedure 7 "Emergency Communications" and Agreed Procedure 11 "Market System Operation, Testing, Upgrading, and Support" set out the detail of Notices related to Limited Communication Failures, General Communication Failures, General System Failures.
			4. Agreed Procedure 12 "Modifications Committee Operation" sets out the detail of all Notices related to the process of raising Modification Proposals, impact assessing Modification Proposals, seeking consultation on Modification Proposals, publishing the Modifications Committee's Final Modification Recommendation and the decision of the Regulatory Authorities.
			5. Chapter B of the Code sets out the treatment of Suspension Orders and Termination Orders.

Generator Unit Under Test Notice

* + - 1. Agreed Procedure 4 "Transaction Submission and Validation" sets out the detail of all Generator Unit Under Test Notices, following the principles in paragraphs 7 and 8 of this Appendix below.
			2. Each Participant shall submit a Generator Unit Under Test Request to the Market Operator in accordance with the Grid Code in advance of Unit Under Test Start Date. The Generator Unit Under Test Request will specify in all cases Unit Under Test Start Date and time, Unit Under Test End Date and time and the Generator Unit Under Test and any such requirements as specified in the Grid Code.
			3. Participants shall submit a Generator Unit Under Test Notice to the Market Operator in accordance with the Grid Code. The Generator Unit Under Test Notice will specify in all cases the Unit Under Test Start Date and time and the Unit Under Test End Date and time, and the Generator Unit Under Test. The Market Operator will ensure that Generator Unit Under Test Notices can be submitted by Participants through a Type 2 Channel or Type 3 Channel.
		1. Maintenance Schedules Data Transactions
			1. Each System Operator shall submit an annual Maintenance Schedule Data Transaction to the Market Operator in April each Year, and whenever it is updated. The following shall also apply:
				1. The annual Maintenance Schedule Data Transaction shall contain the Outage Schedule for each line in the Transmission System in the relevant Jurisdiction over the year commencing at the submission of the original version of that Data Transaction.
				2. The Market Operator shall only provide for Type 1 Channel for the communication of such annual Maintenance Schedule Data Transaction from the System Operator during normal operation of the Market Operator's Isolated Market System and the Type 1 Channel.
			2. Each System Operator shall submit a two year Maintenance Schedule Data Transaction to the Market Operator at least two months before the start of each Year, and whenever it is updated. The following shall also apply:
				1. The Maintenance Schedule Data Transaction shall contain the Maintenance Schedule for each Generator and Interconnector, identified by the System Operator as part of the Grid Code operational planning process in the relevant Jurisdiction over the next two Years.
				2. The Market Operator shall only provide for Type 1 Channel for the communication of such Maintenance Schedule Data Transaction from the System Operator during normal operation of the Market Operator's Isolated Market System and the Type 1 Channel.
			3. Each System Operator shall submit a monthly Maintenance Schedule Data Transaction to the Market Operator at least one Working Day before the start of each Month, and whenever it is updated. The following shall also apply:
				1. The monthly Maintenance Schedule Data Transaction shall contain the Maintenance Schedule of each Generator connected to the Transmission System in the relevant Jurisdiction over the next two Months, and the Maintenance Schedule of each line on the Transmission System in the relevant Jurisdiction over the next two Months.
				2. The Market Operator shall only provide for Type 1 Channel for the communication of monthly Maintenance Schedule Data Transactions from the System Operator during normal operation of the Market Operator's Isolated Market System and the Type 1 Channel.
1. Settlement Statements, Settlement Reports and Settlement Documents
	* + 1. This Appendix G sets out the detailed Data Record requirements for the Settlement Data Transactions (as defined in paragraph 2 of this Appendix), and the relevant Submission Protocols for the Market Operator to follow in respect of such Data Transactions.
			2. The Settlement Data Transactions comprise the Data Records that the Market Operator shall be obliged to include in:
				1. Settlement Statements and Settlement Reports for Trading Payments and Trading Charges per Participant in respect of their Supplier Units and Generator Units;
				2. Settlement Statements and Settlement Reports for Capacity Payments and Capacity Charges per Participant in respect of their Capacity Market Units and Supplier Units;
				3. Settlement Statements for Market Operator Charges;
				4. Market Operator Charge invoices; and
				5. Participant Settlement Documents.
			3. The Fixed Market Operator Charge will be part of the Market Operator Charge invoice.
			4. The Variable Market Operator Charge will be part of the Market Operator Charge invoice.
			5. The Market Operator shall include a Participant’s Fixed Market Operator Charge and Variable Market Operator Charge in a single monthly invoice.
			6. The Market Operator shall denominate each Data Record in this Appendix G which contains Currency amounts in the designated Currency of the relevant Participant.
			7. The Market Operator shall include the following identifying Data Records in each Settlement Statement, Settlement Report and Settlement Document, along with sufficient information for a Participant to reasonably determine the provisions of the Code under which the Settlement Statement, Settlement Report or Settlement Document was created, and to uniquely identify the Settlement Statement, Settlement Report or Settlement Document during correspondence with the Market Operator:
				1. Settlement Day (if applicable);
				2. Imbalance Settlement Period (if applicable);
				3. Start and End Date of the relevant Billing Period and, if relevant, Capacity Period;
				4. Participant ID;
				5. Unit ID(s) (if applicable); and
				6. Settlement amounts.
			8. The Market Operator shall, in relation to each Billing Period and Capacity Period, issue at least four sets of Settlement Statements and Settlement Reports to each Participant comprising settlement data in respect of each of their registered Units: one arising from the Indicative Settlement run, one arising from the Initial Settlement run, one arising from the first Timetabled Settlement Rerun and one arising from the second Timetabled Settlement Rerun.
			9. The Market Operator shall issue Settlement Statements and Settlement Reports to each Participant comprising settlement data in respect of each of their registered Units in the event of any ad hoc Settlement Rerun arising from a Settlement Query or Dispute.
			10. The Market Operator shall, in relation to each Billing Period, issue to each Participant one Settlement Document. When provided for in paragraph G.2.5.3, the Settlement Document for a Billing Period will also include Capacity Payments and Capacity Charges in respect of a Capacity Period. Settlement Documents will be based on the Settlement Statements arising from the Initial Settlement run for that Billing Period and/or Capacity Period.
			11. The Market Operator shall issue to each Participant a further Settlement Document based on the Settlement Statements arising from each Settlement Rerun.
			12. Participants may query the content of the Settlement Statements and Settlement Reports by raising a Settlement Query under section G.3 or a Dispute under section B.19.
			13. The timings under which the Market Operator shall be obliged to issue all Settlement Statements, Settlement Reports, Settlement Documents and invoices are set out in sections G.2.5, G.2.9 and paragraphs G.7.2.2 and G.7.3.4, or as appropriate depending on the outcomes of a Settlement Query or a Dispute.
			14. The Market Operator shall ensure that a Settlement Statement and Settlement Reports for Trading Payments and Trading Charges issued to a Participant for its Generator Units provides to Participants, when considered in conjunction with other supplementary reports made available to the Participant under the same timeframes and over the same Communication Channels, inter alia, for the relevant Generator Unit u in each Imbalance Settlement Period γ for the relevant Settlement Day in Billing Period b, values of:
				1. Total Daily Amounts for the Participant (Settlement Day value);
				2. the Imbalance Component Payment or Charge for the Generator Unit;
				3. the Premium Component Payment for the Generator Unit;
				4. the Discount Component Payment for the Generator Unit;
				5. the Offer Price Only Accepted Offer Payment or Charge for the Generator Unit;
				6. the Bid Price Only Accepted Bid Payment or Charge for the Generator Unit;
				7. the Curtailment Payment or Charge for the Generator Unit;
				8. the Uninstructed Imbalance Charge for the Generator Unit;
				9. the Information Imbalance Charge for the Generator Unit;
				10. the Fixed Cost Payment or Charge for the Generator Unit (where calculable over the Billing Period and included in the last Settlement Day of the Billing Period);
				11. the Testing Charge for the Generator Unit;
				12. Metered Quantity for the Generator Unit;
				13. Actual Availability Quantity for the Generator Unit;
				14. Ex-Ante Quantity for the Generator Unit;
				15. Dispatch Quantity for the Generator Unit;
				16. Loss-Adjusted Accepted Offer Quantities, with corresponding Bid Offer Prices, for the Generator Unit;
				17. Loss-Adjusted Accepted Bid Quantities, with corresponding Bid Offer Prices, for the Generator Unit;
				18. Loss-Adjusted Offer Price Only Accepted Offer Quantities for the Generator Unit;
				19. Loss-Adjusted Bid Price Only Accepted Bid Quantities for the Generator Unit;
				20. Biased Accepted Offer Quantities for the Generator Unit;
				21. Biased Accepted Bid Quantities for the Generator Unit;
				22. Loss-Adjusted Non-Firm Accepted Bid Quantities for the Generator Unit;
				23. Loss-Adjusted Trade Opposite TSO Accepted Offer Quantities for the Generator Unit;
				24. Loss-Adjusted Trade Opposite TSO Accepted Bid Quantities for the Generator Unit;
				25. Curtailment Quantites for the Generator Unit;
				26. System Service Flag for each Generator Unit;
				27. System Service Difference Quantity for each Generator Unit;
				28. Start Up Costs for the Generator Unit;
				29. No Load Costs for the Generator Unit;
				30. Imbalance Settlement Price;
				31. Curtailment Price; and
				32. Market Back Up Price.

The Settlement Statement version will be indicated.

* + - 1. The Market Operator shall ensure that Settlement Statements and Settlement Reports for Trading Payments and Trading Charges issued to a Participant for their Capacity Market Units, provides to the Participant, when considered in conjunction with other supplementary reports made available to the Participant under the same timeframes and over the same Communication Channels, inter alia, for the relevant Capacity Market Unit u in each Imbalance Settlement Period γ for the relevant Settlement Day in Billing Period b, values of:
				1. Obligated Capacity Quantity for the Capacity Market Unit;
				2. Day-ahead Difference Quantity for the Capacity Market Unit;
				3. Day-ahead Difference Charge for the Capacity Market Unit;
				4. Within-day Trade Difference Quantities for the Capacity Market Unit;
				5. Within-day Trade Difference Charges for the Capacity Market Unit;
				6. Within-day Difference Charge Metered Quantity for the Capacity Market Unit;
				7. Final Tracked Difference Quantity for the Capacity Market Unit;
				8. Non-performance Difference Quantity for the Capacity Market Unit;
				9. Non-performance Difference Charge for the Capacity Market Unit;
				10. Loss-Adjusted Maximum Import Capacity Market Availability Quantity for Interconnector for the Capacity Market Unit;
				11. Billing Period Stop-Loss Limit for the Capacity Market Unit;
				12. Annual Stop-Loss Limit for the Capacity Market Unit;
				13. Annual Cumulative Non-performance Difference Charge for the Capacity Market Unit;
				14. Billing Period Cumulative Non-performance Difference Charge for the Capacity Market Unit; and
				15. Total Difference Charge for the Capacity Market Unit.

The Settlement Statement version will be indicated.

* + - 1. The Market Operator shall ensure that Settlement Statements and Settlement Reports for Trading Payments and Trading Charges issued to a Participant for its Supplier Units provides to the Participant, when considered in conjunction with other supplementary reports made available to the Participant under the same timeframes and over the same Communication Channels, inter alia, for the relevant Supplier Unit v in each Imbalance Settlement Period γ as appropriate for the relevant Settlement Day in Billing Period b, values of:
				1. Total Daily Amounts for the Participant (Settlement Day value);
				2. the Imbalance Component Payment or Charge for the Supplier Unit;
				3. the Imperfections Charge for the Supplier Unit;
				4. the Residual Error Volume Charge for the Supplier Unit;
				5. the Currency Adjustment Charge for the Supplier Unit;
				6. Metered Quantity for the Supplier Unit;
				7. Ex-Ante Quantity for the Supplier Unit;
				8. Non Interval Energy Proportion Factor for the Supplier Unit;
				9. Imbalance Settlement Price;
				10. Total Difference Payment for the Supplier Unit;
				11. Daily Total Difference Payment for the Supplier Unit;
				12. Day-ahead Difference Quantity for the Supplier Unit;
				13. Day-ahead Difference Payment for the Supplier Unit;
				14. Intraday Trade Difference Quantity for the Supplier Unit;
				15. Intraday Trade Difference Payment for the Supplier Unit;
				16. final Tracked Difference Quantity for the Supplier Unit;
				17. Imbalance Difference Quantity for the Supplier Unit;
				18. Imbalance Difference Payment for the Supplier Unit;
				19. Difference Payment Shortfall Amount for the Supplier Unit;
				20. Difference Payment Reimbursement Payment for the Supplier Unit;
				21. Tracked Difference Payment Shortfall Charge for the Supplier Unit; and
				22. Achievable Difference Payment for the Supplier Unit.

The Settlement Statement version will be indicated.

* + - 1. The Market Operator shall ensure that Settlement Statements and Settlement Reports for Capacity Payments issued to a Participants for its Capacity Market Units, provides to the Participant, when considered in conjunction with other supplementary reports made available to the Participant under the same timeframes and over the same Communication Channels, inter alia, for the relevant Capacity Market Unit u in each Imbalance Settlement Period γ in the Capacity Period c, values of:
				1. Total Capacity Payment for the Capacity Market Unit (Capacity Period value);
				2. Capacity Payment for the Capacity Market Unit; and
				3. Capacity Quantities, with corresponding Capacity Payment Prices, for the Capacity Market Unit.

The Settlement Statement version will be indicated.

* + - 1. The Market Operator shall ensure that Settlement Statements and Settlement Reports for Capacity Charges issued to a Participant for its Supplier Units provides to the Participant, when considered in conjunction with other supplementary reports made available to the Participant under the same timeframes and over the same Communication Channels, inter alia, for each Supplier Unit v in each Imbalance Settlement Period γ in the Capacity Period c, values of:
				1. Capacity Charge for the Supplier Unit (Capacity Period value);
				2. Difference Payment Socialisation Charge for the Supplier Unit (Capacity Period value); and
				3. Metered Quantity for the Supplier Unit.

The Settlement Statement version will be indicated.

* + - 1. The Market Operator shall issue Market Operator Charge invoices over the Billing Period to each Participant, and shall ensure that each such invoice shall contain, inter alia, for each Billing Period b, values of:
				1. Fixed Market Operator Charge;
				2. Any applicable interest; and
				3. Applicable VAT applied in the invoice and applicable VAT owing/owed by/to Revenue Authorities.

The invoice version will be indicated.

* + - 1. The Market Operator shall issue Variable Market Operator Charge invoices over the Billing Period to each Participant, and shall ensure that each such invoice shall contain, inter alia, for each Billing Period b, values of:
				1. Variable Market Operator Charge;
				2. Amount from the previous run where the invoice is in respect of a Settlement Rerun;
				3. Any applicable interest; and
				4. Applicable VAT applied in the Invoice and applicable VAT owing/owed by/to Revenue Authorities.

The invoice version will be indicated.

* + - 1. The Market Operator shall issue Debit Notes in respect of any Unsecured Bad Energy Debt over the Billing Period to each applicable Participant identifying that the Debit Note is in respect of a particular Unsecured Bad Energy Debt event, and shall ensure that each such Debit Note shall contain, inter alia, for each Billing Period b, values of:
				1. Unsecured Bad Energy Debt Charge; and
				2. Any applicable interest.

The Settlement Document version will be indicated.

* + - 1. The Market Operator shall issue Debit Notes in respect of any Unsecured Bad Capacity Debt over the Capacity Period to each applicable Participant identifying that the Debit Note is in respect of a particular Unsecured Bad Capacity Debt event, and shall ensure that each such Debit Note shall contain, inter alia, for each Capacity Period c, values of:
				1. Unsecured Bad Capacity Debt Charge; and
				2. Any applicable interest.

The Settlement Document version will be indicated.

* + - 1. The Market Operator shall ensure that Settlement Documents or Debit Notes issued by it to Participants in respect of their Units shall contain, inter alia:
				1. Payment amount for the relevant Generator Units for relevant Billing Period or Capacity Period;
				2. Charge amount for the relevant Supplier Units for relevant Billing Period or Capacity Period;
				3. Sum of Settlement Reallocation Amounts in respect of that period;
				4. Any applicable interest;
				5. Total payment amount; and
				6. Applicable VAT applied in the Settlement Document or Debit Note and applicable VAT owing/owed by/to Revenue Authorities.
			2. Agreed Procedure 15 "Settlement and Billing" sets out more detail as to the obligations of the Market Operator set out in this Appendix G in relation to the process of issuing Settlement Statements, Settlement Reports, Settlement Documents, invoices and Debit Notes, but nothing in that Agreed Procedure shall preclude the issue of any such item over any particular Communication Channel.
1. Data Requirements for Registration
	1. Introduction
		* 1. This Appendix H sets out the data requirements for the registration and deregistration of Participants and of Units. It should be noted that a Party becomes a Participant upon the registration of the first Unit to that Party.
	2. Participation Notice
		* 1. In completing a Participation Notice, a Party (or an Applicant as applicable) shall include the Registration Data required by paragraph B.7.2.1(o) as set out in Table 1 below. Certain Registration Data items shall be classified as Validation Registration Data as outlined in Table 1.

**Table 1 – Data, required from Party (or Applicant as applicable) registering the Unit**

| **Name** | **Term** | **Relevant Units** | **Validation Registration** **Data** |
| --- | --- | --- | --- |
| Data Exchange Test Flag |  | All Units | Yes |
| Effective Date |   | All Units | Yes |
| Expiry Date |   | All Units | Yes |
| Jurisdiction |   | All Units | Yes |
| Qualified Communication Channels |   | All Units | Yes |
| Regulatory License ID |   | All Units |   |
| REMIT Reporting Flag |   | All Units |   |
| Resource Name |   | All Units | Yes |
| Short Name |   | All Units | Yes |
| TUoS Agreement  |   | All Units |   |
| Unit Type |   | All Units |   |
| NEMO Market Resource Name |  | All Units |  |
| Capacity Market Resource Name |  | All Units |  |
| First Participation Information Notice |  | All Units |  |
| Combined Cycle Unit Flag |   | All Generator Units |   |
| Controllable/Non-controllable Flag |   | All Generator Units |   |
| Dispatchable Generator Unit Flag |   | All Generator Units |   |
| Non-Dispatchable Capacity |   | All Generator Units  |   |
| Previously Registered Flag |   | All Generator Units  | Yes |
| Previously Registered Participant Name |   | All Generator Units  | Yes |
| Previously Registered Unit Name |   | All Generator Units  | Yes |
| Short Notice Unit Flag |   | All Generator Units  |   |
| Synchronous/Asynchronous |   | All Generator Units |   |
| Connection Agreement |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Connection Agreement Reference ID |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units |   |
| Connection Point |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Connection Type |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| DUoS Agreement |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units |   |
| Firm Access Quantity (Site) (MW)  | qFAQst | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Fuel Type |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Licence Expiry Date |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Non-Firm Access Quantity |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Physical Location ID |   | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Station Address |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Station ID |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Station Name |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Unit Location ID |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Assetless Units and Trading Units | Yes |
| Acting as Intermediary Flag |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units |  |
| Commission Test Certificate |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Droop | % | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Dual Rated Unit Flag |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| End Point of Start Up Period |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Fixed Unit Load (MW) | FULu | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Licence Effective Date |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Licence Reference Number |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Registered Minimum Output |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Maximum Generation |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units. The Maximum Generation shall be submitted equal to the Registered Capacity of the Generator Unit. | Yes |
| Priority Dispatch Flag |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Pumped Storage and Battery Storage Flag |  | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Registered Capacity (MW) | qCRu | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| Unit Load Scalar | ULSu | All Generator Units except Interconnector Error Units, Interconnector Residual Capacity Units, Demand Side Units, Assetless Units and Trading Units | Yes |
| AoLR Active |  | Only Generator Units availing of AOLR service |  |

* 1. Agreed Procedure
		+ 1. Agreed Procedure 1 "Registration" sets out the detail of the registration process and must include all requirements set out in this Appendix H.
			2. Agreed Procedure 1 "Registration" shall set out the detail of the process of data flow between the Market Operator and the Party (or Applicant as appropriate) to register new Units.
			3. Agreed Procedure 1 "Registration" shall provide for the validation of the data flows.
	2. Currency
		+ 1. All data comprising currency amounts submitted as part of registration shall be submitted by the relevant Party to the Market Operator in the Currency of the designated Currency Zone of the Unit.
	3. Missing Data
		+ 1. The Market Operator shall not apply any default rules in the event that any Registration Data is missing or incomplete. The Party (or Applicant as applicable) shall be obliged to provide such data before the registration of the Unit can become effective.
	4. Communications Channels
		+ 1. For Parties that have completed Communication Channel Qualification, the Market Operator will facilitate receipt of data for the purposes of registration of new Units over Type 2 Channel or Type 3 Channel. The Market Operator will facilitate a Type 1 Channel for other Parties or Applicants as applicable. The Market Operator will similarly facilitate receipt of any clarification or additional information required pursuant to paragraph B.7.6.3.
	5. Registration Withdrawal
		+ 1. Where a Unit Registration is deemed withdrawn under paragraphs B.7.6.4, B.7.6.8 or B.7.6.14, the Market Operator shall send a Notice to the relevant Party or Applicant as appropriate. The Notice shall include sufficient information to identify the Unit concerned, and shall provide a reason for the Unit Registration withdrawal.
1. Offer Data
	1. Introduction
		* 1. This Appendix I sets out the components of Commercial Offer Data and Technical Offer Data in respect of each relevant category of Generator Unit and refers to the Code obligations relating to such data. In addition, this Appendix I sets out the requirements to be met by Agreed Procedure 4 "Transaction Submission and Validation".
	2. Commercial Offer Data

Commercial Offer Data Elements

* + - 1. Commercial Offer Data in respect of Generator Units shall comprise one or more of the following data components and shall be submitted in accordance with paragraphs 3 to 5 of this Appendix:
				1. Simple Bid Offer Data:

Incremental Price Quantity Pairs; and

Decremental Price Quantity Pairs;

* + - * 1. Complex Bid Offer Data:

Incremental Price Quantity Pairs;

Decremental Price Quantity Pairs;

No Load Costs;

Start Up Costs; and

Shut Down Cost;

* + - * 1. Forecast Availability Profile;
				2. Forecast Minimum Output Profile;
				3. Forecast Minimum Stable Generation Profile; and
				4. Energy Limit.

Commercial Offer Data Submission

* + - 1.
			2. Each Participant may submit Commercial Offer Data to the Market Operator in respect of each of its Generator Units as follows:
				1. before Gate Closure 1 in respect of the Trading Day, in accordance with paragraphs 4 and 5 of this Appendix; and
				2. before Gate Closure 2 in respect of the Imbalance Settlement Period, in accordance with paragraphs 4 and 5 of this Appendix.

Commercial Offer Data for Generator Units

* + - 1.
			2. Participants shall not submit Commercial Offer Data in respect of each of the following Generator Units:
				1. Trading Unit;
				2. Assetless Unit;
				3. Interconnector Residual Capacity Unit;
				4. Interconnector Error Unit; or
				5. Generator Unit which is not Dispatchable.
			3. A Participant shall only submit Commercial Offer Data to the Market Operator in respect of its Generator Units, as provided for in Table 1.

**Table 1 – Commercial Offer Data Elements**

| **Data Element** | **Energy Limited Unit** | **Demand Side Unit** | **Other Generator Units not included in paragraph 4 of this Appendix** |
| --- | --- | --- | --- |
| Simple Incremental Price Quantity Pairs (MW quantities and € / MWh or £ / MWh prices) | Yes | Yes | Yes |
| Simple Decremental Price Quantity Pairs (MW quantities and € / MWh or £ / MWh prices) | Yes | Yes | Yes |
| Complex Incremental Price Quantity Pairs (MW quantities and € / MWh or £/MWh prices) | Yes | Yes | Yes |
| Complex Decremental Price Quantity Pairs (MW quantities and € / MWh or £ / MWh prices) | Yes | Yes | Yes |
| No Load Costs (€ / hr or £ / hr) | Yes |  | Yes |
| Start Up Costs (€ or £) | Yes |  | Yes |
| Shut Down Cost (€ or £) |  | Yes |  |
| Energy Limit (MWh) | Yes |  |  |
| Forecast Availability Profile (MW) | Yes | Yes | Yes |
| Forecast Minimum Output Profile (MW) | Yes | Yes | Yes |
| Forecast Minimum Stable Generation Profile (MW) | Yes | Yes | Yes |

* 1. Technical Offer Data
		+ 1.
			2. Each Participant shall submit Technical Offer Data to the Market Operator in respect of each of its Generator Units in accordance with paragraphs 7 to 12 of this Appendix.

Technical Offer Data Submission

* + - 1.
			2. Each Participant shall submit Technical Offer Data to the Market Operator in respect of each Trading Day and each of its Generator Units in accordance with section D.5, and in accordance with paragraphs 10 to 12 of this Appendix inclusive.
			3. Each Participant may submit a Data Transaction identifying a Validation Data Set Number for a given Trading Day to the Market Operator in respect of a Generator Unit before Gate Closure 1 in respect of that Trading Day, in accordance with paragraphs D.5.2.1 to D.5.5.2 inclusive and paragraphs 10 to 12 of this Appendix inclusive.
			4. If a Participant submits a Data Transaction identifying a Validation Data Set Number for a given Trading Day to the Market Operator in respect of a Generator Unit after Gate Closure 1 in respect of that Trading Day, except as allowed in accordance with paragraph D.3.4.1 and Agreed Procedure 7 “Emergency Communications”, the Market Operator shall reject that Data Transaction.

Restrictions on Technical Offer Data Submission

* + - 1.
			2. Each Participant shall submit Technical Offer Data to the Market Operator in respect of each of its Generator Units in accordance with paragraphs 7 to 9 of this Appendix inclusive and paragraph 12 of this Appendix, subject to the following requirements:
				1. Data shall be submitted to reflect the actual capabilities of the relevant Generator Unit net of Unit Load as set out in paragraph D.5.1.2;
				2. Data shall be submitted in respect of a Generator Unit such that it is consistent with data submitted for that Unit under the applicable Grid Code, scaled, where appropriate, by the appropriate Distribution Loss Adjustment Factor as set out in paragraph D.5.1.3;
				3. Technical Offer Data items shall be submitted as either Validation Technical Offer Data or Validation Registration Data as set out in paragraph 12 of this Appendix.
			3. Participants shall not submit Technical Offer Data in respect of each of the following Generator Units:
				1. Trading Unit;
				2. Assetless Unit;
				3. Interconnector Residual Capacity Unit;
				4. Interconnector Error Unit; or
				5. Generator Unit which is not Dispatchable.

Technical Offer Data for Generator Units

* + - 1.
			2. A Participant shall only submit Technical Offer Data to the Market Operator in respect of its Generator Units as provided for in Table 2.

**Table 2 – Technical Offer Data Elements**

|  | **TYPE OF DATA** | **SUBMISSION REQUIREMENT BY UNIT** |
| --- | --- | --- |
|  | **Validation Technical Offer Data** | **Validation Registration Data** | **Battery Storage Unit** | **Pumped Storage Unit** | **Demand Side Unit** | **Other Generator Units not included in paragraph 11 of this Appendix** |
| Minimum On Time (hours) | Yes |  | Yes | Yes |  | Yes |
| Minimum Off Time (hours) | Yes |  | Yes | Yes |  | Yes |
| Maximum On Time (hours) | Yes |  | Yes | Yes |  | Yes |
| Synchronous Start Up Time Hot (hours) | Yes |  | Yes | Yes |  | Yes |
| Synchronous Start Up Time Warm (hours) | Yes |  | Yes | Yes |  | Yes |
| Synchronous Start Up Time Cold (hours) | Yes |  | Yes | Yes |  | Yes |
| Block Load Cold (MW) | Yes |  | Yes | Yes |  | Yes |
| Block Load Hot (MW) | Yes |  | Yes | Yes |  | Yes |
| Block Load Warm (MW) | Yes |  | Yes | Yes |  | Yes |
| Deload Break Point (MW) | Yes |  | Yes | Yes |  | Yes |
| Deloading Rate 1 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Deloading Rate 2 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Up 1 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Up 2 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Up 3 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Down 1 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Down 2 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Down 3 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Up Trigger Point 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Up Trigger Point 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Up Trigger Point 3 (MW) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Down Trigger Point 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Down Trigger Point 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Dwell Time Down Trigger Point 3 (MW) | Yes |  | Yes | Yes |  | Yes |
| End Point of Start Up Period (MW) | Yes |  | Yes | Yes |  | Yes |
| Load Up Break Point Cold 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Load Up Break Point Cold 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Load Up Break Point Hot 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Load Up Break Point Hot 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Load Up Break Point Warm 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Load Up Break Point Warm 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Cold 1 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Cold 2 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Cold 3 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Hot 1 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Hot 2 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Hot 3 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Warm 1 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Warm 2 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Loading Rate Warm 3 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Break Point 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Break Point 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Break Point 3 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Break Point 4 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Rate 1 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Rate 2 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Rate 3 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Rate 4 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Down Rate 5 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Break Point 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Break Point 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Break Point 3 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Break Point 4 (MW) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Rate 1 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Rate 2 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Rate 3 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Rate 4 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Ramp Up Rate 5 (MW / minute) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Cold 1 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Cold 2 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Trigger Point Cold 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Trigger Point Cold 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Hot 1 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Hot 2 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Trigger Point Hot 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Trigger Point Hot 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Warm 1 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Warm 2 (minutes) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Trigger Point Warm 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Soak Time Trigger Point Warm 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Start of Restricted Range 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| End of Restricted Range 1 (MW) | Yes |  | Yes | Yes |  | Yes |
| Start of Restricted Range 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| End of Restricted Range 2 (MW) | Yes |  | Yes | Yes |  | Yes |
| Hot Cooling Boundary (hours) | Yes |  | Yes | Yes |  | Yes |
| Warm Cooling Boundary (hours) | Yes |  | Yes | Yes |  | Yes |
| Block Load Flag (True or False) | Yes |  | Yes | Yes |  | Yes |
| Short-Term Maximisation Capability (MW) | Yes |  | Yes | Yes |  | Yes |
| Short-Term Maximisation Time (minutes) | Yes |  | Yes | Yes |  | Yes |
| Registered Minimum Stable Generation (MW) | Yes |  | Yes | Yes |  | Yes |
| Registered Minimum Output (MW) |  | Yes | Yes | Yes |  | Yes |
| Pumped Storage Cycle Efficiency (percentage) | Yes |  |  | Yes |  |  |
| Battery Storage Efficiency (percentage) | Yes |  | Yes |  |  |  |
| Pumping Capacity (MW) | Yes |  |  | Yes |  |  |
| Off to Generating Time (minutes) | Yes |  |  | Yes |  |  |
| Off to Spin Pump Time (minutes) | Yes |  |  | Yes |  |  |
| Spin Pump to Pumping Energy Time (minutes) | Yes |  |  | Yes |  |  |
| Battery Storage Capacity (MW) | Yes |  | Yes |  |  |  |
| Minimum Battery Storage Quantity (MWh) |  | Yes | Yes |  |  |  |
| Maximum Battery Storage Quantity (MWh) |  | Yes | Yes |  |  |  |
| Maximum Storage Quantity (MWh) |  | Yes |  | Yes |  |  |
| Minimum Storage Quantity (MWh) |  | Yes |  | Yes |  |  |
| Maximum Ramp Down Rate (MW / minute) | Yes |  |  |  | Yes |  |
| Maximum Ramp Up Rate (MW / minute) | Yes |  |  |  | Yes |  |
| Minimum Down Time (hours) | Yes |  |  |  | Yes |  |
| Maximum Down Time (hours) | Yes |  |  |  | Yes |  |

* 1. Physical Notification Data

Physical Notification Data Elements

* + - 1. Physical Notification Data in respect of Generator Units shall comprise one or more of the following data components and shall be submitted in accordance with paragraphs 14 to 17 of this Appendix:
				1. From MW Level;
				2. From MW Time;
				3. To MW Level;
				4. To MW Time; and
				5. Under Test Flag.

Physical Notification Data Submission

* + - 1.
			2. Each Participant may submit Physical Notification Data to the Market Operator in respect of each of its Generator Units and Supplier Units as follows:
				1. before Gate Closure 1 in respect of the Trading Day, in accordance with paragraphs 16 and 17 of this Appendix;
				2. before Gate Closure 2 in respect of the Imbalance Settlement Period, in accordance with paragraphs 16 and 17 of this Appendix.
			3. Participants shall not submit Physical Notification Data in respect of each of the following Generator Units:
				1. Trading Unit;
				2. Assetless Unit;
				3. Interconnector Residual Capacity Unit; or
				4. Interconnector Error Unit.

Physical Notification Data for Generator Units and Supplier Units

* + - 1.
			2. A Participant submitting Physical Notification Data to the Market Operator in respect of each of its Generator Units and Supplier Units in accordance with paragraphs 13 to 15 of this Appendix inclusive and paragraph 17 of this Appendix, shall do so subject to the following requirements:
				1. Data shall be submitted to reflect the Output intended by the Participant for each of its Generator Units, excluding Accepted Offers and Accepted Bids, as set out in paragraph D.7.1.3;
				2. Data submitted in respect of a Generator Unit shall be submitted such that it is consistent with the Technical Offer Data for that Generator Unit as set out in paragraph D.7.1.4;
				3. A Participant submitting Physical Notification Data for a Generator Unit must do so in the following way, except as required under subparagraph (d):

Each From MW Level and From MW Time must have the same values as the immediately previous To MW Level and To MW Time, with the exception of the first From MW Level and From MW Time for a Trading Day; and

Each From MW Level and To MW Level submitted in respect of a Dispatchable Generator Unit cannot be less than the Registered Minimum Output for the Unit, and cannot be greater than the Maximum Generation for the Unit, submitted in accordance with Appendix H “Data Requirements for Registration”.

* + - * 1. A Participant submitting Physical Notification Data shall submit Physical Notification Data for a Supplier Unit, for a Generator Unit which has a Registered Capacity of less than the De Minimis Threshold, or a Generator Unit which is not Dispatchable, and the Aggregator of Last Resort submitting Physical Notification Data shall submit Physical Notification Data on behalf of Generator Units, in the following way while being deemed to be compliant with the requirements in paragraphs D.7.1.3 and D.7.1.4:

Each From MW Time and To MW Time must be at the start of a minute which corresponds to the start of a thirty minute period, starting on each hour, and half hour;

Each From MW Time must have the same value as the immediately previous To MW Time, with the exception of the first From MW Time for a Trading Day;

Each From MW Level must have the same value as the To MW Level;

Each From MW Level and To MW Level submitted in respect of a Dispatchable Generator Unit cannot be less than the Registered Minimum Output for the Unit, and cannot be greater than the Maximum Generation for the Unit, submitted in accordance with Appendix H “Data Requirements for Registration”; and

All Physical Notification Data for a Trading Day must be submitted in this way if Physical Notification Data for any time within that Trading Day is submitted in this way.

* + - 1. A Participant shall only submit Physical Notification Data to the Market Operator in respect of its Generator Units and Supplier Units as provided for inTable 3.

**Table 3 – Physical Notification Data Elements**

| **Data Element** | **Supplier Unit** | **Unit Under Test** | **Other Generator Unit not included in paragraph 15 of this Appendix** |
| --- | --- | --- | --- |
| From MW Level | Yes | Yes | Yes |
| From MW Time | Yes | Yes | Yes |
| To MW Level | Yes | Yes | Yes |
| To MW Time | Yes | Yes | Yes |
| Under Test Flag |  | Yes |  |

1. Data Transactions from Market Operator to System Operator
	* + 1. This Appendix J sets outs the data that the Market Operator is required to send to the System Operators, and the rules relating to the sending of such data, as well as certain validation obligations of the System Operators.
			2. Agreed Procedure 4 "Transaction Submission and Validation" sets out further detail in relation to the data transfer obligations set out in this Appendix J.
	1. Registration Data
		* 1. The Market Operator shall submit to the System Operators within two Working Days of receipt from a Participant, but no later than 13:00 one Day before the Trading Day on which it is to become effective, any update to the Registration Data of any of that Participant's Units. Similarly, the Market Operator shall submit to the System Operators within two Working Days of receipt from the Interconnector Owner or the Interconnector Administrator as appropriate, but no later than 13:00 one Day before the Trading Day on which it is to become effective, any update to the Interconnector Registration Data of the relevant Interconnector.
			2. The full set of registration details are set out in Appendix H “Data Requirements for Registration”.
			3. The System Operator for the Currency Zone in which the Participant is registered shall validate the registration details and confirm to the Market Operator whether the registration information is accurate with respect to the data that such System Operator holds under the applicable Grid Code.
			4. The Market Operator shall submit all Generator Unit Under Test Notices to the System Operators in accordance with Grid Code requirements.
			5. The System Operator for the Currency Zone in which the Participant is registered shall validate the Generator Unit Under Test Notice and confirm to the Market Operator whether the Generator Unit is Under Test in accordance with Appendix F “Other Communications”.
	2. Commercial Offer Data, Technical Offer Data and Physical Notifications
		* 1. The Market Operator shall share with the System Operators the full set of Accepted Technical Offer Data, Accepted Commercial Offer Data and Physical Notifications for all Generator Units for all Imbalance Settlement Periods for the relevant Gate Closure as soon as technical validations set out in section C.3 are completed.
			2. The Data Transactions associated with Technical Offer Data, Commercial Offer Data and Physical Notifications, and the rules for the submission of such data by Participants to the Market Operator, are set out in sections D.4, D.5 and D.7 and Appendix I “Offer Data”.
			3. The System Operators shall not be required to validate any Commercial Offer Data or Technical Offer Data, other than as set out in paragraph D.5.3.
			4. The Market Operator shall submit all currency values to the System Operators in the Participant's designated Currency.
	3. Suspension Orders
		* 1. The Market Operator shall submit to the System Operators a copy of any Suspension Order, any notice of the lifting of a Suspension Order, or any Termination Order at the same time as such Suspension Order, notice of the lifting of a Suspension Order or Termination Order is submitted to the relevant Participant as described under paragraphs B.18.3.6, B.18.4.9 and B.18.7.2.
			2. The System Operators shall not be required to validate any Termination Order or Suspension Order.
	4. Commencement Notice
		* 1. In accordance with paragraph B.7.6.12, the Market Operator shall copy, to each System Operator and relevant External Data Provider, any Commencement Notice issued, as soon as reasonably practicable and at least 4 Working Days prior to the Effective Date for the relevant Unit.
			2. The System Operators shall not be required to validate any Commencement Notice.
	5. Communication Channels
		* 1. During normal operation of the Market Operator's Isolated Market System, the Market Operator shall only utilise a Type 3 Channel for the communication of the data in this Appendix to the System Operators, with the exception of Suspension Orders, notice of the lifting of Suspension Orders, and Termination Orders, for which the Market Operator shall utilise a Type 1 Channel. If the Type 3 Channel is unavailable for communication of any data to a System Operator as required by this Appendix, the Market Operator shall utilise a Type 1 Channel for the communication of such data.
2. Other Market Data Transactions
	1. Introduction
		* 1. This Appendix K outlines the detailed Data Record requirements for Data Transactions sent by the System Operator to Market Operator and by the Interconnector Administrator to the Market Operator, which are not defined in other Appendices, and the associated high-level Data Transaction Submission Protocols.
	2. Data Transactions
		* 1. The Data Transactions in this Appendix K include:

Data Transactions from System Operator to Market Operator

* + - * 1. System Parameters (FCLAF)
				2. Loss Adjustment Factors (FTLAF and FDLAF)
				3. Generator Unit Technical Characteristics
				4. Short Term Reserves (qSTR and qORR)
				5. System Operator Flags (FSO, FNM and FSS)
				6. Demand Control (QDC)
				7. System Characteristics (FRQAVG and FRQNOR)
				8. Dispatch Instructions
				9. SO Interconnector Trades
				10. SO Interconnector Physical Notifications
				11. Annual Load Forecast
				12. Monthly Load Forecast
				13. Four Day Load Forecast
				14. Wind and Solar Power Unit Forecast
				15. Uninstructed Imbalance Parameters (FPUG, FDOG, FUREG, TOLMW, TOLENG)
				16. Testing Tariffs
				17. Strike Price Parameters (PCARBON, PFUELNG and PFUELO)

Data Transactions from Interconnector Administrator to Market Operator

* + - * 1. Interconnector Capacity Market Availability
			1. Each Data Record in this Appendix K which contains Currency amounts will be denominated in the Participant’s designated Currency.
	1. Contingency Data
		+ 1. Contingency Data rules for these Market Data Transactions are summarised in Table 1.
			2.
			3. The Market Operator shall use Contingency Data in the event that the following Data Transactions are not received within the timescales required under the Code:

Data Transactions from System Operator to Market Operator

* + - * 1. Four Day Load Forecast
				2. Wind and Solar Power Unit Forecast
			1. Contingency Data only applies to Data Transactions that are listed in paragraph 5 of this Appendix K.
			2. Table 1 sets out the Contingency Data values for the Data Transaction listed in respect of each Ex-ante Gate Closure.

**Table 1 – Contingency Data Rules for Market Data Transactions**

| **Transaction** | **Associated Ex-ante Gate Closure** | **Contingency Data** |
| --- | --- | --- |
| Wind and Solar Power Unit Forecast | DAM | Most recent Wind and Solar Forecast Accepted by DAM Gate Closure |
| Wind and Solar Power Unit Forecast | IDM | Most recent Wind and Solar Forecast Accepted by each IDM Gate Closure |

* + - 1. Agreed Procedure 4 “Transaction Submission and Validation” will describe the detail of the Data Transactions listed within this Appendix K, noting the requirements for the appropriate scaling of submitted data outlined in paragraphs D.6.2.1, D.6.2.5 and F.4.1.2.
	1. Data Transaction and Data Records

System Parameters Data Transaction

* + - 1. The Data Records for the System Parameters Data Transaction are described in Table 2 and the Submission Protocol in Table 3.

**Table 2 – System Parameters Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| Combined Loss Adjustment Factor, FCLAFuγ |
|  |

**Table 3 – System Parameters Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One, containing data for each Generator Unit for each Imbalance Settlement Period in the Tariff Year. |
| Frequency of Data Transactions | Annually |
| First Submission time | As available |
| Last Submission time | At least two months prior to the start of each Tariff Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later, or prior to the registration of a new Generator Unit. As required to resolve a Data or Settlement Query where the Data records in the Data Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time  | Resubmission will occur within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality or if the last Timetabled Settlement Rerun had occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar. |
| Valid Communication Channels | Type 3 (computer to computer) |
| Process for data validation  | None |

* + - 1. The Data Records for the Loss Adjustment Factors Data Transaction are described in Table 4 and the Submission Protocol in Table 5.

**Table 4 – Loss Adjustment Factors Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| Transmission Loss Adjustment Factor, FTLAFuγ |
| Distribution Loss Adjustment Factor, FDLAFuγ |

**Table 5 – Loss Adjustment Factors Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One containing data for each Generator Unit that is not a Demand Side Unit |
| First Submission time | As available |
| Last Submission time | At least two months prior to the start of each Tariff Year, or within five Working Days of its receipt from the Regulatory Authorities, whichever is later, or prior to the registration of a new Generator Unit.As required to resolve a Settlement Query or a Dispute where the Data Records in the Data Transaction are discovered to be in error.  |
| Permitted frequency of resubmission | Unlimited |
| Valid Communication Channels | Type 1 (manual), to be provided in electronic format |
| Process for data validation  | None |

Generator Unit Technical Characteristics Data Transaction

* + - 1. The Data Records for the Generator Unit Technical Characteristics Data Transaction are described in Table 6 and the Submission Protocol in Table 7.

**Table 6 – Generator Unit Technical Characteristics Data Transaction Data Records**

|  |
| --- |
| Trading Day  |
| Participant Name |
| Unit ID |
| Effective Time |
| Issue Time |
| Outturn Availability (Primary Fuel Type Outturn Availability for Dual Rated Generator Units) |
| Secondary Fuel Type Outturn Availability |
| Rating Flag |
| Outturn Minimum Stable Generation |
| Outturn Minimum Output |

**Table 7 – Generator Unit Technical Characteristics Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One containing spot data for each change in Outturn Availability (Primary Fuel Type Outturn Availability for Dual Rated Generator Units), Secondary Fuel Type Outturn Availability, Rating Flag, Outturn Minimum Stable Generation or Outturn Minimum Output per Generator Unit (excluding Interconnector Error Units and Interconnector Residual Capacity Units) during the day |
| Frequency of Data Transactions | Daily |
| First Submission time | After end of Imbalance Pricing Period |
| Last Submission time | Prior to Imbalance Price Calculation. As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Valid Communication Channels | Type 3 (computer to computer) |
| Process for data validation  | None |

Short Term Reserve Data Transaction

* + - 1. The Data Records for the Short Term Reserve Data Transaction are described in Table 8 and the Submission Protocol in Table 13.

**Table 8 – Short Term Reserve Data Transaction Data Records**

|  |
| --- |
| Trading Day |
| Imbalance Pricing Period  |
| Short Term Reserve Quantity (qSTRφ)Operating Reserve Requirement Quantity (qORRφ) |

**Table 9 – Short Term Reserve Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One, containing a value for Short Term Reserve Quantity (qSTRφ) and Operating Reserve Requirement Quantity (qORRφ) for the Imbalance Pricing Period |
| Frequency of Data Transactions | One for every Imbalance Pricing Period |
| First Submission time | After end of Imbalance Pricing Period |
| Last Submission time | Prior to Imbalance Price Calculation.As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

System Operator Flags Data Transaction

* + - 1. The Data Records for the System Operator Flags Data Transaction are described in Table 10 and the Submission Protocol in Table 11.

**Table 10 –System Operator Flags Data Transaction Data Records**

|  |
| --- |
| Trading Day  |
| Imbalance Pricing Period |
| Participant Name |
| Unit ID |
| System Operator Flag (FSOuφ) |
| Non-Marginal Flag (FNMuφ) |
| System Service Flag (FSSuφ) |

**Table 11 – System Operator Flags Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One, containing a System Operator Flag (FSOuφ), a Non-Marginal Flag (FNMuφ) and a System Service Flag (FSSuφ) for each Generator Unit for the Imbalance Pricing Period. |
| Frequency of Data Transactions |  Imbalance Pricing Period |
| First Submission time | After end of Imbalance Pricing Period |
| Last Submission time | Prior to Imbalance Price Calculation. As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Valid Communication Channels | Type 3 (computer to computer) |
| Process for data validation  | None |

* + 1. Demand Control Data Transaction
			1. The Data Records for the Demand Control Data Transaction are described in Table 12 and the Submission Protocol in Table 13.

**Table 12 – Demand Control Data Transaction Data Records**

|  |
| --- |
| Jurisdiction |
| Trading Day |
| Imbalance Pricing Period  |
| Quantity of any reduction in demand (QDCφ) as a consequence of Demand Control, i.e. load shedding |

**Table 13 – Demand Control Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operator |
| Recipient | Market Operator |
| Number of Data Transactions | One, only submitted when non-zero, containing data for each Imbalance Pricing Period in the Trading Day |
| First Submission time | After end of Imbalance Pricing Period |
| Last Submission time | Prior to Imbalance Price Calculation. .As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Valid Communication Channels | Type 1 (manual)  |
| Process for data validation  | None |

System Characteristics Data Transaction

* + - 1. The Data Records for the System Characteristics Data Transaction are described in Table 14 and the Submission Protocol in Table 15.

**Table 14 – System Characteristics Data Transaction Data Records**

|  |
| --- |
| System Operator |
| Trading Day |
| Imbalance Settlement Period |
| Average System Frequency, FRQAVGγ |
| Nominal System Frequency, FRQNORγ |

**Table 15 – System Characteristics Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | Relevant System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One containing data for each Imbalance Settlement Period in the relevant Trading Day.  |
| Frequency of Data Transactions | Daily |
| First Submission time | After end of Trading Day |
| Last Submission time | Prior to Imbalance Settlement Calculation  |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

Dispatch Instruction Data Transaction

* + - 1. The Data Records for the Dispatch Instruction Data Transaction are described in Table 16 and the Submission Protocol in Table 17.

**Table 16 – Dispatch Instruction Data Transaction Data Records**

| Participant Name |
| --- |
| Participant ID |
| Unit ID |
| Instruction Timestamp |
| Instruction Issue Time |
| Instruction Effective Time |
| Instruction Effective Until Time |
| Instruction Code |
| Instruction Combination Code |
| Dispatch Ramp Up Rate |
| Dispatch Ramp Down Rate |
| Dispatch Instruction MW |

**Table 17 – Dispatch Instruction Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One, per Dispatch Instruction per Generator Unit and Interconnector during the relevant Imbalance Pricing Period |
| Frequency of Data Transactions | Every Imbalance Pricing Period |
| First Submission time | After end of Imbalance Pricing Period |
| Last Submission time | Prior to Imbalance Pricing Calculation.As required to resolve a Dispute or Settlement Query where the Data Records in the Transaction are discovered to be in error |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | For Settlement Purposes anytime prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Dispute or Settlement Query if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurredIf the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

SO Interconnector Trade Data Transaction

* + - 1. The Data Records for the SO Interconnector Trade Data Transaction are described in Table 18 and the Submission Protocol in Table 19.

**Table 18 – SO Interconnector Trade Data Transaction Data Records**

|  |
| --- |
| Interconnector |
| Trading Day |
| Imbalance Pricing Period/Imbalance Settlement Period |
| Interconnector Bid Offer Price (PBOuoih)  |
| Interconnector Accepted Offer Quantity, (QAOuoih)  |
| Interconnector Accepted Bid Quantity, (QABuoih) |

**Table 19 – SO Interconnector Trade Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | Relevant System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One, containing data for the relevant Interconnector, for each Imbalance Pricing Period/Imbalance Settlement Period as appropriate for the Trading Day. |
| Frequency of Data Transactions | Imbalance Pricing Period/Imbalance Settlement Period |
| First Submission time | After end of Imbalance Pricing Period |
| Last Submission time | Prior to Imbalance Price Calculation. As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error  |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | Prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar.  |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

SO Interconnector Physical Notifications Transaction for IRCU

* + - 1. The Data Records for the IRCU Interconnector Physical Notifications Data Transaction are described in Table 20 and the Submission Protocol in Table 21.

**Table 20 – SO Interconnector Physical Notifications Data Transaction Data Records**

|  |
| --- |
| Interconnector |
| Interconnector Residual Capacity Unit |
| Trading Day |
| Imbalance Settlement Period |
| Final Physical Notification Quantity (qFPNlγ(t)) |

**Table 21 – SO Interconnector Physical Notifications Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | Relevant System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One, containing data for the relevant Interconnector, for each Imbalance Settlement Period for the Trading Day. |
| Frequency of Data Transactions | Imbalance Settlement Period |
| First Submission time | At the end of the Trading Day |
| Last Submission time | Prior to Imbalance Settlement Calculation. As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error  |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | Within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar.  |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

Annual Load Forecast Data Transaction

* + - 1. The Data Records for the Annual Load Forecast Data Transaction are described in Table 22 and the Submission Protocol in Table 23.

**Table 22 – Annual Load Forecast Data Transaction Data Records**

|  |
| --- |
| Period Type (A for Annual, M for Monthly or D for Daily) |
| Trading Day |
| Imbalance Settlement Period |
| Jurisdiction  |
| Annual Load Forecast value, in MW |
| Assumptions |

**Table 23 – Annual Load Forecast Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | Relevant System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One per Jurisdiction, containing data for each Imbalance Settlement Period in the calendar Year |
| Frequency of Data Transactions | Annually, plus as updated |
| First Submission time | As available |
| Last Submission time | Four Months before the start of the Year |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

Monthly Load Forecast Data Transaction

* + - 1. The Data Records for the Monthly Load Forecast Data Transaction are described in Table 24 and the Submission Protocol in Table 25.

**Table 24 – Monthly Load Forecast Data Transaction Data Records**

|  |
| --- |
| Period Type (A for Annual, M for Monthly or D for Daily) |
| Trading Day |
| Imbalance Settlement Period |
| Jurisdiction |
| Monthly Load Forecast value, in MW |
| Assumptions |

**Table 25 – Monthly Load Forecast Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One per Jurisdiction, containing data for each Imbalance Settlement Period in the relevant calendar Month |
| Frequency of Data Transactions | Monthly, plus as updated |
| First Submission time | Four Working Days before the start of the relevant Month |
| Last Submission time | One Working Day before the start of the relevant Month |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

Four Day Load Forecast Data Transaction

* + - 1. The Data Records for the Four Day Load Forecast Data Transaction are described in Table 26 and the Submission Protocol in Table 27.

**Table 26 – Four Day Load Forecast Data Transaction Data Records**

|  |
| --- |
| Period Type (A for Annual, M for Monthly or D for Daily) |
| Trading Day |
| Imbalance Settlement Period |
| Jurisdiction |
| Daily Load Forecast value, in MW |
| Assumptions |

**Table 27 – Four Day Load Forecast Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One per Jurisdiction, containing data for each Imbalance Settlement Period in the following 4 complete calendar days |
| Frequency of Data Transactions | Daily |
| First Submission time | As available prior to the DAM Gate Closure |
| Last Submission time | At least one submission prior to the DAM Gate Closure, plus as updated |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

Wind and Solar Power Unit Forecast Data Transaction

* + - 1. The Data Records for the Wind and Solar Power Unit Forecast Data Transaction are described in Table 28 and the Submission Protocol in Table 29.

**Table 28 – Wind and Solar Power Unit Forecast Data Transaction Data Records**

|  |
| --- |
| Period Type (A for Annual, M for Monthly or D for Daily) |
| Unit ID |
| Trading Day  |
| Imbalance Settlement Period |
| Jurisdiction |
| Output Forecast for each Wind Power Unit and Solar Power Unit, in MW |
| Assumptions |

**Table 29 – Wind and Solar Power Unit Forecast Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | At least once for each Jurisdiction in each of the following timescales in respect of the relevant Trading Day:By the DAM Gate Closure and as updated;Data Transactions should contain data for each Wind Power Unit and Solar Power Unit in a given Jurisdiction for each Imbalance Settlement Period in the following two complete Trading Days |
| Frequency of Data Transactions | At least once prior to the DAM Gate Closure, plus as updated |
| First Submission time | As updated |
| Last Submission time | Unlimited, at least one Data Transaction shall be submitted by the DAM Gate Closure, plus as updated  |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

Uninstructed Imbalance Parameter Data Transaction

* + - 1. The Data Records for the Uninstructed Imbalance Parameter Data Transaction are described in Table 30 and the Submission Protocol in Table 31.

**Table 30 – Uninstructed Imbalance Parameter Data Transaction Data Records**

|  |
| --- |
| Engineering Tolerance (TOLENG)  |
| MW Tolerance (TOLMWt) for each Trading Day t |
| System per Unit Regulation parameter (UREG) |
| Discount for Over Generation Factor (FDOGuγ) for each Generator Unit u in each Imbalance Settlement Period γ |
| Premium for Under Generation Factor (FPUGuγ) for each Generator Unit u in each Imbalance Settlement Period γ |

**Table 31 – Uninstructed Imbalance Parameter Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | Relevant System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One per Year, and within Year with the approval of the Regulatory Authorities |
| Frequency of Data Transactions | Annually |
| First Submission time  | As available |
| Last Submission time  | On receipt of the Regulatory Authorities' determination on the values of the Uninstructed Imbalance Parameters and no later than two months before the start of the Year or within 5 Working Days of receipt whichever is the later |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time  | None |
| Valid Communication Channels | Type 1 (manual) |
| Process for data validation  | None |

Testing Tariffs Data Transaction

* + - 1. The Data Records for the Testing Tariffs Data Transaction are described in Table 32 and the Submission Protocol in Table 33.

**Table 32 – Testing Tariffs Data Transaction Data Records**

|  |
| --- |
| Jurisdiction |
| Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| Testing Tariff Price (PTESTTARIFFuγ)  |
|  |

**Table 33 – Testing Tariffs Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | One per Year, and within Year with the approval of the Regulatory Authorities, containing data for each Generator Unit in the Jurisdiction for each Imbalance Settlement Period in the relevant Year |
| Frequency of Data Transactions | Annually |
| First Submission time | As available |
| Last Submission time | On receipt of the Regulatory Authorities' determination on the values of the Testing Tariffs and no later than two months before the start of the Year or within 5 Working Days of receipt whichever is the later |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 1 (manual) |
| Process for data validation  | None |

Strike Price Parameters Data Transaction

* + - 1. The Data Records for the Strike Price Parameters Data Transaction are described in Table 34 and the Submission Protocol in Table 35.

**Table 34 – Strike Price Parameters Data Transaction Data Records**

|  |
| --- |
| The data source or methodology for determining the Carbon Price (PCARBONm) for Month, m; |
| The data source or methodology for determining the Natural Gas Fuel Price (PFUELNGm) for Month, m |
| The data source or methodology for determining the Oil Fuel Price (PFUELOm) for Month, m. |

**Table 35 – Strike Price Parameters Data Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operator(s) |
| Recipient | Market Operator |
| Number of Data Transactions | On request by the Regulatory Authority |
| Frequency of Data Transactions | As Available |
| First Submission time | As available |
| Last Submission time | Within 5 Working Days of receipt of the Regulatory Authorities’ approval |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | None |
| Valid Communication Channels | Type 1 (manual) |
| Process for data validation  | None |

Interconnector Capacity Market Availability Data Transaction

* + - 1. The Data Records for the Interconnector Capacity Market Availability Data Transaction are described in Table 36 and the Submission Protocol in Table 37.

**Table 36 – Interconnector Capacity Market Availability Data Transaction Data Records: Average values per Imbalance Settlement Period**

| Interconnector |
| --- |
| Trading Day |
| Imbalance Settlement Period |
| Maximum Import Capacity Market Availability (qCMAMAXIlγ)  |
| Maximum Export Capacity Market Availability |

**Table 37 – Interconnector Capacity Market Availability Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | Interconnector Administrator |
| Recipient | Market Operator |
| Number of Data Transactions | One containing:Maximum Import Capacity Market Availability and Maximum Export Capacity Market Availability for each Imbalance Settlement Period in the relevant Trading Day for the relevant Interconnector. |
| Frequency of Data Transactions  | Daily and as updated |
| First Submission time | As available |
| Last Submission time  | Unlimited, prior to Imbalance Settlement Calculation |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time  | In the event of a change in the magnitude of Capacity Market Availability in either direction, resubmission is possible prior to Imbalance Settlement Calculation or as required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Valid Communication Channels | Type 3 (computer to computer)  |
| Process for data validation  | None |

1. Meter Data Transactions
	* + 1. Agreed Procedure 16 "Provision of Meter Data" describes how Meter Data Providers shall be required to group Meter Data into Data Transactions for receipt by the Market Operator, in accordance with the requirements set out in this Appendix L.
			2. The timing of these Meter Data Transactions is described in Agreed Procedure 16 "Provision of Meter Data", in accordance with the requirements set out in this Appendix L.
			3. The Meter Data required for the creation of Settlement Statements are the Metered Generation of all Generator Units, the Interconnector Metered Data, and all other Supplier Units.
			4. Each System Operator in its role as a Meter Data Provider shall provide to the Market Operator Meter Data required for the creation of Settlement Statements for which the System Operator has been recorded as the Meter Data Provider as appropriate in its Jurisdiction.
			5. Intentionally blank.
			6. The System Operator in Ireland shall have responsibility for the installation, commissioning and maintenance of metering systems to such standards as are applicable under and set out in the Grid Code or Metering Code for all Transmission Connected Generation Sites in Ireland.
			7. The Distribution System Operator responsible for the installation, commissioning and maintenance of metering systems at a Unit's site, shall provide reasonable access to that site and to data polled at that site to the relevant System Operator with responsibility for the provision of that Unit’s Meter Data to the Market Operator as appropriate in its Jurisdiction (to the extent that the relevant Distribution System Operator has access under their individual customer connection agreements).
			8. Each Distribution System Operator in its role as Meter Data Provider shall provide to the Market Operator all Meter Data required for the creation of Settlement Statements as appropriate in its Jurisdiction.
			9. Subject to paragraph 6, in respect of all Units under the Code, the Distribution System Operators shall be responsible for the installation, commissioning and maintenance of metering systems within their Jurisdiction to such standards as are applicable in and set out in the Grid Code or Metering Code.
			10. Where a Distribution System Operator is responsible for the provision of a Unit's Meter Data to the Market Operator and a System Operator is responsible for the installation, commissioning and maintenance of metering systems at those Unit's sites, the relevant System Operator shall provide reasonable access to that site or polled data to the relevant Distribution System Operator (to the extent that the relevant Distribution System Operator has access under their individual customer connection agreements).
			11. Meter Data Providers shall provide the Meter Data listed in paragraph 3 to the Market Operator required for each Settlement Day by 14:00 on the first Week Day after the Settlement Day as described in Agreed Procedure 16 "Provision of Meter Data".
			12. Meter Data Providers shall provide the Meter Data listed in paragraph 3 to the Market Operator required for each Settlement Day by 17:00 on the fourth Week Day after the Settlement Day as described in Agreed Procedure 16 "Provision of Meter Data".
			13. Meter Data Providers shall provide to the Market Operator the Meter Data listed in paragraph 3 in sufficient time to permit the Timetabled Settlement Reruns to be performed by the Market Operator in accordance with the Settlement Calendar.
			14. If a System Operator in its role as Meter Data Provider has provided data for a Unit as described in paragraph 12, this fulfils that System Operator’s requirement to send that data again as described in paragraph 13, unless there are known corrections required to the data arising from the resolution of Settlement Queries or Disputes.
			15. In the event of a Settlement Query in respect of Meter Data and where the Meter Data is discovered to be in material error, the Meter Data Provider shall send the updated Meter Data for the Units or Interconnector as appropriate for the Settlement Day or Settlement Days to which the Settlement Query relates as described in Agreed Procedure 16 “Provision of Meter Data”.
			16. In the event of a Dispute in respect of Meter Data and where the Meter Data is discovered to be in material error, the Meter Data Provider shall send the updated Meter Data for the Units or Interconnector as appropriate in a manner and form determined by the Dispute Resolution Board.
2. Capacity Market Data Transactions
	1. Introduction
		* 1. This Appendix M outlines the detailed Data Record requirements for Data Transactions sent by the System Operators to the Market Operator, which are not defined in other Appendices, which are required for the settlement of the Capacity Market, and the associated high-level Data Transaction Submission Protocols.
	2. Data Transactions
		* 1. The Data Transactions in this Appendix M include:
				1. The Demand Side Non-Delivery Percentage (FNDDS);
				2. The Contract Register Data;
				3. The Commissioned Capacity Quantity (qCCOMMISS);
				4. The De-Rating Factor (FDERATE); and
				5. The Gross De-Rated Capacity Quantity (qCDERATEG).
			2. Each Data Record in this Appendix M which contains Currency amounts will be denominated in the Participant’s designated Currency.
	3. Data Transaction and Data Records

Demand Side Non-Delivery Percentage Data Transaction

* + - 1. The Data Records for the Demand Side Non-Delivery Percentage Parameters Data Transaction are described in Table 1 and the Submission Protocol in Table 2.

**Table 1 – Demand Side Non-Delivery Percentage Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Capacity Market Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| Demand Side Non-Delivery Percentage, FNDDSΩγ |
|  |

**Table 2 – Demand Side Non-Delivery Percentage Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One, containing data for each Capacity Market Unit which represents one or more Generator Units that are Demand Side Units, for each Imbalance Settlement Period in the relevant Trading Day. |
| Frequency of Data Transactions | Daily |
| First Submission time | After end of Trading Day |
| Last Submission time | Prior to Imbalance Settlement Calculation  |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time  | Prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar.As available prior to the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar. |
| Valid Communication Channels | Type 2 (human to computer)/ Type 3 (computer to computer) |
| Process for data validation  | None |

Contract Register Data Transaction

* + - 1. The Data Records for the Contract Register Data Transaction are described in Table 3 and the Submission Protocol in Table 4.

**Table 3 – Contract Register Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Capacity Market Unit ID |
| Trading Day |
| The Capacity Quantity (qCΩn) |
| Primary or Secondary Trade Flag |
| The Annual Stop-Loss Limit Factor (FSLLAn) |
| The Billing Period Stop-Loss Factor (FSLLBn) |
| The Capacity Payment Price (PCPΩn) |
| The Capacity Duration Exchange Rate (XRCDn) |
|  |

**Table 4 – Contract Register Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One containing data for each Capacity Market Unit, for each Imbalance Settlement Period in the Capacity Year. |
| Frequency of Data Transactions | Daily |
| First Submission time | After end of Trading Day |
| Last Submission time | Prior to Imbalance Settlement Calculation  |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | Prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar. |
| Valid Communication Channels | Type 3 (computer to computer) |
| Process for data validation  | None |

Commissioned Capacity Quantity Data Transaction

* + - 1. The Data Records for the Commissioned Capacity Quantity Data Transaction are described in Table 5 and the Submission Protocol in Table 6.

**Table 5 – Commissioned Capacity Quantity Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Capacity Market Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| Commissioned Capacity Quantity (qCCOMMISSΩγ) |

**Table 6 – Commissioned Capacity Quantity Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One containing data for each Capacity Market Unit, for each Imbalance Settlement Period in the Capacity Year. |
| Frequency of Data Transactions | At least once per Capacity Year, plus as updated |
| First Submission time | As available |
| Last Submission time | Prior to Imbalance Settlement Calculation.As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | Prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar. |
| Valid Communication Channels | Type 2 (human to computer)/ Type 3 (computer to computer) |
| Process for data validation  | None |

De-Rating Factor Data Transaction

* + - 1. The Data Records for the De-Rating Factor Data Transaction are described in Table 7 and the Submission Protocol in Table 8.

**Table 7 – De-Rating Factor Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Capacity Market Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| De-Rating Factor (FDERATEΩ) |

**Table 8 – De-Rating Factor Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One containing data for each Capacity Market Unit |
| Frequency of Data Transactions | At least once per Capacity Year, plus as updated |
| First Submission time | As available |
| Last Submission time | Prior to Imbalance Settlement Calculation.As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | Prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar. |
| Valid Communication Channels | Type 2 (human to computer)/ Type 3 (computer to computer) |
| Process for data validation  | None |

Gross De-Rated Capacity Quantity Data Transaction

* + - 1. The Data Records for the Gross De-Rated Capacity Quantity Data Transaction are described in Table 9 and the Submission Protocol in Table 10.

**Table 9 – Gross De-Rated Capacity Quantity Data Transaction Data Records**

|  |
| --- |
| Participant Name |
| Capacity Market Unit ID |
| Trading Day |
| Imbalance Settlement Period |
| Gross De-Rated Capacity Quantity (qCDERATEGΩγ) |

**Table 10 – Gross De-Rated Capacity Quantity Data Transaction Submission Protocol**

|  |  |
| --- | --- |
| Sender | System Operators |
| Recipient | Market Operator |
| Number of Data Transactions | One containing data for each Capacity Market Unit for each Imbalance Settlement Period in the Capacity Year. |
| Frequency of Data Transactions | At least once per Capacity Year, plus as updated |
| First Submission time | As available |
| Last Submission time | Prior to Imbalance Settlement Calculation.As required to resolve a Settlement Query or a Dispute where the Data Records in the Transaction are discovered to be in error. |
| Permitted frequency of resubmission prior to last submission time | Unlimited |
| Required resubmission subsequent to last submission time | Prior to Imbalance Settlement Calculation and within 10 Working Days of notification to the System Operator of an upheld Settlement Query or Dispute if the error has High Materiality, or if the last Timetabled Settlement Rerun has occurred.If the error has Low Materiality resubmission will occur by the deadline for data provision for Timetabled Settlement Rerun as specified in the Settlement Calendar. |
| Valid Communication Channels | Type 1 (manual)/ Type 3 (computer to computer) |
| Process for data validation  | None |

1. Flagging and Tagging
	1. System Operator and Non-Marginal Flagging
		* 1. For each Imbalance Pricing Period, φ, the System Operators shall use information from the most recent Indicative Operations Schedule to identify whether a Generator Unit’s scheduled output is bound by the presence of an Operational Constraint and where they determine that the Generator Unit is so bound, shall set the System Operator Flag (FSOuφ) for that Generator Unit, u, equal to zero for that Imbalance Pricing Period, φ. Otherwise, the System Operators shall set the System Operator Flag (FSOuφ) for that Generator Unit, u, equal to one for that Imbalance Pricing Period, φ.
			2. For each Imbalance Pricing Period, φ, the System Operators shall use information from the most recent Indicative Operations Schedule to identify whether a Generator Unit’s scheduled output is bound by the presence of an Operational Constraint relating to the provision of Replacement Reserve, and where they determine that the Generator Unit is so bound, shall set the System Service Flag (FSSuφ) for that Generator Unit, u, equal to zero for that Imbalance Pricing Period, φ. Otherwise, the System Operators shall set the System Service Flag (FSSuφ) for that Generator Unit, u, equal to one for that Imbalance Pricing Period, φ.
			3. For each Imbalance Pricing Period, φ, the System Operators shall use information from the most recent Indicative Operations Schedule to identify whether a Generator Unit’s scheduled output is bound by the presence of a Unit Constraint and where they determine that the Generator Unit is so bound, shall set the Non-Marginal Flag (FNMuφ) for that Generator Unit, u, equal to zero for that Imbalance Pricing Period, φ. Otherwise, the System Operators shall set the Non-Marginal Flag (FNMuφ) for that Generator Unit, u, equal to one for that Imbalance Pricing Period, φ.
			4. The System Operators shall publish a “Methodology for determining System Operator and Non-Marginal Flags” including detailed information on how System Operator Flags and Non-Marginal Flags are determined for each Operational Constraint and Unit Constraint in accordance with paragraphs 1-3, including the process for determining whether an Operational Constraint is binding and the process for determining whether a Generator Unit is bound by a Unit Constraint or a binding Operational Constraint.
			5. The System Operators shall publish updates to the “Methodology for determining System Operator and Non-Marginal Flags” as soon as practicable to reflect relevant changes to Operational Constraints, Unit Constraints, underlying processes related to the determination of the Indicative Operations Schedule, or any other relevant change.
	2. Net Imbalance Volume Tagging

Setting the Value of the Initial Net Imbalance Volume Tag

* + - 1. For each Imbalance Pricing Period φ, where the Net Imbalance Volume Quantity (QNIVukφ) is a positive value, the Market Operator shall set the value of each Initial Net Imbalance Volume Tag (TINIVukφ) to zero for each rank k from 1 to M and to the value of the Imbalance Price Flag (FIPukφ) for each rank k from M+1 to N.
			2. For each Imbalance Pricing Period φ, where the Net Imbalance Volume Quantity (QNIVukφ) is a negative value, the Market Operator shall set the value of each Initial Net Imbalance Volume Tag (TINIVukφ) to the value of the Imbalance Price Flag (FIPukφ) for each rank k from 1 to M and to zero for each rank k from M+1 to N.

Calculation of the Residual Tagged Quantity

* + - 1. The Market Operator shall calculate the Residual Tagged Quantity for each Imbalance Pricing Period (QRTAGφ) as follows:

where:

* + - * 1. is the sum of values over all k;
				2. QABukφ is the Accepted Bid Quantity for Generator Unit u and rank k;
				3. QAOukφ is the Accepted Offer Quantity for Generator Unit u and rank k; and
				4. TINIVukφ is the value of the Initial Net Imbalance Volume Tag for Generator Unit u and rank k.

Setting the Net Imbalance Volume Tag in the Case of a Positive Net Imbalance Volume Quantity

* + - 1. For each Imbalance Pricing Period φ, where the Net Imbalance Volume Quantity (QNIVukφ) is a positive value, the Market Operator shall:
				1. Where the Residual Tagged Quantity (QRTAGφ) is a negative value:

determine the value of b and β to satisfy the following equation:

where:

b is a positive integer in the range 1 ≤ b ≤ N and β is a positive real number in the range 0 ≤ β ≤ 1, where if there are more than one valid solutions to the equation, the solution with a value of β = 1 shall be taken to be the unique solution used in all following steps;

QAOukφ is the Accepted Offer Quantity for Generator Unit u and rank k;and

TINIVukφ is the Initial Net Imbalance Volume Tag for each Generator Unit u and rank k.

set the value of each Net Imbalance Volume Tag (TNIVukφ) to a value equal to the value of each corresponding Initial Net Imbalance Volume Tag for each rank k where k ≤ M and each rank k where k > b, to a value of one for each rank k where M< k < b, and to a value of β for rank k where k = b.

* + - * 1. Where the Residual Tagged Quantity (QRTAGφ) is a positive value:

determine the value of b and β to satisfy the following equation:

where:

b is a positive integer in the range 1 ≤ b ≤ N and β is a positive real number in the range 0 ≤ β ≤ 1, where if there are more than one valid solutions to the equation, the solution with a value of β = 1 shall be taken to be the unique solution used in all following steps;

QAOukφ is the Accepted Offer Quantity for Generator Unit u and rank k; and

TINIVukφ is the Initial Net Imbalance Volume Tag for each Generator Unit u and rank k.

set the value of each Net Imbalance Volume Tag (TNIVukφ) to a value equal to the value of each corresponding Initial Net Imbalance Volume Tag for each rank k where k < b, to a value of 1 - β for k = b, and to a value of zero for each rank k where k > b.

Setting the Net Imbalance Volume Tag in the Case of a Negative Net Imbalance Volume Quantity

* + - 1. For each Imbalance Pricing Period φ, where the Net Imbalance Volume Quantity (QNIVukφ) is a negative value, the Market Operator shall:
				1. Where the Residual Tagged Quantity (QRTAGφ) is a positive value:

determine the value of b and β to satisfy the following equation:

where:

b is a positive integer in the range 1 ≤ b ≤N and β is a positive real number 0 ≤ β ≤1, where if there are more than one valid solutions to the equation, the solution with a value of β = 1 shall be taken to be the unique solution used in all following steps;

QABukφ is the Accepted Bid Quantity for Generator Unit u and rank k; and

TINIVukφ is the Initial Net Imbalance Volume Tag for each Generator Unit u and rank k.

set the value of each Net Imbalance Volume Tag (TNIVukφ) to a value equal to the value of each corresponding Initial Net Imbalance Volume Tag for each rank k where k < b and each rank k where k > M, to a value of β for rank where k = b, and to a value of one for each rank k where b < k < M.

* + - * 1. Where the Residual Tagged Quantity (QRTAGφ) is a negative value:

determine the value of b and β to satisfy the following equation:

where:

b is a positive integer in the range 1 ≤ b ≤N and β is a positive real number in the range 0 ≤ β ≤ 1, where if there are more than one valid solutions to the equation, the solution with a value of β = 1 shall be taken to be the unique solution used in all following steps;

QABukφ is the Accepted Bid Quantity for Generator Unit u and rank k; and

TINIVukφ is the Initial Net Imbalance Volume Tag for each Generator Unit u and rank k.

set the value of each Net Imbalance Volume Tag (TNIVukφ) to a value of zero for each rank k where k ≤ b, to a value of 1 – β for rank k where k = b, and to a value equal to the value of each corresponding Initial Net Imbalance Volume Tag for each rank k where k > b.

* 1. Price Average Reference Tagging

Setting the Price Average Reference Tag if –QPAR ≤ QNIVφ ≤ QPAR

* + - 1. For each Imbalance Pricing Period φ where the Net Imbalance Volume Quantity (QNIVφ) is greater than or equal to the negative of the Price Average Reference Quantity (-QPAR) and less than or equal to the Price Average Reference Quantity (QPAR), and the value of the Price Average Reference Quantity (QPAR) is greater than zero, the Market Operator shall set the value of the Price Average Reference Tag (TPARukφ) equal to one for all k.

Setting the Price Average Reference Tag if QNIVφ > QPAR

* + - 1. For each Imbalance Pricing Period φ where the Net Imbalance Volume Quantity (QNIVφ) is greater than the Price Average Reference Quantity (QPAR) and the value of the Price Average Reference Quantity (QPAR) is greater than zero, the Market Operator shall:
				1. Determine the value of b and β to satisfy the following equation:

where:

b is a positive integer in the range 1 ≤ b ≤ N and β is a positive real number in the range 0 ≤ β ≤ 1, where if there are more than one valid solutions to the equation, the solution with a value of β = 1 shall be taken to be the unique solution used in all following steps ;

QAOukφ is the Accepted Offer Quantity for Generator Unit u and rank k; and

TNIVukφ is the Net Imbalance Volume Tag for Generator Unit u and rank k.

* + - * 1. Set the value of the Price Average Reference Tag (TPARukφ) equal to zero for each rank k where M < k < b, to a value of β for rank k where k = b, and to a value of one for each rank k where k ≤ M and each rank k where k > b.

Setting the Price Average Reference Tag if QNIVφ < -QPAR

* + - 1. For each Imbalance Pricing Period φ where the Net Imbalance Volume Quantity (QNIVφ) is less than the negative of the Price Average Reference Quantity (QPAR) and the value of the Price Average Reference Quantity (QPAR) is greater than zero, the Market Operator shall:
				1. Determine the value of b and β to satisfy the following equation:

where:

b is a positive integer in the range 1 ≤ b ≤ N and β is a positive real number in the range 0 ≤ β ≤ 1, where if there are more than one valid solutions to the equation, the solution with a value of β = 1 shall be taken to be the unique solution used in all following steps ;

QABukφ is the Accepted Bid Quantity for Generator Unit u and rank k; and

TNIVukφ is the Net Imbalance Volume Tag for Generator Unit u and rank k.

* + - * 1. Set the value of the Price Average Reference Tag (TPARukφ) equal to zero for each rank k where b < k ≤ M, to a value of β for rank k where k = b, and to a value of one for each rank k where k < b and each rank k where k > M.
1. Instruction Profiling Calculations
	* + 1. The following timing conventions applies to provisions within this Appendix O, in line with their use in the Code:
				1. The Imbalance Pricing Period is the period within an Imbalance Settlement Period relevant to the execution of the Imbalance Pricing Process, as per Chapter E “Imbalance Pricing”, and represented by the subscript φ;
				2. An Imbalance Settlement Period is the period relevant to the execution of Settlement calculations, as outlined in Chapter F “Calculation of Payments and Charges”, and represented by the subscript γ;
				3. Provisions that applies to both Imbalance Pricing Periods and Imbalance Settlement Periods, are indicated by the subscript for a generalised period, h.
			2. This Appendix O sets out detailed provisions in relation to three types of Instruction Profiles:
				1. Physical Notification Instruction Profile that shall be used by the Market Operator to determine the values of Dispatch Quantity (qDuoh(t)) for Bid Offer Acceptances resulting from Dispatch Instructions;
				2. Pseudo Instruction Profile that shall be used by the Market Operator to determine the values of Dispatch Quantity (qDuoh(t)) for Bid Offer Acceptances resulting from Pseudo Dispatch Instructions; and
				3. Uninstructed Imbalance Instruction Profile that shall be used by the Market Operator to determine values of Dispatch Quantity (QDuγ)

as required by Chapter F “Calculation of Payments and Charges” for each Dispatchable Generator Unit for each period, h.

* + - 1. Physical Notification Instruction Profiling and Pseudo Instruction Profiling for the purpose of Bid Offer Acceptance Quantity calculation, as set out in section F.6.2, shall be performed after each Imbalance Pricing Period for the purpose of being used in the Imbalance Price calculation and on D+1 and D+4 for the purpose of Imbalance Settlement Calculation.
			2. Uninstructed Imbalance Instruction Profiling for the purpose of Undelivered Quantity calculation and Uninstructed Imbalance calculation as set out in sections F.6.6 and F.9, shall be performed on D+1 and D+4 for each Imbalance Settlement Period.
			3. Instruction Profiling shall be calculated prior to any additional Imbalance Pricing Software Run performed by the Market Operator as required for Imbalance Pricing and Settlement purposes respectively.
			4. Instruction Profiling shall not be performed for Generator Units which are not Dispatchable and not Controllable, Assetless Units or Interconnector Residual Capacity Units, and the values of Dispatch Quantity for these Generator Units, where applicable, shall be calculated as set out in section F.2.4.
			5. All Dispatch Instructions shall be provided by the relevant System Operator to the Market Operator in accordance with Appendix K: “Other Market Data Transactions” and the Market Operator shall procure to publish the Dispatch Instructions within the Central Market Systems.
	1. Capture Input Data
		+ 1.
			2. To calculate each type of Instruction Profile, a different combination of inputs from Appendix H: “Data Requirements for Registration”, Appendix I: “Offer Data”, Appendix K: “Other Market Data Transactions”, Dispatch Instructions issued by the System Operator and Pseudo Dispatch Instructions, created by the Market Operator as per Table 3, shall be used for each period, h, for each Dispatchable Generator Unit in accordance with paragraph 31.
			3. The following Commercial Offer Data, Technical Offer Data and Physical Notification Data provided in accordance with Appendix I: “Offer Data”, shall be used by the Market Operator to calculate Physical Notification Instruction Profiles and Pseudo Instruction Profiles:
				1. Complex Bid Offer Data;
				2. Simple Bid Offer Data;
				3. Minimum On Time;
				4. Minimum Off Time;
				5. Maximum On Time;
				6. Minimum Down Time (applicable to Demand Side Units);
				7. Maximum Down Time (applicable to Demand Side Units); and
				8. Final Physical Notification Quantities (qFPNuh(t)).
			4. The Market Operator shall, for each Settlement Day, use the following Registration Data and Accepted Technical Offer Data for each Trading Day which falls within that Settlement Day in whole or in part, provided in accordance with Appendix H: “Data Requirements for Registration” and Appendix I: “Offer Data” respectively, to calculate all Instruction Profile types for that Settlement Day:
				1. Registered Capacity / Maximum Generation;
				2. Hot Cooling Boundary;
				3. Warm Cooling Boundary;
				4. Block Load Flag;
				5. Block Load Cold, Block Load Warm and Block Load Hot;
				6. Loading Rate Hot 1, 2 & 3;
				7. Loading Rate Warm 1, 2 & 3;
				8. Loading Rate Cold 1, 2 & 3;
				9. Load Up Break Point Hot 1 & 2;
				10. Load Up Break Point Warm 1 & 2;
				11. Load Up Break Point Cold 1 & 2;
				12. Soak Time Hot 1 & 2;
				13. Soak Time Warm 1 & 2;
				14. Soak Time Cold 1 & 2;
				15. Soak Time Trigger Point Hot 1 & 2;
				16. Soak Time Trigger Point Warm 1 & 2;
				17. Soak Time Trigger Point Cold 1 & 2;
				18. Ramp Up Rate 1, 2, 3, 4 & 5;
				19. Ramp Up Break Point 1, 2, 3 & 4;
				20. Dwell Time Up 1, 2 & 3;
				21. Dwell Time Down 1, 2 & 3;
				22. Dwell Time Up Trigger Point 1, 2 & 3;
				23. Dwell Time DownTrigger Point 1, 2 & 3;
				24. Ramp Down Rate 1, 2, 3, 4 & 5;
				25. Ramp Down Break Point 1, 2, 3 & 4;
				26. Deloading Rate 1 & 2;
				27. Deload Break Point;
				28. Maximum Ramp Up Rate (applicable to Demand Side Units);
				29. Maximum Ramp Down Rate (applicable to Demand Side Units);
				30. Dispatchable Quantity (Maximum Generation applicable to Demand Side Units);
				31. Start of Restricted Range 1;
				32. End of Restricted Range 1;
				33. Start of Restricted Range 2;
				34. End of Restricted Range 2;
				35. Short Term Maximisation Capability;
				36. Registered Minimum Stable Generation;
				37. Registered Minimum Output;
				38. Pumping Capacity;
				39. Pumped Storage and Battery Storage Flag;
				40. Battery Storage Capacity; and
				41. Fuel Type.
			5. The following Outturn Data, provided by the relevant System Operator to the Market Operator in accordance with Appendix K: “Other Market Data Transactions”, shall be used by the Market Operator to create all Instruction Profile types:
				1. Outturn Minimum Stable Generation;
				2. Outturn Minimum Output;
				3. Outturn Availability (Primary Fuel Type Outturn Availability for Dual Rated Generator Units);
				4. Secondary Fuel Type Outturn Availability;
				5. Rating Flag; and
				6. Last Status Change Time.
			6. The following Dispatch Instructions Data Records provided by the relevant System Operator to the Market Operator in accordance with Appendix K: “Other Market Data Transactions” shall be used by the Market Operator to create all Instruction Profile types for each Generator Unit for the applicable period, h:
				1. Instruction Issue Time;
				2. Instruction Effective Time;
				3. Target Instruction Level;
				4. Instruction Code;
				5. Instruction Combination Code;
				6. Dispatch Ramp Up Rate;
				7. Dispatch Ramp Down Rate; and
				8. Instruction Effective Until Time for MWOF.
			7. The Instruction Codes and Instruction Combination Codes that are used for the calculation of all Instruction Profile types, except as provided in Table 3, are listed and described in Table 1.

**Table 1 – Instruction Codes and Instruction Combination Codes for Dispatch Instructions issued by the System Operator**

| **Instruction Code** | **Instruction Combination Code** | **Description** |
| --- | --- | --- |
| SYNC | n/a | Synchronise the Generator Unit at the specified Instruction Effective Time. |
| MWOF | n/a | Adjust the Generator Unit Output to the specified Target Instruction Level at the specified Instruction Effective Time. |
| DESY | n/a | Desynchronise the Generator Unit at the specified Instruction Effective Time. |
| GOOP | PGEN | Instruct positive Output from a Pumped Storage Unit or a Battery Storage Unit at the specified Instruction Effective Time. |
| GOOP | PUMP | Instruct negative Output from a Pumped Storage Unit or a Battery Storage Unit at the specified Instruction Effective Time. |
| GOOP | SCT | Instruct Synchronisation in generating mode and 0MW Output for a Pumped Storage Unit or a Battery Storage Unit at the specified Instruction Effective Time. |
| GOOP | SCP | Instruct Synchronisation in Pumping Mode and 0MW Output from a Pumped Storage Unit or a Battery Storage Unit at the specified Instruction Effective Time. |
| TRIP | n/a | Retrospectively issued Dispatch Instruction to indicate that a Generator Unit Desynchronised unexpectedly. |
| WIND | LOCL | Instruction for a Wind Power Unit or Solar Power Unit to reduce Output due to a Local Network Constraint at the specified Instruction Effective Time. |
| WIND | LCLO | Instruction for a Wind Power Unit or Solar Power Unit to cease the reduction of Output due to a Local Network Constraint at the specified Instruction Effective Time. |
| WIND | CURL | Instruction for a Wind Power Unit or Solar Power Unit to reduce Output due to an All-Island Curtailment at the specified Instruction Effective Time. |
| WIND | CRLO | Instruction for a Wind Power Unit or Solar Power Unit to cease the reduction of Output due to an All-Island Curtailment at the specified Instruction Effective Time. |
| MXON | n/a | Instruction to a Generator Unit to adjust its Output to the registered Short Term Maximisation Capability at the specified Instruction Effective Time. |
| MXOF | n/a | Instruction to de-activate a Maximisation Instruction at the specified Instruction Effective Time. |
| FAIL | n/a | Retrospectively-issued Dispatch Instruction to indicate that a Generator Unit failed to Synchronise as instructed. |

* + - 1. How the Instruction Codes and Instruction Combination Codes are used for the calculation of Physical Notification Instruction Profiles is described in Table 2.

**Table 2 – Instruction Codes and Instruction Combination Codes as used for Physical Notification Instruction Profile**

| **Instruction Code** | **Instruction Combination Code** | **Description** |
| --- | --- | --- |
| MWOF | n/a | **Step 1**: Adjust the Generator Unit Output to the specified Target Instruction Level until a specified Effective Until Time or until the Target Instruction Level must be maintained in order to comply with the Generator Unit’s Accepted Technical Offer Data, whichever is later; **Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction; however if a new Dispatch Instruction is issued by the System Operator with an Instruction Effective Time equal to or before the time Step 1 is achieved, profile the new Dispatch Instruction as per Table 1 or Table 2 as appropriate. |
| GOOP | PGEN | **Step 1**: Instruct positive Output from a Pumped Storage Unit or a Battery Storage Unit at the specified Instruction Effective Time and Adjust the Generator Unit Output to the specified Target Instruction Level until a specified Effective Until Time or until the Target Instruction Level must be maintained in order to comply with the Generator Unit’s Accepted Technical Offer Data, whichever is later; **Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction; however if a new Dispatch Instruction is issued by the System Operator with an Instruction Effective Time equal to or before the time Step 1 is achieved, profile the new Dispatch Instruction as per Table 1 or Table 2 as appropriate. |
| MXON | n/a | **Step 1**: Instruction to a Generator Unit to adjust its Output to the registered Short Term Maximisation Capability at the specified Instruction Effective Time until a specified Effective Until Time or until the Target Instruction Level must be maintained in order to comply with the Generator Unit’s Accepted Technical Offer Data, whichever is later;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction; however if a new Dispatch Instruction is issued by the System Operator with an Instruction Effective Time equal to or before the time Step 1 is achieved, profile the new Dispatch Instruction as per Table 1 or Table 2 as appropriate. |
| MXOF | n/a | **Step 1**: Instruction to de-activate a Maximisation Instruction at the specified Instruction Effective Time and adjust the Generator Unit Output to MWOF issued with MXOF or the last valid MWOF prior to the Maximisation instruction until specified Effective Until Time or until the Target Instruction Level must be maintained in order to comply with the Generator Unit’s Accepted Technical Offer Data, whichever is later;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction; however if a new Dispatch Instruction is issued by the System Operator with an Instruction Effective Time equal to or before the time Step 1 is achieved, profile the new Dispatch Instruction as per Table 1 or Table 2 as appropriate. |
| SYNC | n/a | If there is no MWOF Dispatch Instruction issued with the same Instruction Effective Time, and the Target Instruction Level for the SYNC Dispatch Instruction is less than or equal to the Registered Minimum Stable Generation:**Step 1**: Synchronise the Generator Unit at the specified Instruction Effective Time and adjust the Generator Unit Output to a Target Instruction Level equal to the Registered Minimum Stable Generation until a specified Effective Until Time or until the Target Instruction Level must be maintained in order to comply with the Generator Unit’s Accepted Technical Offer Data, whichever is later; **Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities; however if a new Dispatch Instruction is issued by the System Operator with an Instruction Effective Time equal to or before the time Step 1 is achieved, profile the new Dispatch Instruction as per Table 1 or Table 2 as appropriate.Otherwise if there is no MWOF Dispatch Instruction issued with the same Instruction Effective Time, and the Target Instruction Level for the SYNC Dispatch Instruction is greater than the Registered Minimum Stable Generation, then follow Step 3:**Step 3**: Synchronise the Generator Unit at the specified Instruction Effective Time and adjust the Generator Unit Output as described in Steps 1 and 2. For the purposes of calculating Physical Notification Instruction Profiles, create an additional Dispatch Instruction with Instruction Code “MWOF” with the same Instruction Effective Time and Instruction Issue Time as the associated SYNC Dispatch Instruction, and for the Physical Notification Instruction Profile applicable to this Dispatch Instruction adjust the Generator Unit Output as described in Steps 1 and 2 of the MWOF Instruction Code entry in Table 2. |

* + - 1. In addition to Dispatch Instructions issued by the System Operator, Pseudo Dispatch Instructions, corresponding to a subset of the Dispatch Instructions listed in Table 1, shall also be created by the Market Operator and used in accordance to the description in Table 3 to calculate Pseudo Instruction Profiles.
			2. A Pseudo Dispatch Instruction shall not be created for a corresponding Dispatch Instruction where the System Operator issues a subsequent Dispatch Instruction with Instruction Effective Time at or before the time at which the first Target Instruction Level is reached.

**Table 3 – Instruction Codes and Instruction Combination Codes for Pseudo Dispatch Instructions**

| **Pseudo Dispatch Instruction Code** | **Pseudo Dispatch Instruction Combination Code** | **Corresponding Instruction Code or Instruction Combination Code** | **Description** |
| --- | --- | --- | --- |
| PSYN | n/a | SYNC | **Continuous open acceptance after SYNC.** At Instruction Effective Time set as the later of:* the time when the corresponding SYNC Instruction Profile reaches Registered Minimum Stable Generation if the time to ramp up is greater than the Minimum On Time; or
* the corresponding SYNC Instruction Effective Time plus Min On Time; or
* if the MW value of the Registered Minimum Stable Generation corresponds to the MW value of a Soak Time Trigger Point in the applicable Accepted Technical Offer Data, then the time when the corresponding SYNC Instruction Profile reaches Registered Minimum Stable Generation plus the applicable Soak Time,

**Step 1**: create a PSYN to maintain Generator Unit Output to the specified SYNC Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with an Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities.PSYN is not created where the Target Instruction Level of the associated SYNC Dispatch Instruction is greater than the Registered Minimum Stable Generation, or where there is a MWOF Dispatch Instruction issued at the same Instruction Effective Time as the associated SYNC Dispatch Instruction with a Target Instruction Level which is not equal to the Registered Minimum Stable Generation. |
| PMWO | n/a | MWOF | **Continuous open acceptance after MWOF**. At Instruction Effective Time set as:* the time when the corresponding MWOF Instruction Profile reaches the specified Target Instruction Level,

**Step 1**: create a PMWO to maintain the Generator Unit Output to the specified MWOF Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction. |
| PDES | n/a | DESY | **Continuous open acceptance after DESY.** At Instruction Effective Time set as:* the time when the corresponding DESY Instruction Profile reaches the Target Instruction Level plus Min Off Time,

**Step 1**: create a PDES to maintain the Generator Unit Output to the specified DESY Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction. |
| GOOP | PPGE | PGEN | **Continuous open acceptance after PGEN**. At Instruction Effective Time set as:* the time when the corresponding PGEN Instruction Profile reaches the specified Target Instruction Level,

**Step 1**: create a PPGE to maintain the Generator Unit Output to the specified PGEN Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction.  |
| PMXN | n/a | MXON | **Continuous open acceptance after MXON**. At Instruction Effective Time set as:* the time when the corresponding MXON Instruction Profile reaches the Short Term Maximisation Capability,

**Step 1**: create a PMXN to maintain the Generator Unit Output to the specified MXON Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction. |
| PMXF | n/a | MXOF | **Continuous open acceptance after MXOF**. At Instruction Effective Time set as:* the time when the corresponding MXON Instruction Profile reaches the last effective MWOF Target Instruction Level prior to the corresponding MXON,

**Step 1**: create a PMXF to maintain the Generator Unit Output to the specified MXOF Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction. |
| POFF | n/a | n/a | **Continuous open acceptance keeping unit off**. At Instruction Effective Time set as:* the time where the Final Physical Notification Quantity profile rises from zero

**Step 1**: create a POFF to maintain the Generator Unit Output to the specified Target Instruction Level (zero) until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction.POFF is created where the preceding Dispatch Instruction is not one of the following: MWOF, MXON, SYNC, PGEN, MXOF, DESY. |
| PCOD | n/a | n/a | **Continuous open acceptance after COD change.** At Instruction Effective Time set as:* the effective time of a revised set of Unit’s Commercial Offer Data set out in sub-paragraphs 9(a) and 9(b)

**Step 1**: create a PCOD to maintain the Generator Unit Output to the preceding Target Instruction Level associated with the Accepted Bid Offer Quantity until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction.PCOD is created where the preceding Dispatch Instruction is not one of the following: MWOF, MXON, SYNC, PGEN, MXOF, DESY. |
| PISP | n/a | n/a | **Continuous open acceptance after Imbalance Settlement Period boundary**, At Instruction Effective Time set as:* the Imbalance Settlement Period boundary time,

**Step 1**: create a PISP to maintain the Generator Unit Output to the preceding Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;**Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities, or if at the time that profile would have reached the Final Physical Notification Quantities the Physical Notification Instruction Profile associated with a previous SYNC Dispatch Instruction has not achieved Step 1 in accordance with the SYNC Instruction Code entry in Table 2, then adjust Target Instruction Level to the Physical Notification Instruction Profile associated with the SYNC Dispatch Instruction.PISP is created where the preceding Dispatch Instruction is not one of the following: MWOF, MXON, SYNC, PGEN, MXOF, DESY. |

* 1. Dispatch Instruction and Pseudo Dispatch Instruction Validation
		+ 1. Dispatch Instructions for a Settlement Day available to the Market Operator at the time of applying the process for the calculation of the Imbalance Price, or the time of applying the process for the calculation of settlement quantities, as applicable, shall be sorted by Generator Unit, Instruction Effective Time, Instruction Issue Time and the MW value of the Target Instruction Level (in order of increasing quantity).. Unless otherwise specified, Instruction Issue Time for Pseudo Dispatch Instructions shall be set equal to the Instruction Effective Time. The rules for the validation and merging of Dispatch Instructions shall be applied in the following order: paragraph 18, paragraph 19 first sentence relating to MWOF Instruction Codes only, paragraph 21, paragraph 22, paragraph 19 first sentence relating to all Instruction Codes, paragraph 19 second sentence, paragraph 32(d), paragraph 23.
			2. A Dispatch Instruction shall cancel a Pseudo Dispatch Instruction with the same Instruction Effective Time, where that Pseudo Dispatch Instruction is created as a result of a previous corresponding Dispatch Instruction.
			3. If multiple Dispatch Instructions with the same Instruction Effective Time but different Instruction Issue Times are issued for a Generator Unit, then the Dispatch Instruction with the latest Instruction Issue Time shall be used. For Dispatch Instructions having the same Instruction Issue Time and Instruction Effective Time, the Dispatch Instructions shall be ordered based on the following sequence of Instruction Codes:
				1. TRIP;
				2. GOOP+PUMP;
				3. MWOF;
				4. MXON;
				5. SYNC;
				6. GOOP;
				7. WIND;
				8. MXOF; and
				9. DESY.
			4. If multiple Pseudo Dispatch Instructions are created with the same Instruction Effective Time and Instruction Issue Time, they shall be ordered based on the following sequence of Instruction Codes:
				1. The Pseudo Dispatch Instruction corresponding to the latest Dispatch Instruction or Instruction Combination Code ordered in accordance with paragraph 19;
				2. PISP;
				3. POFF; and
				4. PCOD.
			5. For Dispatch Instructions having a MWOF Instruction Code, equal Instruction Effective Times and equal Instruction Issue Times, the Dispatch Instruction with the largest Target Instruction Level shall be used.
			6. For any two Dispatch Instructions, having the same Instruction Effective Time, where the first Dispatch Instruction is defined as Dispatch Instruction A and the second Dispatch Instruction is defined as Dispatch Instruction B, the Instruction Code and Instruction Combination Code that shall be used for the resultant Dispatch Instruction are shown in Table 4. For the avoidance of doubt, MWOF(x) is defined as Dispatch Instruction having an Instruction Code of MWOF and a Target Instruction Level of x MW. SYNC(x) is defined as Dispatch Instruction having an Instruction Code of SYNC and a Target Instruction Level of x MW. DESY(x) is defined as Dispatch Instruction having an Instruction Code of DESY and a Target Instruction Level of x MW. PUMP(x) is defined as a Dispatch Instruction having an Instruction Code of GOOP, an Instruction Combination Code of PUMP and a Target Instruction Level of x MW. CURL(x) is defined as a Dispatch Instruction having an Instruction Code of WIND, an Instruction Combination Code of CURL and a Target Instruction Level of x MW. CRLO(x) is defined as a Dispatch Instruction having an Instruction Code of WIND, an Instruction Combination Code of CRLO and a Target Instruction Level of x MW. LOCL(x) is defined as a Dispatch Instruction having an Instruction Code of WIND, an Instruction Combination Code of LOCL and a Target Instruction Level of x MW. LCLO(x) is defined as a Dispatch Instruction having an Instruction Code of WIND, an Instruction Combination Code of LCLO and a Target Instruction Level of x MW.

**Table 4 – Validation Rules for two Dispatch Instructions issued by the System Operator having the same Effective Time**

| **Instruction Code A** | **Instruction Combination Code A** | **Instruction Code B** | **Instruction Combination Code B** | **Resultant Instruction Code** | **Resultant Instruction Combination Code**  |
| --- | --- | --- | --- | --- | --- |
| MWOF(x) | n/a | SYNC | n/a | SYNC(x) | n/a |
| SYNC | n/a | MWOF(x) | n/a | SYNC(x) | n/a |
| MWOF(x) | n/a | DESY | n/a | DESY(x) | n/a |
| DESY | n/a | MWOF(x) | n/a | DESY(x) | n/a |
| MWOF(x) | n/a | GOOP | PGEN | MWOF(x) | n/a |
| GOOP  | PGEN | MWOF(x) | n/a | MWOF(x) | n/a |
| GOOP | PUMP | Any type(x) | n/a | GOOP | PUMP(x) |
| Any type(x) | n/a | GOOP | PUMP | GOOP | PUMP(x) |
| WIND | CURL | MWOF(x) | n/a | WIND | CURL(x) |
| WIND | CRLO | MWOF(x) | n/a | WIND | CRLO(x) |
| WIND | LOCL | MWOF(x) | n/a | WIND | LOCL(x) |
| WIND | LCLO | MWOF(x) | n/a | WIND | LCLO(x) |

* + - 1. The sorted Dispatch Instructions for each Generator Unit shall be validated by the Market Operator using the rules in Table 5, Table 6 and Table 7.

**Table 5 – Validation Rules for Dispatch Instructions issued by the System Operator**

| **Preceding Instruction Code** | **Current Instruction Code** | **Action** |
| --- | --- | --- |
| SYNC | SYNC | Ignore Dispatch Instruction linked to current Instruction Code. |
| DESY | DESY | Ignore Dispatch Instruction linked to current Instruction Code. |
| TRIP | TRIP | Ignore Dispatch Instruction linked to current Instruction Code. |
| SYNC | FAIL | If Instruction Effective Time for Dispatch Instruction having FAIL Instruction Code is up to and including 1 hour after the Instruction Effective Time for a Dispatch Instruction having SYNC Instruction Code, the Dispatch Instruction having the preceding SYNC Instruction Code shall be ignored. Dispatch Instructions having Instruction Effective Times between the Instruction Effective Times for the Dispatch Instructions having the FAIL and the preceding SYNC Instruction Codes shall be ignored. |
| SYNC | FAIL | If Instruction Effective Time for Dispatch Instruction having FAIL Instruction Code is over 1 hour after the Instruction Effective Time for the Dispatch Instruction having SYNC Instruction Code, profile the Dispatch Instruction having SYNC Instruction Code as normal and discard the Dispatch Instruction having FAIL Instruction Code. |
| FAIL | SYNC | Ignore Dispatch Instructions having FAIL Instruction Code, if this Dispatch Instruction is not matched with previous Dispatch Instruction having a SYNC Instruction Code. Profile Dispatch Instruction having SYNC Instruction Code as per normal. |

**Table 6 – Validation Rules for Dispatch Instructions issued by the System Operator for all Generator Units**

| **Instruction Code** | **MWOF(x)** | **Action** |
| --- | --- | --- |
| MWOF | x > Maximum Generation | Set x to > Maximum Generation |
| MWOF | x in Restricted Range | Profile MWOF(x) |
| SYNC[[1]](#footnote-2) | x > Maximum Generation | Set x to > Maximum Generation |
| SYNC | x in Restricted Range | Profile MWOF(x) |
| SYNC | x = Registered Minimum Stable Generation | **Step 1**: Remove the MWOF Dispatch Instruction as part of validation in accordance with Table 4. For the Physical Notification Instruction Profile related to the SYNC Dispatch Instruction, synchronise the Generator Unit at the specified Instruction Effective Time and adjust the Generator Unit Output to a Target Instruction Level equal to the Registered Minimum Stable Generation until a specified Effective Until Time or until the Target Instruction Level must be maintained in order to comply with the Generator Unit’s Accepted Technical Offer Data, whichever is later; **Step 2**: with the Instruction Effective Time set equal to the time Step 1 is achieved, adjust Target Instruction Level to Final Physical Notification Quantities; however if a new Dispatch Instruction is issued by the System Operator with an Instruction Effective Time equal to or before the time Step 1 is achieved, profile the new Dispatch Instruction as per Table 1 or Table 2 as appropriate. |
| SYNC | x ≠ Registered Minimum Stable Generation | Synchronise the Generator Unit at the specified Instruction Effective Time and adjust the Generator Unit Output as described in Steps 1 and 2 of the SYNC with x = Registered Minimum Stable Generation entry to Table 6. For the purposes of calculating Physical Notification Instruction Profiles, keep the associated MWOF Dispatch Instruction rather than removing it as part of validation in accordance with Table 4, create an additional Physical Notification Instruction Profile for the MWOF Dispatch Instruction, and adjust the Generator Unit Output as described in Steps 1 and 2 of the MWOF Instruction Code entry to Table 2. |
| MWOF | 0 < x < Registered Minimum Stable Generation | Profile MWOF(x) |
| SYNC | x = NULL | Set x = Registered Minimum Stable Generation |
| DESY[[2]](#footnote-3) | x = NULL | Set x = 0 |

**Table 7 – Validation Rules for Maximisation Instructions**

| **Instructed Quantity** | **Instruction Code** | **MWOF(x)** | **Action** |
| --- | --- | --- | --- |
| Any | MXON | x = NULL | Maximisation starts. Profile to Short Term Maximisation Capability. |
| NULL | MWOF (after MXON) | x = ANY | Maximisation ends. Profile to Target Instruction Level associated with new MWOF Instruction Code.  |
| NULL | MXOF (after MXON) | x = NULL | Maximisation ends. Profile back to Target Instruction Level associated with last MWOF Instruction Code at the latest Ramp Down Rate. |

* + - 1. A Dispatch Instruction having a MWOF or DESY Instruction Code which follows a Dispatch Instruction having an Instruction Code MXON shall be taken to de-activate the Maximisation Instruction.
			2. A Dispatch Instruction having a GOOP Instruction Code and having a SCP Instruction Combination Code may precede a Dispatch Instruction having a GOOP Instruction Code and a PUMP Instruction Combination Code. Validation rules for Pumped Storage Units and Battery Storage Units are detailed in Table 9.
	1. Profile Operating Modes
		+ 1. The normal operating modes for a Synchronised Generator Unit are load up mode, ramp up mode, ramp down mode and deload mode. Each operating mode of a Generator Unit is described by a piecewise linear Operating Trajectory that describes the theoretical Output of a Generator Unit over time. The Technical Offer Data used to determine the piecewise linear Operating Trajectory shall be the Accepted Technical Offer Data for the Trading Day containing the Instruction Effective Time of the Dispatch Instruction.
			2. The load up trajectory of a Generator Unit is a piecewise linear curve that describes the theoretical Output of a Generator Unit over time from Start Up to Registered Minimum Stable Generation determined by:
				1. The following Technical Offer Data:

Block Load Cold, Block Load Warm and Block Load Hot;

Loading Rate Hot 1, 2 & 3;

Loading Rate Warm 1, 2 & 3;

Loading Rate Cold 1, 2 & 3;

Load Up Break Point Hot 1 & 2;

Load Up Break Point Warm 1 & 2;

Load Up Break Point Cold 1 & 2;

Soak Time Hot 1 & 2;

Soak Time Warm 1 & 2;

Soak Time Cold 1 & 2;

Soak Time Trigger Point Hot 1 & 2;

Soak Time Trigger Point Warm 1 & 2; and

Soak Time Trigger Point Cold 1 & 2.

* + - * 1. Each segment of the piecewise linear load up trajectory for the Generator Unit which is identified by start MW, end MW, rate in MW/min and the time from start MW to end MW.
			1. The ramp up trajectory of a Generator Unit is a piecewise linear curve that describes the theoretical Output of a Generator Unit over time from Registered Minimum Stable Generation to the Maximum Generation for the Generator Unit determined by:
				1. The following Technical Offer Data:

Maximum Generation;

Registered Minimum Stable Generation;

Ramp Up Rates 1, 2, 3, 4 & 5;

Ramp Up Break Point 1, 2, 3 & 4;

Dwell Time Up 1, 2 & 3; and

Dwell Time Up Trigger Point 1, 2 & 3.

* + - * 1. Each segment of the piecewise linear ramp up trajectory for the Generator Unit which is identified by start MW, end MW, rate in MW/min and the time from start MW to end MW.
			1. The ramp down trajectory of a Generator Unit is a piecewise linear curve that describes the theoretical Output of a Generator Unit over time from the Maximum Generation for the Generator Unit to Registered Minimum Stable Generation determined by:
				1. The following Technical Offer Data:

Maximum Generation;

Registered Minimum Stable Generation;

Ramp Down Rate 1, 2, 3, 4 & 5;

Ramp Down Break Point 1, 2, 3 & 4;

Dwell Time Down 1, 2 & 3; and

Dwell Time Down Trigger Point 1, 2 & 3.

* + - * 1. Each segment of the piecewise linear ramp down trajectory for the Generator Unit which is identified by start MW, end MW, rate in MW/min and the time from start MW to end MW.
			1. The deloading trajectory of a Generator Unit is a piecewise linear curve that describes the theoretical Output of a Generator Unit over time from Registered Minimum Stable Generation to 0MW determined by:
				1. The following Technical Offer Data:

Registered Minimum Stable Generation;

0MW;

Deloading Rate 1 & 2; and

Deload Break Point.

* + - * 1. Each segment of the piecewise linear deloading trajectory for the Generator Unit which is identified by start MW, end MW, rate in MW/min and the time from start MW to end MW.
	1. Create Instruction Profiles
		+ 1. The Instruction Profile function calculates a piecewise linear trajectory over time, for each Dispatch Instruction, taking into account a subset of the Generator Unit’s input data listed in paragraphs 9 to 16 with the following criteria:
				1. In order to derive Dispatch Quantities (qDuoh(t)) for each Generator Unit, u, for each Bid Offer Acceptance, o, in Period, h, the following profiles shall be created:

Physical Notification Instruction Profile using input data in paragraphs 9 to 14; and

Pseudo Instruction Profile using input data in paragraphs 9 to 13 plus paragraphs 15 to 16.

* + - * 1. In order to derive Dispatch Quantities (QDuγ) for each Generator Unit, u, in Imbalance Settlement Period, γ, for the purpose of Undelivered Quantity calculation and Uninstructed Imbalance calculation, an Uninstructed Imbalance Instruction Profile shall be created using input data in paragraphs 10 to 13.
			1. Each section of the piecewise linear Instruction Profile for a Generator Unit shall be produced in sequence by stepping through the sequence of Dispatch Instructions and/or Pseudo Dispatch Instructions, for the Generator Unit as follows:
				1. The MW/Time Co-ordinates from the previous segment of the Instruction Profile shall be retrieved. For the initial segment of the Instruction Profile the MW/Time Co-ordinate is the end MW/Time Co-ordinate from the end segment of the Instruction Profile calculated for the previous Settlement Day.
				2. Where an initial MW/Time Co-ordinate is not available for the Generator Unit from the previous Instruction Profiling run, the Target Instruction Level for the latest Dispatch Instruction for the Generator Unit prior to 00:00 on the Settlement Day shall be used as the initial Instructed Quantity for the Generator Unit.
				3. The active Dispatch Instruction or Pseudo Dispatch Instruction shall be identified using the MW/Time Co-ordinates from the previous segment of the Instruction Profile and the Instruction Effective Time that corresponds to that Dispatch Instruction or Pseudo Dispatch Instruction.
				4. The active Dispatch Instruction or Pseudo Dispatch Instruction shall be validated by the Market Operator using the MW/Time Co-ordinates from the previous segment of the Instruction Profile, the Target Instruction Level, the Instruction Code and Instruction Combination Code using the rules specified in Table 8 and Table 9.

**Table 8 – Instruction Profiling Validation Rules for Generator Units that are not Pumped Storage Units or Battery Storage Units**

| **Instructed Quantity from previous segment of Instruction Profile**  | **Instruction Code for active Dispatch Instruction or Pseudo Dispatch Instructions** | **Target Instruction Level** | **Action** |
| --- | --- | --- | --- |
| 0 | SYNC | Null | Set Target Instruction Level of accompanying Dispatch Instruction having Instruction Code MWOF to Registered Minimum Stable Generation. |
| 0 | SYNC | < Registered Minimum Stable Generation | Set Target Instruction Level of accompanying Dispatch Instruction having Instruction Code MWOF to Registered Minimum Stable Generation. |
| 0 | MWOF | 0 | Ignore Dispatch Instruction. |
| 0 | MWOF | > 0 | Use Cold Start Up Operating Characteristics. |
| 0 | DESY |  | Ignore Dispatch Instruction. |
| >0 | SYNC |  | Ignore Dispatch Instruction. |
| >0 | MWOF | 0 | Profile to zero. |
| >0 | DESY | >0 | Profile to MWOF(0). |
| 0 | TRIP |  | Ignore Dispatch Instruction. |
| Any | PSYN | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PSYN | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to the specified SYNC Target Instruction Level |
| Any | PMWO | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PMWO | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to the specified SYNC Target Instruction Level |
| Any | PDES | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PDES | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to the specified DESY Target Instruction Level |
| Any | PMXN | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PMXN | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to the specified MXON Target Instruction Level |
| Any | PMXF | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PMXF | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to the specified MXOF Target Instruction Level |
| Any | POFF | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | POFF | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to 0MW |
| Any | PCOD | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PCOD | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to preceding Target Instruction Level |
| Any | PISP | qFPNuh(t) | Profile to qFPNuh(t) |
| Any | PISP | Null or <> qFPNuh(t) | Maintain the Generator Unit Output to preceding Target Instruction Level |

**Table 9 – Instruction Profiling Validation Rules for Pumped Storage Units and Battery Storage Units**

| **Instructed Quantity from previous segment of Instruction Profile** | **Instruction Code for active Dispatch Instruction** | **Instruction Combination Code** | **Action.** |
| --- | --- | --- | --- |
| 0 | SYNC | n/a | Profile to Instructed Quantity. |
| 0 | MWOF(0)  | n/a | Ignore Dispatch Instruction. |
| 0 | DESY | n/a | Ignore Dispatch Instruction. |
| 0 | GOOP | SCP | Ignore Dispatch Instruction. |
| 0 | GOOP | SCT | Ignore Dispatch Instruction. |
| 0 | GOOP | PUMP | Profile to MWOF(Pumping Capacity or Battery Storage Capacity, as applicable). |
| > 0 | SYNC | n/a | Ignore Dispatch Instruction. |
| > 0 | MWOF(0) | n/a | Profile to zero. |
| > 0 | GOOP | PGEN | Ignore Dispatch Instruction. |
| > 0 | GOOP | PUMP | Profile to MWOF(Pumping Capacity or Battery Storage Capacity, as applicable). |
| < 0 | SYNC | n/a | Ignore Dispatch Instruction. |
| < 0 | MWOF(0) | n/a | Profile to zero. |
| < 0 | GOOP | PUMP | Ignore Dispatch Instruction. |
| < 0 | MWOF(> 0) | n/a | Profile to zero, then profile to Target Instruction Level associated with MWOF Instruction Code. |
| 0 | MWOF(> 0) | n/a | Profile to Target Instruction Level associated with MWOF Instruction Code. |
| < 0 | GOOP MWOF (0)  | PGEN | Set Target Instruction Level associated with MWOF Instruction Code to Registered Minimum Stable Generation. Create PPGE Pseudo Dispatch Instruction in accordance with the GOOP PGEN entry of Table 3. |
| < 0 | GOOP MWOF(NULL) | PGEN | Set Target Instruction Level associated with MWOF Instruction Code to Registered Minimum Stable Generation. |
| < 0 | GOOP MWOF(NOT= (0 OR NULL)) | PGEN | Profile to zero, then profile to Target Instruction Level associated with MWOF Instruction Code. |
| 0 | TRIP | n/a | Ignore Dispatch Instruction. |
| Any | GOOP | PGEN | maintain the Generator Unit Output to the specified PGEN Target Instruction Level until next Dispatch Instruction or Pseudo Dispatch Instruction;then adjust Target Instruction Level to Final Physical Notification Quantities. |

* + - 1. The Warm Cooling Boundary, Hot Cooling Boundary, the Instructed Quantity from the previous segment of the piecewise linear Instruction Profile and the Target Instruction Level for the current Dispatch Instruction shall be used to determine the appropriate operating mode of the Generator Unit. (The normal operating modes for a synchronised Generator Unit are load up mode, ramp up mode, ramp down mode and deload mode).
			2. The appropriate segment from the piecewise linear Operating Trajectory shall be selected.
			3. Where a Dispatch Ramp Up Rate accompanies a Dispatch Instruction, the Dispatch Ramp Up Rate shall be used in place of the Ramp Up Rates submitted as part of Technical Offer Data in the Ramp Up Operating Trajectory for the Generator Unit.
			4. Where a Dispatch Ramp Down Rate accompanies a Dispatch Instruction the Dispatch Ramp Down Rate shall be used in place of the Ramp Down Rates submitted as part of Technical Offer Data in the Ramp Down Operating Trajectory for the Generator Unit.
			5. The MW/Time Co-ordinates for the current segment of the piecewise linear Instruction Profile shall be calculated based on the MW/Time Co-ordinates from the previous segment of the Instruction Profile, the Instruction Code, the Instruction Combination Code, the Target Instruction Level, and the appropriate segment from the piecewise linear Operating Trajectory and the Imbalance Pricing Period and Imbalance Settlement Period Boundaries subject to the following rules:
				1. In the case of a Dispatch Instruction having a GOOP Instruction Code and PUMP Instruction Combination Code, the Instructed Quantity for a Pumped Storage Unit or Battery Storage Unit will remain at the specified Target Instruction Level until a DESY Instruction Code is issued at which time the Instructed Quantity will go instantaneously to 0MW.
				2. The MW/Time Co-ordinates for a Dispatch Instruction having a GOOP Instruction Code and SCT Instruction Combination Code will be determined in the same manner as if a Dispatch Instruction having a MWOF Instruction Code and a very low positive Target Instruction Level were issued.
				3. A Dispatch Instruction having a GOOP Instruction Code and a SCP Instruction Combination Code shall have no actual effect on the Instruction Profile of the Generator Unit except that a PUMP Instruction Code may follow.
				4. The Instructed Quantity at the Instruction Effective Time specified with the Dispatch Instruction having a TRIP Instruction Code will be zero. Ramp Rates, Deloading Rates and Dwell Times will be ignored in the calculation of the Instruction Profile.
				5. The default Instructed Quantity for a Wind Power Unit or Solar Power Unit or a Generator Unit which has Priority Dispatch and which is not Dispatchable, shall be set to its Final Physical Notification Quantity (qFPNuh(t)). Where a CURL and/or a LOCL Instruction Combination Code is issued for the Generator Unit, a Physical Notification Instruction Profile shall be created for each Instruction Combination Code type. When a CRLO Dispatch Instruction is issued, any preceding issued CURL Dispatch Instructions shall be deemed to be no longer applicable, and when a LCLO Dispatch Instruction is issued, any preceding issued LOCL Dispatch Instructions shall be deemed to be no longer applicable. For the purposes of the Physical Notification Instruction Profile the Instructed Quantity shall be the minimum of the Outturn Availability of the Generator Unit and the Target Instruction Level of the latest Dispatch Instruction of that Instruction Combination Code type effective from the Instruction Effective Time of that Dispatch Instruction, and for the purposes of the Uninstructed Imbalance Instruction Profile the Instructed Quantity for the Generator Unit shall be the minimum of the Outturn Availability of the Generator Unit and the Target Instruction Levels of all Dispatch Instructions issued for the Generator Unit. Where Dispatch Instructions are deemed to be no longer applicable, the Instructed Quantity of the Physical Notification Instruction Profile relating to those Dispatch Instructions shall be the minimum of the Instructed Quantity of the latest Dispatch Instruction still applicable and the default Instructed Quantity. Ramp Up and Ramp Down Rates, Load Up Rates and Deloading Rates are assumed to be infinite (creating stepwise linear curves), and Dwell Times and Soak Times are assumed to have a value equal to zero, in the calculation of the Instruction Profile.
				6. The Target Instruction Level for a Generator Unit with a Dispatch Instruction having a MXON Instruction Code shall be the Short Term Maximisation Capability. The Instruction Profile shall be calculated from the last Ramp Up Rate specified for the Generator Unit.
				7. The Target Instruction Level for a Generator Unit with a Dispatch Instruction having a MXOF Instruction Code shall be the Target Instruction Level associated with the last Dispatch Instruction having a MWOF Instruction Code. The Instruction Profile shall be calculated from Ramp Down Rate 1 for the Generator Unit.
			6. A Lag Time shall be applied when defining the MW/Time Co-ordinates for all Dispatch Instructions except Dispatch Instructions having SYNC, TRIP or FAIL Instruction Codes. No Lag Time shall apply to Pseudo Dispatch Instructions. The Lag Time shall be included in the Instruction Profile to account for the time required for a Generator Unit to make the control adjustments necessary to implement a Dispatch Instruction. The Lag Time shall be set to 0.
	1. Calculate Dispatch Quantity for Uninstructed Imbalance Calculation
		+ 1. The Dispatch Quantity (QDuγ) for a Generator Unit, u, shall be calculated as a time weighted MWh value for the Generator Unit for each Imbalance Settlement Period, set to be equal to the calculated time-weighted area per Imbalance Settlement Period between the piecewise linear Uninstructed Imbalance Instruction Profile for the Generator Unit and 0 MW. Areas calculated between the piecewise linear Uninstructed Imbalance Instruction Profile with negative MW values are negative.
			2. The Dispatch Quantity (QDuγ) for Pumped Storage Units in Pumping Mode and Battery Storage in Charging Mode shall be calculated as set out in Paragraph 39.
1. A Dispatch Instruction with a SYNC Instruction Code is accompanied by a Dispatch Instruction having a MWOF Instruction Code and an Instructed Quantity greater than or equal to Registered Minimum Stable Generation. [↑](#footnote-ref-2)
2. A Dispatch Instruction with a DESY Instruction Code is accompanied by a Dispatch Instruction having a MWOF Instruction Code and an Instructed Quantity of 0MW [↑](#footnote-ref-3)