REACTIVE POWER MARKET

OBLIGATORY AND ENHANCED REACTIVE POWER SERVICES

INVITATION TO TENDER AND GUIDANCE NOTES FOR THE COMPLETION OF TENDERS

FOR REACTIVE POWER MARKET AGREEMENTS
COMMENCING 1 October 2025

July 2025

National Energy System Operator
Faraday House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

PREFACE

A. Relevant Dates

The relevant dates associated with this Tender Round 56 are set out in Section 3 of this document in full. The Market Day (the deadline for the submission of Tenders) is 17:00 hours on Friday 15 August 2025.

B. Documentation

This document forms part of the Invitation to Tender (ITT) information and should be read in conjunction with Schedule 3, Part I to the Connection and Use of System Code ("CUSC Schedule 3"). The Invitation to Tender (ITT) information incorporates the following additional documents:

- Methodology for the Calculation of Reactive Power Capability Data – Issue 18
- Tender Sheets and Certificate of Bona Fide Tender
- Specimen Reactive Market Ancillary Services Agreement (RMASA):
  - One for Steam Plant
  - One for CCGT Plant

The above listed documents that form the Invitation to Tender (including this one) are referred to as the "Documentation".

Further information

Enhanced reactive power service (ERPS) | National Energy System Operator

C. Contracting Entity

National Energy System Operator Limited ("The Company") have published this documentation in accordance with CUSC Schedule 3, the assessment of Tenders will be undertaken by The Company and The Company will enter into all Market Agreements with successful Tenderers.

D. Terminology

The Documentation makes reference to various technical and industry-related terms and phrases. Registered Capacity shall have the meaning as specified in the Grid Code. Other definitions, save where otherwise expressly defined in the Documentation, shall have the meanings set out or referred to in the Connection and Use of System Code ("the CUSC"). Furthermore, in this Documentation, "Grid Code Plus Enhanced Reactive Power Service" means

the Commercial Ancillary Service more particularly defined in sub-Paragraph 1.2(a) of CUSC Schedule 3.

For the avoidance of doubt, terms and expressions found in the Grid Code have the same meanings, interpretations and constructions in the Documentation.

E. Default Payment Arrangements

In accordance with the provisions of CUSC Schedule 3, all relevant Users with BM Units have Mandatory Services Agreements to incorporate the default payment arrangements for the Obligatory Reactive Power Service ("ORPS"). Relevant Users with BM Units which are not operational but wishing to respond to this Invitation to Tender are required to amend or conclude a Mandatory Services Agreement in accordance with CUSC Schedule 3 before a Market Agreement can be entered into.

F. Reactive Power Attachment

It is necessary for all Users, prior to the submission of a Tender, to agree with The Company the Reactive Power capability of a BM Unit at Nominated Registered Capacity at the Commercial Boundary. These values are agreed in writing and set out in a Reactive Power Attachment (the generic Reactive Power Attachment is shown in Appendix C of this document - this form should be completed and returned to The Company prior to submitting your Tender) **not later than one week prior to Market Day**. Further information on this requirement is also included in Section 4 of the Methodology for Calculation of Reactive Power Capability Data – Issue 18, which forms part of the Documentation. It is vital that the data in the attachment and associated Mandatory Services Agreement is consistent with the latest Grid Code DRC data submission. If the data is not consistent The Company reserves the right not to proceed to contract. Users wishing to submit tenders with respect to Power Park Modules or DC Converters should contact the Company for guidance.

G. Disclaimer and Tenderers' Responsibility

The information supplied with, contained in, or referred to in the Documentation, and all other information relating to the Obligatory Reactive Power Service, the Enhanced Reactive Power Services and any Market Agreement, which is provided by The Company at any time, whether before or after the date hereof, is given in good faith. However, no warranty,

representation or other obligation or commitment of any kind is given by The Company, their employees or advisors as to the accuracy or completeness of any such information or that there are not matters material to the arrangements and matters referred to therein other than is contained or referred to in such information. Neither the Company, nor their employees or advisors shall be under any liability for any error or misstatement or as a result of any failure to comment on any information provided by The Company or the recipient of the Documentation or any other person or any answers to any questions or for any omission and none of such information shall constitute a contract or part of a contract.

Tenderers submitting alternative payment arrangements for the Obligatory Reactive Power Service and terms for any Enhanced Reactive Power Service shall satisfy themselves of the accuracy and completeness of any information they may use in preparing their Tenders, whether such information is provided by The Company or comes from any other source. The Company, its advisors and any other person responsible for production of any information to a Tenderer do not accept any duty of care to the Tenderer. It is the duty and responsibility of a Tenderer to ensure that it takes into account all considerations relating to the Tender and the entering into of a Market Agreement.

Note: The Company reserves the right not to proceed with any Tenders or proposals made in response to the Documentation.

Contents

1. BACKGROUND TO SERVICES

1.1 Obligatory Reactive Power Service

1.1.1 The Obligatory Reactive Power Service is a Mandatory Ancillary Service with two essential components – the provision of a minimum Reactive Power capability and the making available of that capability to The Company.

1.1.2 The capability component of the Obligatory Reactive Power Service is the minimum Reactive Power capability required of a Generating Unit, Power Park Module or DC Converter under and in accordance with the Connection Conditions of the Grid Code, most particularly CC6.3.2. A User therefore does not provide the Obligatory Reactive Power Service from a Generating Unit, Power Park Module or DC Converter that is compliant with Grid Code CC6.3.2 where compliance is not obligatory for that User in respect of that Generating Unit, Power Park Module or DC Converter.

1.1.3 The second component of the Obligatory Reactive Power Service – the making available of the capability to The Company to instruct – is typically provided by Generating Units, Power Park Modules or DC Converters in accordance with the Balancing Codes of the Grid Code. However, it may be provided by other Plant, specifically Small Independent Generating Plant, where the User and The Company agree terms for the provision of suitable metering and communication facilities, including the ability for The Company to obtain relevant technical, planning and other data.

1.1.4 The Obligatory Reactive Power Service does <u>not</u> include the provision of Reactive Power capability from Synchronous Compensation or from static compensation equipment.

1.1.5 The Obligatory Reactive Power Service is more particularly described in sub-Paragraph 1.1 of CUSC Schedule 3.

1.2 Enhanced Reactive Power Services

1.2.1 Enhanced Reactive Power Service is the term given to describe a range of Ancillary Services comprising any Reactive Power capability, other than by provision of the Obligatory Reactive Power Service, which is capable of being made available to, and utilised by, The

Company for the purposes of voltage support on the National Electricity Transmission System.

1.2.2 Typically, an Enhanced Reactive Power Service will comprise the Reactive Power capability of a Generating Unit, Power Park Module or DC Converter which a User may agree to provide in excess of that which it is obliged to provide as the Obligatory Reactive Power Service under and in accordance with the Connection Conditions of the Grid Code. This type of Enhanced Reactive Power Service is referred to in this document as the "Grid Code Plus Enhanced Reactive Power Service".

1.2.3 An Enhanced Reactive Power Service may also comprise the provision of Reactive Power capability from Synchronous Compensation or from static compensation equipment, or indeed the provision or enhancement of Reactive Power capability from any other Plant or Apparatus which can generate or absorb Reactive Power. The only requirement is that the capability is capable of being made available to, and utilised by, The Company for the purpose of voltage support on the National Electricity Transmission System.

1.2.4 The purpose of the Tender process described in this document, aside from enabling Users to offer alternative payment arrangements for the Obligatory Reactive Power Service, is to enable Users or any other person to offer terms for the provision of an Enhanced Reactive Power Service.

1.2.5 The Enhanced Reactive Power Service is more particularly described in sub-Paragraph 1.2 of CUSC Schedule 3.

2. REACTIVE POWER CAPABILITY REQUIREMENT INDEX

2.1 The table in Appendix A provides an indication of the reactive requirement from Generators in each of the zones defined in the diagram set out in Appendix B. These requirements are based on the historic need for Reactive Power in these zones and any planned changes to the National Electricity Transmission System or the generation and demand connected to it that are likely to affect the zone's reactive requirement.

2.2 The bulk Leading and Lagging reactive values indicate the maximum requirement for Reactive Power when there are no unplanned outages affecting either the National Electricity Transmission System or generation. The regulating values refer to the additional capability required to be held in reserve for use in the event of an unplanned event such as the tripping of a circuit or the loss of a Generator. The regulating values are given for Lagging capability only.

2.3 The values given are on a scale from 0 to 10. A value of 10 implies that 100% of the reactive capability in a zone is needed. This capability is split between the bulk Lagging and regulating values, so that the total cannot be greater than 10. For example, if in a zone the bulk Lagging value is 5 and the regulating value is 3, this indicates that 80% capability is required in that zone with 50% of the capability required for normal operation and the other 30% required in the event of a system incident.

2.4 It should be noted that the information provided is **indicative only**. Accuracy is a function of several factors such as actual power flows across the systems and network topology.

3. EXPLANATION OF THE TENDER PROCESS PLUS TIMESCALES

The provisions of CUSC Schedule 3 set out the overriding requirements with regard to the procedure for entering into Market Agreements, and in the event of any conflict or inconsistency between the provisions of this Invitation to Tender and the provisions of CUSC Schedule 3, the latter shall prevail.

3.1 Relevant Dates

3.1.1 The Tender Period will commence on the date of issue of this Invitation to Tender and will end on the Market Day.

3.1.2 The end of the Market Day, being the deadline for the submission of Tenders, will be 17:00 hours on Friday 15 August 2025.

3.1.3 The Company will use reasonable endeavours to announce the results of its evaluation process and selection of Tenders by Friday 12 September 2025.

3.1.4 The Contract Start Day for the commencement of Market Agreements will be 00:00 hours on 01 October 2025.

3.2 Submission of Tenders

During the Tender Period, an interested party may submit to The Company:-

(a) in relation to any Generating Unit, Power Park Module or DC Converter providing the Obligatory Reactive Power Service, prices for and Capability Breakpoints relating to the provision thereof; or

(b) in relation to that Generating Unit, Power Park Module or DC Converter, a Tender for provision of the Grid Code Plus Enhanced Reactive Power Service and/or any other enhancement of Reactive Power capability from that Generating Unit; and/or

(c) in relation to any other Generating Unit, Power Park Module or DC Converter or other Plant and Apparatus, a Tender for provision of any other Enhanced Reactive Power Service, in each case in accordance with this Section 3 and the general requirements set out in Part A of Section 4 of this document.

All such submissions are referred to in this document as Tenders, and Tenderers shall be construed accordingly.

3.3 Tenders relating to the Obligatory Reactive Power Service and for provision of the Grid Code Plus Enhanced Reactive Power Service

3.3.1 All Tenders submitted by Users which comprise:-

(a) prices for and Capability Breakpoints relating to the provision of the Obligatory Reactive Power Service; and

(b) terms for the provision of the Grid Code Plus Enhanced Reactive Power Service,

shall be completed in accordance with the further requirements set out in Part B of Section 4 of this document and on the basis that payment will be determined in respect of each Settlement Period in

accordance with the formulae and other provisions set out or referred to in Appendix 2 of CUSC Schedule 3.

3.3.2 Each Tender comprising prices for and Capability Breakpoints relating to the provision of the Obligatory Reactive Power Service shall be submitted on the basis that The Company may only select all (and not some) of the prices and Capability Breakpoints comprised therein.

3.3.3 Save where a Tender expressly provides to the contrary, each Tender comprising terms for the provision of an Enhanced Reactive Power Service shall be treated as having been submitted on the basis that The Company may select all or part only of the Reactive Power capability comprised therein (which, in the case of the Grid Code Plus Enhanced Reactive Power Service, shall mean all or part only of the enhanced capability comprised therein).

3.4 Other Tenders

Where any User wishes to submit a Tender for an Enhanced Reactive Power Service other than as described in Section 3.3 (including a Tender comprising terms for the provision of an Enhanced Reactive Power Service from Synchronous Compensation or static compensation equipment) then:-

(a) where the Tender is in respect of a Generating Unit providing the Obligatory Reactive Power Service, the Tender shall be completed in accordance with the further requirements set out in Section 4.2 of this document; and

(b) any User wishing to submit such a Tender in respect of other plant and apparatus will be required to agree with The Company terms for the provision of suitable metering and communication facilities, incorporating the ability for The Company to obtain relevant technical, planning and other data necessary in connection therewith; and

(c) in all other cases, the User is requested to contact The Company for guidance before submitting a Tender.

3.5 Provisions applicable to all Tenders

3.5.1 In submitting a Tender, each Tenderer shall be deemed to have undertaken to The Company to perform each of the obligations set out in the Documentation insofar as applicable to it.

3.5.2 All Tenders shall be submitted in respect of periods of whole calendar months, to be not less than 12 consecutive months and in multiples of six months, commencing on the Contract Start Day. Save where a Tender expressly provides to the contrary, a Tender (whether in relation to the Obligatory Reactive Power Service or an Enhanced Reactive Power Service) shall be treated as having been submitted on the basis that The Company may select any or all of the consecutive six-month periods so tendered, subject to a minimum period of twelve consecutive months and in multiples of six month periods thereafter, commencing on the Contract Start Day.

3.5.3 The Company shall use reasonable endeavours to evaluate and select Tenders by the date specified in sub-Section 3.1.3.

3.6 Market Agreements

3.6.1 The evaluation of Tenders by The Company, the entering into of Market Agreements and the publication by The Company of information in respect thereof, shall take place in accordance with the provisions of Paragraph 3 of CUSC Schedule 3.

3.6.2 No Market Agreement shall be entered into in relation to any BM Unit providing the Obligatory Reactive Power Service if a Mandatory Services Agreement in relation to that BM Unit has not been amended or concluded giving effect to the default payment arrangements in accordance with, and as more particularly described in, CUSC Schedule 3.

3.6.3 The coming into effect of a Market Agreement in relation to any BM Unit shall suspend and replace for the duration thereof the default payment arrangements for the Obligatory Reactive Power Service (if applicable) contained in the Mandatory Services Agreement in respect of that BM Unit giving effect to the provisions set out or referred to in CUSC Schedule 3. In such a case, with effect from the expiry or termination of the Market Agreement, those default payment arrangements for the Obligatory Reactive Power Service shall cease to be suspended and shall resume with full force and effect.

3.7 General

3.7.1 For operational purposes, The Company requests that each successful Tenderer enters into a Market Agreement by no later than 2 weeks before the Contract Start Day. This is without prejudice to the right contained in sub-Paragraph 3.3(f)(i) of CUSC Schedule 3 for either The Company or the Tenderer to notify the other that it no longer wishes to enter into the Market Agreement if the Market Agreement has not been entered into by the date being 2 weeks prior to the Contract Start Day.

3.7.2 The Company shall not be bound to perform any of its duties and responsibilities under this Section 3 (including with regard to entering into Market Agreements) in the circumstances specified in sub-Paragraph 5.1 of CUSC Schedule 3, and nothing in the Documentation shall preclude The Company from procuring the provision of any Enhanced Reactive Power Service by any other means in order to comply with its obligations under the Act or The Company's Transmission Licence to the extent such compliance cannot reasonably be assured by the performance of its duties and responsibilities under this Section 3.

3.7.3 For the avoidance of doubt, no Tenderer required to provide the Obligatory Reactive Power Service shall be relieved of its obligations under the Grid Code by virtue of participation in the Tender process described in this document, whether or not leading to a Market Agreement in respect of that Generating Unit, Power Park Module or DC Converter.

4. REQUIREMENTS FOR COMPLETION AND SUBMISSION OF TENDERS

4.1 Part A – General Requirements

4.1.1 Tenderers must submit a Tender which is:-

(a) fully compliant with the mandatory qualification criteria set out in Appendix 6 to CUSC Schedule 3;

(b) not accompanied by statements that could be construed by The Company as rendering the Tender equivocal and/or prevent its evaluation on an equal basis with other Tenders;

(c) accompanied by (in all cases) a Certificate of Bona Fide Tender and of Non-Canvassing completed by each Tenderer in the form set out; and

(d) returned by post or by hand **in sealed envelopes clearly marked on the outside as "TENDER FOR REACTIVE POWER MARKET OCTOBER 2025"** to:

Charlene Russell
National Energy System Operator
Faraday House
Warwick Technology Park
Gallows Hill
Warwick
CV34 6DA

or email to **commercial.operation@neso.energy**

to be received not later than 17:00 hours on the Market Day (15 August 2025)

4.1.2 If, in the sole judgement of The Company, a Tenderer has failed to submit a compliant Tender, The Company reserves the right to:-

(a) accept the Tender in question; or

(b) disqualify the Tender in question; and/or

(c) take any other action it deems appropriate in the

circumstances including requesting the Tenderer to amend any parameters other than prices or re-submit a non-compliant Tender in a compliant form.

4.1.3 The Company's decision as to whether or not a Tender is compliant shall be final, and the Tenderer concerned may be notified of such decision without prior consultation or explanation.

4.1.4 In submitting a Tender, a Tenderer acknowledges and agrees that under no circumstances will The Company be liable to pay any costs or expenses incurred by or on behalf of that Tenderer in the course of preparing and/or submitting a Tender.

4.1.5 If any further information is required to assist with the preparation of a Tender, the Tenderer should request this information from The Company. The Company shall be free to copy any further information given in response to specific enquiries to all other Tenderers. No further information will be issued by The Company after the date two weeks prior to the Market Day.

4.1.6 Tenders will be opened by a panel of scrutineers no earlier than 09:00 hours on the next working day following the Market Day.

4.1.7 The Documentation shall be treated as private and confidential. Tenderers must not divulge or release details of the Documentation to any third party, other than on an "In Confidence" basis to those parties having a legitimate need to know, or whom they need to consult for the purpose of preparing the Tender.

4.2 Part B – Further Requirements

The following further requirements of this section 4.2 (and also Sections 4.3 and 4.4) shall apply to all Tenders for prices and Capability Breakpoints relating to provision of the Obligatory Reactive Power Service and Tenders for the Grid Code Plus Enhanced Reactive Power Service, in each case from Generating Units. However, any User wishing to submit a Tender from a Power Park Module or DC Converter is required to contact The Company for guidance.

4.2.1 A Tender must be set out on the relevant tender sheets contained in the document entitled 'Obligatory and Enhanced Reactive Power Services – Tender Sheets and Certificate of Bona Fide Tender (for Reactive Power Market Agreements commencing 1 October 2025) or as may be otherwise specified by The Company and must be completed in accordance with the further requirements of this Section 4.2.

4.2.2 If there are any amendments which Tenderers would require to be made to the Specimen Market Agreement(s), these should be either indicated on a separate sheet or annotated on the Specimen Market Agreement(s) and in each case returned to The Company with the tender sheets. The Company reserves the right not to consider any request made for such amendments after submission of the Tender.

4.2.3 Selection of a Tender to progress to the contract negotiation stage does not imply The Company's acceptance of any amendments and/or additions to the Specimen Market Agreements required or proposed by the Tenderer.

4.2.4 The Company may disqualify a Tender if the Tenderer at any time notifies or otherwise indicates to The Company any change to the capability matrices of any relevant BM Unit as then set out in the relevant Mandatory Services Agreement.

4.2.5 A Tender shall include (inter alia) details of the Reactive Power range, the prices tendered for utilisation and capability and (where appropriate) an indexation mechanism as set out below. Each Tender must relate to one Generating Unit only. Users wishing to tender in relation to more than one Generating Unit must therefore submit separate Tenders for each Generating Unit.

4.3 Capability

4.3.1 In respect of each Generating Unit, a Tenderer must nominate on the tender sheets a Registered Capacity which it anticipates will be the actual Registered Capacity on the Contract Start Day for that Generating Unit (hereafter referred to as "the Nominated Registered Capacity") to be used for the duration of the Market Agreement. All capability data used for the purpose of a Tender must be expressed as the capability of a Generating Unit at the Commercial Boundary and must represent the value of Reactive Power Output which can be

supplied continuously at the Commercial Boundary when the Generating Unit is operating at the Nominated Registered Capacity.

4.3.2 Where the Nominated Registered Capacity is based upon Full Output as set out in the relevant Mandatory Services Agreement, then the Reactive Power capability at the Commercial Boundary equivalent to the Reactive Power capability required to be provided under and in accordance with the Connection Conditions of the Grid Code, shall be derived from the Reactive Power capability at Full Output at the generator stator terminals shown in the relevant Mandatory Services Agreement. The conversion of capability at the generator stator terminals to capability at the Commercial Boundary shall be performed using a standard methodology to be adopted by all Tenderers as set out in the Market Agreement.

4.3.3 Where the Nominated Registered Capacity is not based upon Full Output as set out in the relevant Mandatory Services Agreement, then The Company and the Tenderer shall agree the Reactive Power capability at the equivalent Full Output at the generator stator terminals, and this Reactive Power capability shall then be converted into the equivalent Reactive Power capability at the Nominated Registered Capacity at the Commercial Boundary, equivalent to the Reactive Power capability required to be provided under and in accordance with the Connection Conditions of the Grid Code, using a standard methodology to be adopted by all Tenderers as set out in the Market Agreement.

4.3.4 The Nominated Registered Capacity to be used in the Tender and the corresponding Reactive Power capability, howsoever derived from 4.3.1, 4.3.2 or 4.3.3 above, must be agreed and specified in a document known as the "Reactive Power Attachment". A Reactive Power Attachment must be completed before a Tender can be submitted and Appendix C contains a generic proforma for this purpose.

4.3.5 Unless otherwise expressly indicated by the Tenderer, all Reactive Power capability data specified on the tender sheets must be at the ambient air temperature at which the Reactive Power capability is shown in the relevant Mandatory Service Agreement for the purpose of the default payment arrangements for the Obligatory Reactive Power Service.

4.3.6 In respect of each Generating Unit, all capability data relating to the provision of the Grid Code Plus Enhanced Reactive Power Service must be expressed as the capability of that Generating Unit at the Commercial Boundary across a system voltage range to be specified by the Tenderer in its Tender (or otherwise in accordance with directions given by The Company).

4.3.7 All Reactive Power capability data in respect of a Generating Unit must be expressed as positive, whole numbers in Mvar, with Leading and Lagging capability data distinguished by the subscripts $_{lead}$ and $_{lag}$.

4.3.8 In respect of each Generating Unit, and subject to any directions issued from time to time by The Company with regard to such values, the User must submit at least one Reactive Power capability value and may in addition submit up to a further two Reactive Power capability values (all three being "Tendered Capability Breakpoints"), for both Leading and Lagging Mvar. One of these Tendered Capability Breakpoints, in respect of both Leading and Lagging Mvar, must be equivalent to the minimum Reactive Power capability of a Generating Unit which a User is obliged to provide under and in accordance with the Connection Conditions of the Grid Code (to the nearest whole Mvar) after application of the principles set out in sub-Sections 4.3.1, 4.3.2 and 4.3.3 and agreed in the Reactive Power Attachment. This is illustrated in Figure 1 below:

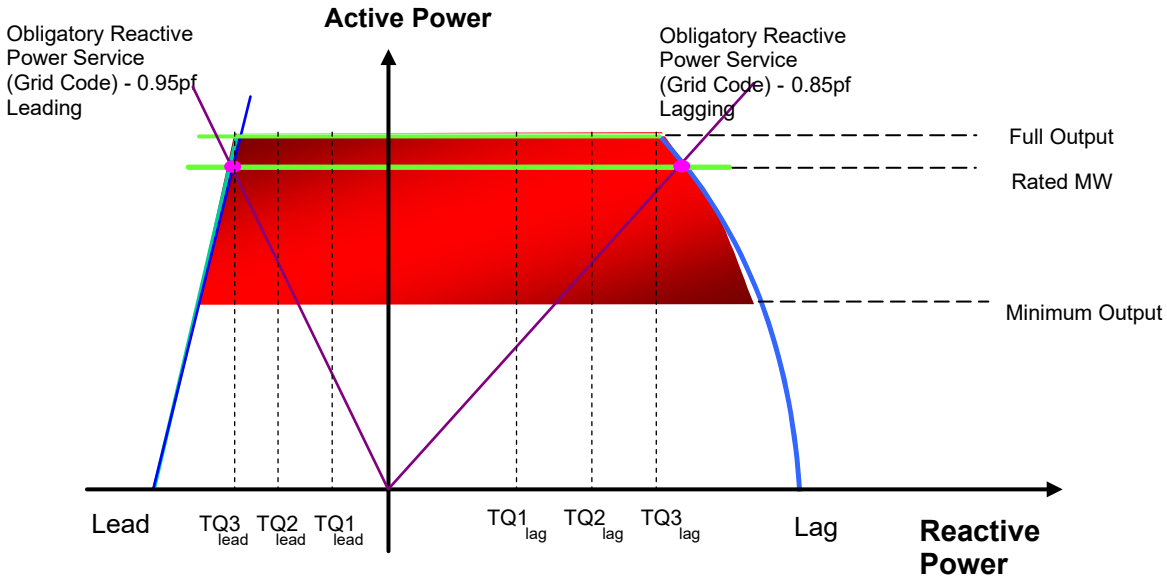


Figure 1: Capability Breakpoints at Full Output for Leading & Lagging Mvar

4.3.9 The Tendered Capability Breakpoints shall be defined for the purposes of the Documentation as TQ1, TQ2, TQ3, for Leading and Lagging Mvars as the case may be, where:-

$$TQ3_{lead} > TQ2_{lead} > TQ1_{lead} > 0$$

and $$TQ3_{lag} > TQ2_{lag} > TQ1_{lag} > 0$$

4.3.10 Where only two Tendered Capability Breakpoints are Tendered, for Leading or Lagging Mvars as the case may be, then the value of TQ3 shall be deemed to be null for the purposes of calculating payments for capability or utilisation and no additional payments for capability will fall due and payable in respect of a Generating Unit for the provision of Reactive Power capability above Tendered Capability Breakpoint TQ2.

4.3.11 Where only one Tendered Capability Breakpoint is Tendered, for Leading or Lagging Mvar as the case may be, then the values of TQ2 and TQ3 shall be deemed to be null for the purposes of calculating payments for capability and utilisation and no additional payments for capability will fall due and payable in respect of a Generating Unit for the provision of Reactive Power capability above Tendered Capability Breakpoint TQ1.

4.3.12 The Reactive Power capability value at zero Mvar (referred to in sub-Section 4.4.1 below as Q0) shall be treated as a Tendered Capability Breakpoint for the purposes of tendering capability and utilisation prices and calculating capability and utilisation payments.

4.4 Prices

4.4.1 In respect of each Tendered Capability Breakpoint, prices submitted by Tenderers must be zero or positive, quoted in pounds sterling to the nearest tenth of a penny and shall otherwise be tendered as described in sub-sections 4.4.2, 4.4.3 and 4.4.4 below. The prices shall be described using the following notation:-

$C1_{lag}$ is the price applicable between Tendered Capability Breakpoints Q0 and $TQ1_{lag}$ including $TQ1_{lag}$

$C2_{lag}$ is the price applicable between Tendered Capability Breakpoints $TQ1_{lag}$ and $TQ2_{lag}$ including $TQ2_{lag}$

$C3_{lag}$ is the price applicable between Tendered Capability Breakpoints $TQ2_{lag}$ and $TQ3_{lag}$ including $TQ3_{lag}$

$C1_{lead}$ is the price applicable between Tendered Capability Breakpoints Q0 and $TQ1_{lead}$ including $TQ1_{lead}$

$C2_{lead}$ is the price applicable between Tendered Capability Breakpoints $TQ1_{lead}$ and $TQ2_{lead}$ including $TQ2_{lead}$

$C3_{lead}$ is the price applicable between Tendered Capability Breakpoints $TQ2_{lead}$ and $TQ3_{lead}$ including $TQ3_{lead}$

where C shall represent CU (see 4.4.2), CA (see 4.4.3) or CS (see 4.4.4), as the case may be.

4.4.2 Utilisation Prices (CU)

(a) Utilisation prices submitted by Tenderers must be:-

(i) quoted in units of £/Mvarh; and

(ii) no greater than £999.999 per Mvarh.

(b) Utilisation prices must not decrease across the Reactive Power capability range, for Leading or Lagging Mvars as the case may be, such that:-

$CU3_{lead} \geq CU2_{lead} \geq CU1_{lead} \geq 0$

$CU3_{lag} \geq CU2_{lag} \geq CU1_{lag} \geq 0$

(c) Utilisation payments shall be made for metered Reactive Power output and shall be calculated in accordance with Appendix 2 of CUSC Schedule 3.

4.4.3 Available Capability Prices (CA)

(a) Available capability prices submitted by Users must be:-

(i) quoted in units of £/Mvar/h; and

(ii) no greater than £999.999 per Mvar/h.

(b) Available capability prices must not decrease across the Reactive Power capability range, for Leading or Lagging Mvars as the case may be, such that:-

$CA3_{lead} \geq CA2_{lead} \geq CA1_{lead} \geq 0$

$CA3_{lag} \geq CA2_{lag} \geq CA1_{lag} \geq 0$

(c) Available capability payments shall be calculated in accordance with
Appendix 2 of CUSC Schedule 3.

4.4.4 Synchronised Capability Prices (CS)

(a) Synchronised capability prices submitted by Tenderers must be:-

(i) quoted in units of £/Mvar/h; and

(ii) no greater than £999.999 per Mvar/h.

(b) Synchronised capability prices must not decrease across the Reactive Power capability range, for leading or lagging Mvars as the case may be, such that;-

$CS3_{lead} \geq CS2_{lead} \geq CS1_{lead} \geq 0$

$CS3_{lag} \geq CS3_{lag} \geq CS1_{lag} \geq 0$

(c) Synchronised capability payments shall be calculated in accordance with Appendix 2 of CUSC Schedule 3.

4.4.5 Where a Tender is submitted in respect of a period which exceeds the minimum 12-month period required by sub-section 3.5.2 of this document, then the Tenderer may submit one mechanism for calculating indexation on an annual basis which shall apply to all prices submitted in the Tender for all subsequent periods of 12 months following the minimum 12 month period to which the Tender applies.

Such mechanism shall be a fixed percentage (which may be positive, zero or negative).

4.5 Other technical information

A Tenderer shall submit with each Tender comprising terms for provision of an Enhanced Reactive Power Service (if offered) the following information:-

(a) for a Grid Code Plus Enhanced Reactive Power Service, details of the capability of the Generating Unit, Power Park Module or DC Converter to provide Reactive Power at the generator stator terminals by reference to the Generator Performance Chart submitted in accordance with OC2.4.2 of the Grid Code, which capability must reasonably reflect the true operating characteristics of that Generating Unit, Power Park Module or DC Converter; and

(b) details of the system voltage range over which the User proposes to make available from the Generating Unit, Power Park Module or DC Converter a Grid Code Plus Enhanced Reactive Power Service (and any restrictions thereto); and

(c) the ambient air temperature at which a Grid Code Plus Enhanced Reactive Power Service is specified, and variations to the Grid Code Plus Enhanced Reactive Power Service in accordance with the ambient air temperature range specified by The Company; and

(d) details, including prices, of any additional services offered as part of an Enhanced Reactive Power Service (not being a Grid Code Plus Enhanced Reactive Power Service); and

(e) any restrictions on The Company selecting part of an Enhanced Reactive Power Service; and

(f) any other information as specified by The Company.

5. BASIS OF PAYMENTS UNDER MARKET AGREEMENTS

The formulae and other provisions set out or referred to in Appendix 2 of CUSC Schedule 3 shall apply to the calculation of payments in respect of Tenders comprising prices for, and Tendered Capability Breakpoints relating to, the Obligatory Reactive Power Service and Tenders comprising terms for the provision of the Grid Code Plus Enhanced Reactive Power Service, in each case in respect of Generating Units.

6. DEFAULT PAYMENT ARRANGEMENTS

In accordance with Appendix 1 of CUSC Schedule 3 the default payment arrangements for the provision of the Obligatory Reactive Power Service are calculated as follows.

The default price is calculated monthly using an indexation factor I_m. The index comprises of:

- 50% weighting of monthly RPI; and
- 50% weighting of a monthly wholesale electricity price index.

The wholesale electricity price index component is calculated using:

- 33.3% weighting of the cumulative over the counter month ahead Petroleum Argus Index.
- 33.3% weighting of the cumulative over the counter month ahead Heren index; and
- 33.3% weighting of the cumulative over the counter month ahead Platts index.

The base period for the wholesale electricity price index is the annual average of the index from October 2002 to September 2003. The baseline for the RPI component is March 2003.

To increase transparency and to remove the uncertainty that such a monthly index introduces to the tender process, the company will be using the following forecast of indices over the period 1 April 2025 to 31 March 2026 for the assessment of reactive tenders:

Six monthly forecasts will be used over the periods:
- Winter 2025/26 (October to March)
- Summer 2026 (April to September)

- Forecast RPI over Winter 2025/26 of **408.5** and Summer 2026 of **412.7** (January 1987 = 100 base)
- Forecast new wholesale electricity price index over Winter 2025/26 of **£83.85**/MWh and Summer 2026 of **£71.50/**MWh (using Seasonal Forward Baseload prices).

Resulting Forecast Default Payment rates are:

- Winter 2025/26 = **£4.949/**MVArh*
- Summer 2026 = **£4.469/**MVArh*

** These forecasts are based on current available data, The Company will communicate updated forecast default payment rates, which shall be utilised for the tender assessment, no later than one week prior to the market day.*

7. GUIDANCE NOTES

These guidance notes should be used in conjunction with the Tender Sheets and Certificate of Bona Fide Tender. These notes are provided to give specific guidance on completing the tender sheets and the small bracketed numbers correspond directly with the equivalent superscript numbers on the tender sheets.

(1) This should be completed, if appropriate, and must relate to the company offering the Reactive Power service.

(2) The registered number and address of the company offering the Reactive Power service should be completed.

(3) The name, address, telephone number, facsimile number and e-mail address of the person responsible for submitting the tender is to be inserted here and will be used by The Company for all correspondence during the Tender and offer process.

(4) Tendered unit ID - The BM Unit ID of the tendered unit should be entered here, and on every sheet where specified.

(5) The duration of the contract tendered must be for a period of whole calendar months, to be not less than twelve and in multiple of six months commencing on the Contract Start Day.

(6) Price Indexation - If the contract duration tendered is for more than 12 months, the Tenderer can submit one mechanism for calculating the indexation of each subsequent twelve-month period. The indexation tendered, shall apply to all prices submitted in the Tender and shall be based on a fixed percentage (positive or negative) - see sub-Section 4.4.5 of this Invitation to Tender and Guidance Notes for Completion of Tenders.

(7) If any restrictions are to be placed on The Company with regard to the selection of the contract duration tendered then Part 2 on tender sheet 2 should be completed by the Tenderer.

(8) If Reactive Power can be provided when not providing Active Power (i.e. the relevant Generating Unit can operate as a Synchronous Compensator) then Part 2 on tender sheet 2 should be completed by the Tenderer.

(9) If the Reactive Power capability range tendered includes an Enhanced Reactive Power Service (e.g. a Grid Code Plus Enhanced Reactive Power Service) then Part 3 on tender sheets 3a, 3b and 3c should be completed by the Tenderer.

(10) Nominated Registered Capacity - The registered capacity of the BM Unit, as envisaged on the Contract Start Day and agreed with The Company in the Reactive Power Attachment should be entered here (refer to sub-Sections 4.3.1 to 4.3.4 of this Invitation to Tender and Guidance Notes for Completion of Tenders).

(11) Capability Breakpoints - Details of the tendered Reactive Power capability Breakpoints at the Commercial Boundary should be entered in this row. Further details of this are outlined in sub-Section 4.3.8 of this Invitation to Tender and Guidance Notes for Completion of Tenders. Furthermore, one of the remaining breakpoints, either TQ2 or TQ3, for both lead and lag, should be equivalent to the Reactive Power capability of the BM Unit, which a User is obliged to provide under the Connection Conditions of the Grid Code. These values must be agreed with The Company in advance via the Reactive Power Attachment - see sub-Sections 4.3.1 to 4.3.4 of this Invitation to Tender and Guidance Notes for Completion of Tenders. If the Tenderer is offering an Enhanced Reactive Power Service, then the TQ2 breakpoints, for both lead and lag, must be equivalent to the maximum Reactive Power capability of the BM Unit.

(12) Available Capability Prices - Prices for Available Capability should be entered here in units of £/Mvar/h and should be no greater than 999.999 £/Mvar/h. The prices for available capability must not decrease across the Reactive Power capability range for both Leading and Lagging Mvars - see sub-Section 4.4.3 of this Invitation to Tender and Guidance Notes for Completion of Tenders.

(13) Synchronised capability prices - Prices for synchronised capability should be entered in this row. These prices should be quoted in units of £/Mvar/h and should be no greater than 999.999 £/Mvar/h. The prices for synchronised capability must not decrease across the Reactive Power capability range for both Leading and Lagging Mvars - see sub-Section 4.4.4 of this Invitation to Tender and Guidance Notes for Completion of Tenders.

(14) Utilisation Prices - Prices for utilisation should be entered in this row. These prices should be quoted in units of £/Mvarh and should be no greater than 999.999 £/Mvarh. The prices for Utilisation must not decrease across

the Reactive Power capability range for both Leading and Lagging Mvars - see sub-Section 4.4.2 of this Invitation to Tender and Guidance Notes for Completion of Tenders. Utilisation payments will be made on metered reactive power.

(15) Any restrictions placed on The Company with regard to the selection of contract duration should be entered here. Otherwise, if a contract in excess of 12 months is offered, The Company may choose any period (provided it be for a minimum of 12 months and in consecutive blocks of 6 months) within the tendered contract duration. For example - if a two year contract is offered and no restrictions are listed, The Company may choose to opt for either a 12, 18 or 24 month contract.

(16) If the relevant BM Unit can operate as a Synchronous Compensator, the conditions when this service can be provided should be outlined here.

(17) If a Leading and/or Lagging Grid Code Plus Enhanced Reactive Power Service is offered, details of the system voltage range (% of system nominal voltage) over which the Tenderer can provide the enhanced service should be entered here, e.g. maximum voltage is 105%, minimum voltage is 94%.

(18) Details of the Leading and/or Lagging Reactive Power capability at the generator stator terminals (LV) for BM Units comprising single BM Units should be entered in this table for each respective MW output. These figures should correspond to the equivalent HV figure offered as "TQ3" breakpoint in Part 1 on tender sheet 1b. The LV figures should provide details of the unit's Reactive Power capability at the generator stator terminals in accordance with the true operating characteristics of the BM Unit and should not take account of any auxiliary loads, trading site demands or generator transformer losses.

(19) If the service tendered is from a CCGT Module, details of the Leading and/or Lagging Reactive Power capability at the generator stator terminals in accordance with the true operating characteristic of each CCGT Unit making up the CCGT Module should be entered in these tables. If the BM Unit has more than six Generating Units, continue on a separate sheet of paper in the same format.

(20) If the Tenderer wishes The Company to consider any additional services as part of an Enhanced Reactive Power Service in its evaluation process, details and prices (if applicable) should be provided here.

(21) If there are restrictions with regard to The Company only being able to select part of an Enhanced Reactive Power Service, details should be provided here. Otherwise, The Company can choose to select just **PART** of any Enhanced Reactive Power Service offered.

(22) The ambient air temperature at which the Enhanced Reactive Power Service is offered, should be entered here.

(23) Details of the tendered Reactive Power service capability at the Commercial Boundary at Nominated Registered Capacity (and at rated stator terminal and nominal system voltage) over the temperature range -10°C to 40°C should be entered in this table.

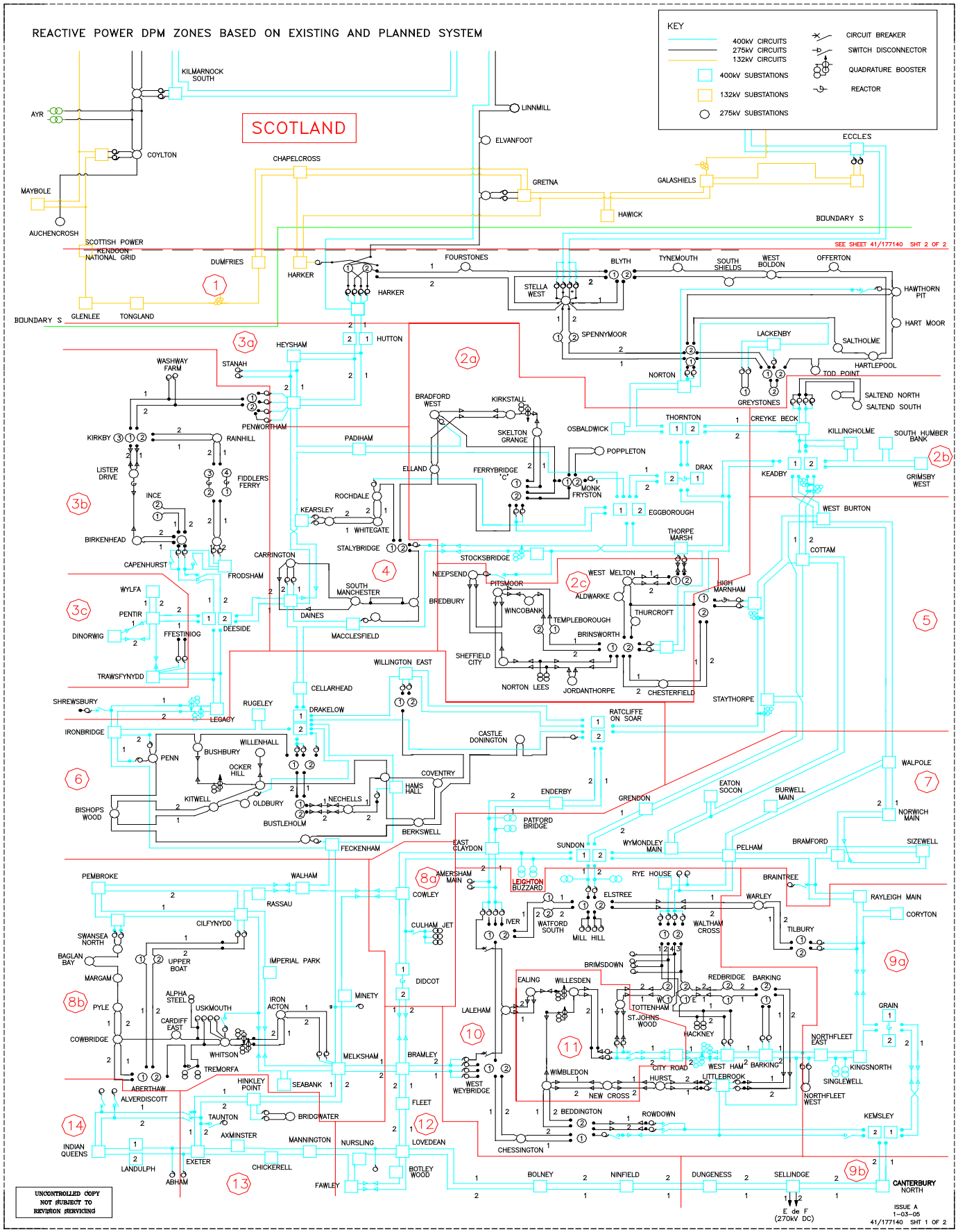
(24) Any further information (if applicable) in relation to the Enhanced Reactive Power Service should be specified here.

APPENDIX A: REACTIVE POWER CAPABILITY INDEX

Zone	Bulk Leading	Bulk Lagging	Regulating
1	1	3	3
2a	3	4	3
2b	2	2	2
2c	-	-	-
3a	4	6	3
3b	4	4	3
3c	5	3	1
4	-	-	-
5	3	4	1
6	3	3	4
7	4	1	5
8a	4	6	3
8b	6	3	2
9a	1	3	1
9b	8	4	3
10	7	5	4
11	-	-	-
12	5	4	3
13	6	5	4
14	5	6	1
Scotland	**4**	5	**5**

** Please Note: This index is based on current available data, The Company will communicate updated indices, which shall be utilised for the tender assessment, no later than one week prior to the market day if amendments occur.*

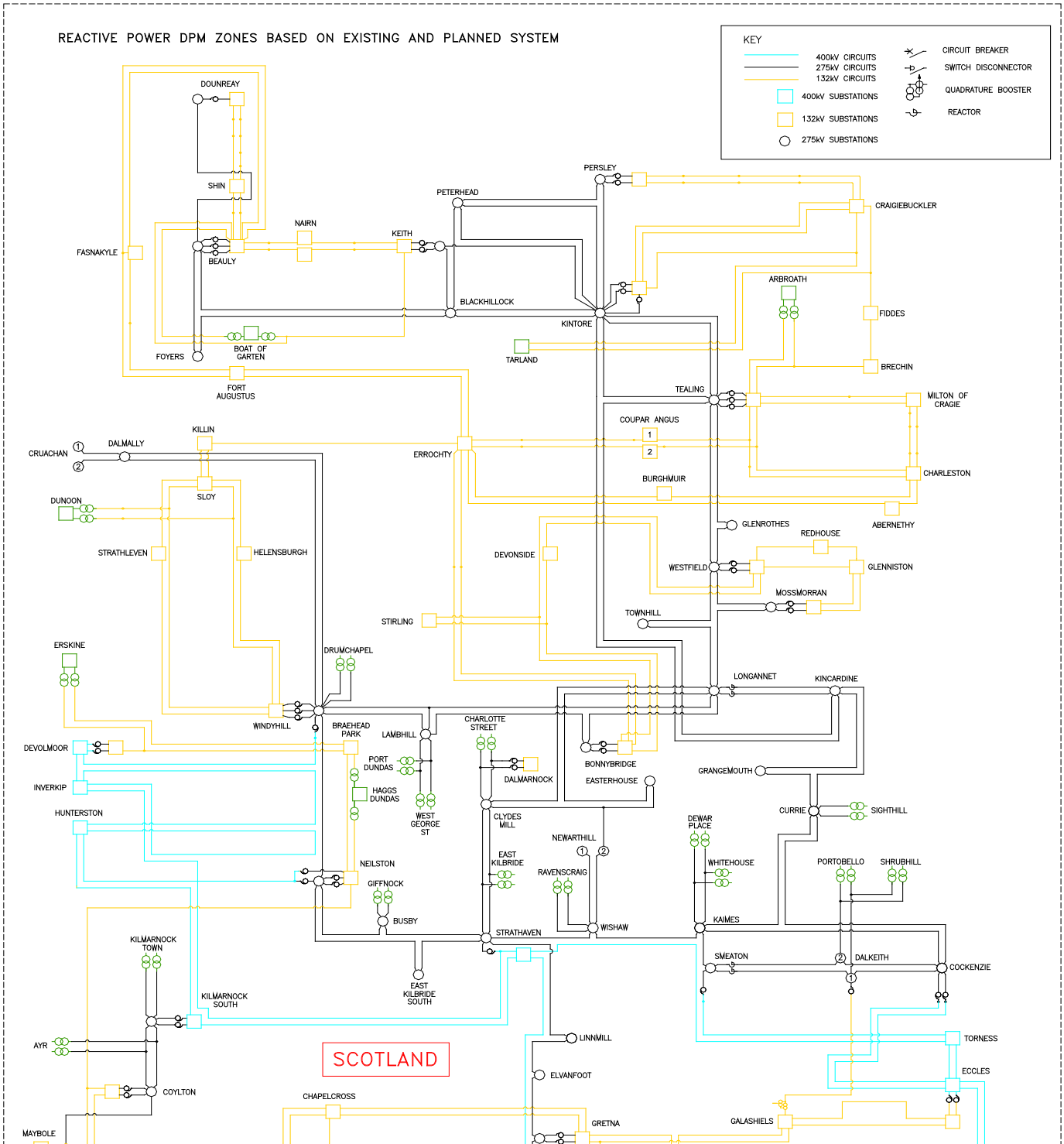
APPENDIX B: REACTIVE POWER CAPABILITY ZONES



APPENDIX C: GENERIC REACTIVE POWER ATTACHMENT

ATTACHMENT

GENERATING UNIT REACTIVE POWER CAPABILITY AT NOMINATED REGISTERED CAPACITY AT COMMERCIAL BOUNDARY



APPENDIX C: GENERIC REACTIVE POWER ATTACHMENT

REACTIVE POWER ATTACHMENT

GENERATING UNIT REACTIVE POWER CAPABILITY AT NOMINATED REGISTERED CAPACITY AT COMMERCIAL BOUNDARY

As outlined in Section 4 of the Invitation To Tender and Guidance Notes For The Completion of Tenders document, to enable submission and evaluation of Tenders for both the Obligatory Reactive Power Service and the Grid Code Plus Enhanced Reactive Power Service, there is, inter alia, a requirement for the Tenderer to agree with The Company (in writing) the Reactive Power capability of the relevant BM Unit at Nominated Genset Registered Capacity and at the Commercial Boundary equivalent to the minimum Reactive Power capability required to be provided under and in accordance with the Connection Conditions of the Grid Code.

The methodology used by The Company in determining this data is explained in detail in the document entitled "Methodology for Calculation of Reactive Power Capability Data – Issue 18.

Provisional figures for the Reactive Power capability at nominated genset Registered Capacity (based on current GRC) and at the Commercial Boundary for each generating unit at Xxxx Power Station are set out in the capability matrices below:

BM Unit No.

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY (at rated stator terminal and nominal system voltage)

TABLE A	LEAD (Mvar)	LAG (Mvar)
AT RATED MW		

REACTIVE POWER CAPABILITY AT GENERATOR STATOR TERMINAL (at rated terminal voltage)

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

BM Unit No.

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY (at rated stator terminal and nominal system voltage)

TABLE A	LEAD (Mvar)	LAG (Mvar)
AT RATED MW		

REACTIVE POWER CAPABILITY AT GENERATOR STATOR TERMINAL (at rated terminal voltage)

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

BM Unit No.

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY (at rated stator terminal and nominal system voltage)

TABLE A	LEAD (Mvar)	LAG (Mvar)
AT RATED MW		

REACTIVE POWER CAPABILITY AT GENERATOR STATOR TERMINAL (at rated terminal voltage)

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

BM Unit No.

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY (at rated stator terminal and nominal system voltage)

TABLE A	LEAD (Mvar)	LAG (Mvar)
AT RATED MW		

REACTIVE POWER CAPABILITY AT GENERATOR STATOR TERMINAL (at rated terminal voltage)

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

OR

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY (at rated stator terminal and nominal system voltage)

TABLE A	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			

EACTIVE POWER CAPABILITY AT GENERATOR STATOR TERMINAL (at rated terminal voltage)

CCGT Unit No. [ ]

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

CCGT Unit No. [ ]

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

CCGT Unit No. [ ]

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT FULL OUTPUT (MW)			
AT MINIMUM OUTPUT (MW)			

REACTIVE POWER CAPABILITY AT HV SIDE OF STEP-UP TRANSFORMER (at rated terminal and nominal system voltage)

SUMMARY TABLE C	RATED MW	LEAD (Mvar)	LAG (Mvar)
CCGT UNIT			

]

OR

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY (at rated stator terminal and nominal system voltage)

TABLE A	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			

REACTIVE POWER CAPABILITY AT GRID ENTRY POINT (ENGLAND AND WALES) OR HV SIDE OF RELEVANT TRANSFORMER (SCOTLAND) OR USER SYSTEM ENTRY POINT (IF EMBEDDED)

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT 50% OF RATED MW			
AT 20% OF RATED MW			
AT BELOW 20% OF RATED MW			
AT 0% OF RATED MW			

OR

REACTIVE POWER CAPABILITY AT COMMERCIAL BOUNDARY [(at rated stator terminal and nominal system voltage)]

TABLE A	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			

REACTIVE POWER CAPABILITY AT NON-SYNCHRONOUS GENERATING UNIT STATOR TERMINAL (at rated terminal voltage)

Power Park Unit: Each

TABLE B	MW	LEAD (Mvar)	LAG (Mvar)
AT RATED MW			
AT 50% OF RATED MW			
AT 20% OF RATED MW			
AT BELOW 20% OF RATED MW			
AT 0% OF RATED MW			

REACTIVE POWER CAPABILITY OF NON-SYNCHRONOUS GENERATING UNITS AT HV SIDE OF STEP-UP TRANSFORMERS (at rated terminal and nominal system voltage)

SUMMARY TABLE C	RATED MW	LEAD (Mvar)	LAG (Mvar)

Please note :

A Tender may only be submitted in relation to any BM Unit providing the Obligatory Reactive Power Service and the Grid Code Plus Enhanced Reactive Power Service when **ALL** capability matrices for that Generating Unit have been agreed with The Company.

Signatory of agreement to above data:

Account Manager on behalf of NATIONAL ENERGY SYSTEM OPERATOR LIMITED)
Dated:-)

On behalf of REACTIVE POWER PROVIDER)
Dated:-)