



**Constraint Management Intertrip Service  
CMIS EC5-Enduring  
Industry Consultation Webinar**

**We will start at 14:05 to allow time for everyone to connect.  
This webinar has been recorded.**

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- Please remain on mute during the webinar
- Videos have been disabled to maximise quality of bandwidth during this webinar
- To submit a query, please use the Q&A functionality that has been activated in teams
- If your query is confidential, please email it directly to the Constraint Management Intertrip Service team:  
[box.cmis@nationalgrideso.com](mailto:box.cmis@nationalgrideso.com)
- This webinar has been recorded, a copy of the recording and the slides will be made available

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# Introduction: Constraint Management Intertrip Service



# 1. Introduction: Constraint Management Intertrip Service (CMIS) (formally known as the Constraint Management Pathfinder)

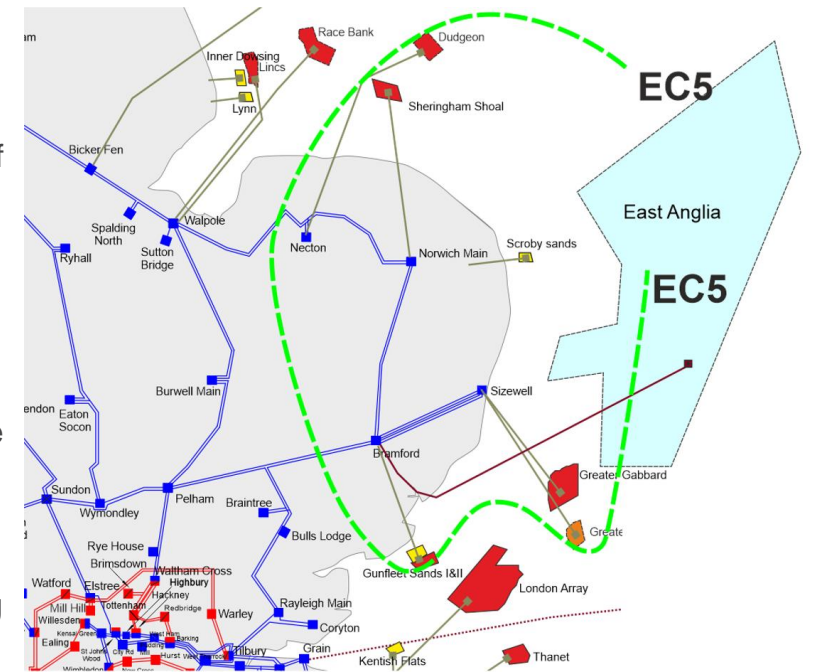
## CMIS EC5-Enduring Tender

The CMIS EC5-Enduring tender aims to reduce network congestion costs in the East Anglian (EC5) region by building post-fault intertrip links between generation across the EC5 region and the East Anglia Operational Tripping Scheme (EAOTS). By doing so, the Electricity National Control Centre (ENCC) can facilitate more power to flow on the existing transmission infrastructure pre-fault, thus reducing the amount of generation being curtailed pre-emptively when the expected flow exceeds the current capability of the circuits. The expected need for the service is from April 2025 – March 2029. We reserve the right to start this service earlier if required, and also extend beyond March 2029 if there is a need to do so.

## Previous CMIS Projects

The ESO has already successfully awarded two previous CMIS tenders that are easing congestion across the B6 Anglo-Scottish boundary. The first of these contracts went live in April 22 and succeeded in saving the consumer **£80m** in constraint costs and 140kt of CO2 in the first 10 months.

Additionally, as the CMIS EC5-Enduring service is planned to begin in April 2025, the ESO is currently tendering for an early start 'interim' EC5 service that is expected to start service at the end of 2023 (until March 2025) and is available to Users that already have a connection to the East Anglia Operational Tripping Scheme.



# Technical Requirements



## 2. Technical Requirements

### Location

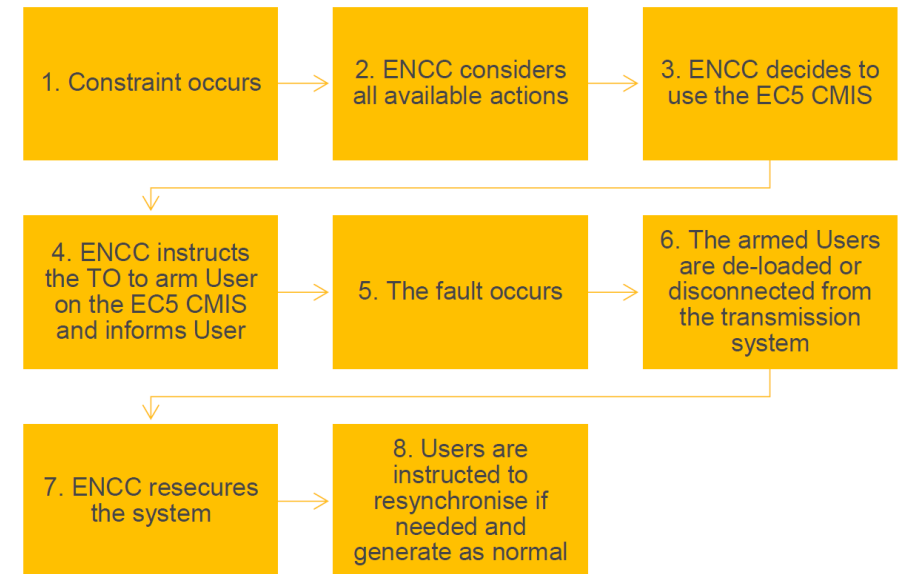
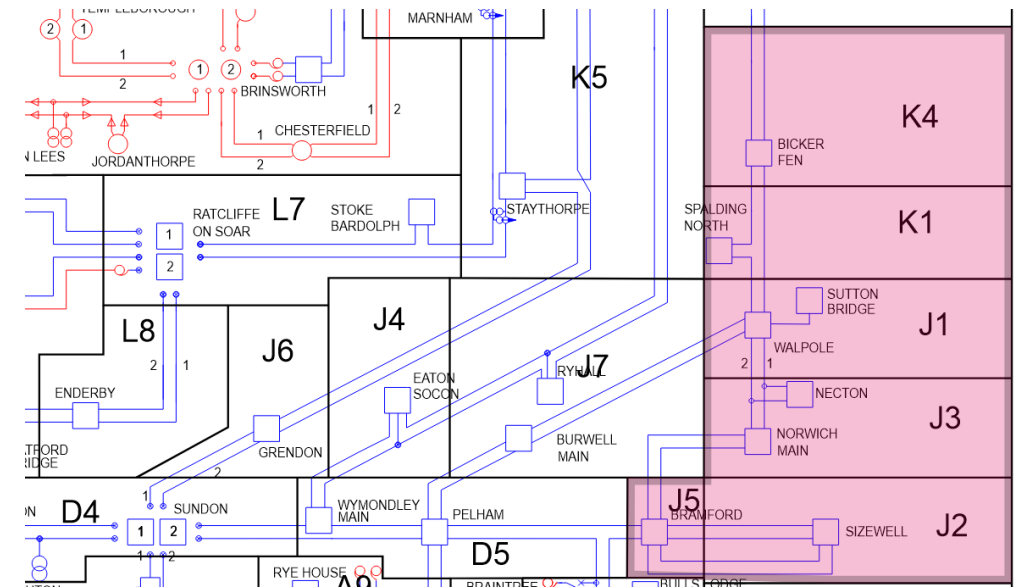
- Connected in the zones K1, K4, J1, J2, J3 and J5 as per the Electricity Ten Year Statement (ETYS) map.

### Arming

- Available to be armed any time when active power is being exported, without prior notice from the ENCC.
- Registered with the ESO BM system as non-aggregated BM unit(s), and provide operation metering.

### Redundancy

- Full system redundancy must be guaranteed by dual communication routes, connections to intertrip initiations, and duplicated circuit breaker trip systems.





## 2. Technical Requirements

### Intertrip commands

- A fast-tripping signal which will disconnect the User from the network within approximately 150ms-200ms from fault inception to circuit breaker open.
- A de-load signal which will instruct the User to reduce its export to 0MW within 10 seconds.

The ESO will select either de-load or fast-tripping when making arming instructions.

The User shall **as a minimum** provide the fast tripping service.

### Availability

- Users must declare to the ESO its unavailability promptly if facing any technical issues or contractual conflicts which would prevent participation in CMIS.
- ESO are exploring an IT solution for the declaration process.

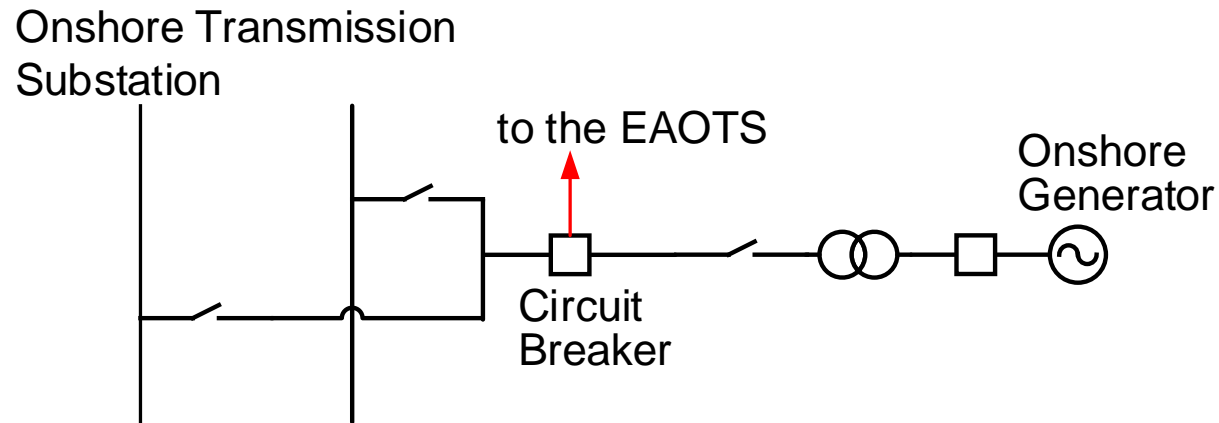
### East Anglia Operational Intertripping Scheme (EAOTS)

- The CMIS EC5-Enduring will, in the first instance, aim to utilise the infrastructure and arrangement of the existing EAOTS.
- During the tender, the User will be required to submit a Construction Quote that will either:
  - a) confirm how the existing EAOTS could be utilised to deliver the CMIS, or propose modifications to the existing scheme, or
  - b) demonstrate new connection works if not connected to the EAOTS.

## 2. Technical Requirements

### Onshore Generation

- The preferred approach for fast tripping is to trip a transmission circuit breaker or a User's circuit breaker connected to a transmission substation busbar.
- Alternative solutions could be provided via a Construction Quote.



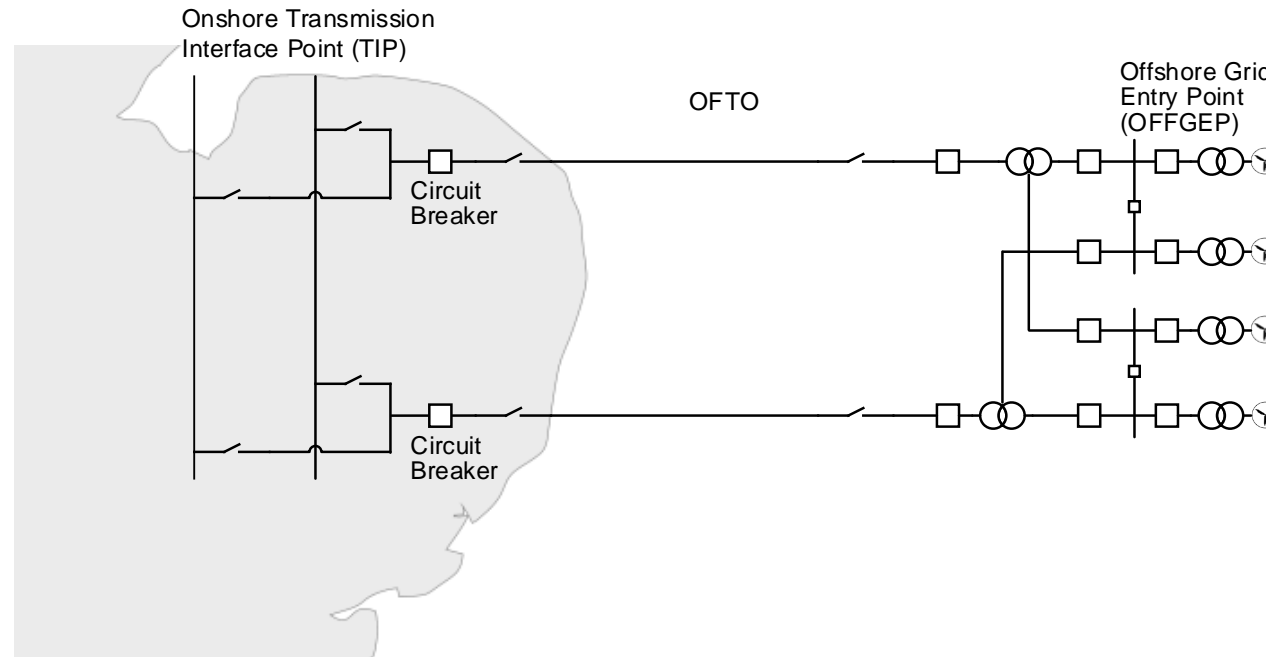
### Distribution-Connected Generation

- Allowed to participate in the service provided the generator meets the technical requirements.
- Shall not participate in an Active Network Management (ANM) system, unless a Primacy rule has been implemented by the Distribution Network Operator that accounts for the CMIS intertrip.

## 2. Technical Requirements

### Offshore Generation

- Aware of tripping onshore circuit breakers at the Transmission Interface Point (TIP) could affect OFTOs.
- Alternative solutions could be provided via a Construction Quote.



- For an offshore User with more than one exporting circuit, the Provider can nominate one or more circuits to be evaluated by the CMIS EC5-Enduring tender. During operation, one or more circuits (and associated BMUs) can be selected to be armed. If the Provider decides not to have all circuits armed at the same time, the Provider can still connect all circuits.

## 2. Technical Requirements

### Construction Quote to provide technical information on

Location:

Substation, or offshore platform(s), etc.

Circuit breaker(s) to be intertripped:

Please specify if different circuit breaker(s) are used for fast trip and de-load back-up trip.

Voltage of circuit breaker(s) to be intertripped:

OTS equipment required:

[if new equipment is required or if existing equipment can be used/repurposed/updated]

110V DC system for the OTS equipment:

[0, 1 or 2 – to provide an indication of existing equipment and therefore what new equipment is required]

Telecoms diverse route:

[yes or no – to provide an indication of existing services and therefore what new services are required]

Duplicate trip coils:

[yes or no – to provide an indication of existing equipment and therefore what new equipment is required]

Affected assets owned by 3<sup>rd</sup> parties (excluding the User being assessed) and if they have consent from assets being affected by the proposed solution:

[all other assets affected by pursuing the proposed solution]

Does this proposed solution fulfil the ESO's requirements, as laid out in Section 2 of the EC5 CMIS service specification?

[yes or no - please provide details on:  
1.If the proposed solution can deliver fast tripping within 200ms as per Section 2.  
2.If the proposed solution can also deliver de-load within 10 sec as per Section 2.]

Does this proposed solution interact with other automation schemes, e.g. if the proposed circuit breakers are being used by other intertrip schemes.

[yes or no – please provide details of affected schemes and mitigation plans if yes]

Further comments, issues and/or remarks:

# Contract Requirements



## 4. Contract Requirements

### CMIS EC5-Enduring Framework Agreement

- Bidders will be required to submit a signed Framework Agreement at the same time as their tender submission.
- The CMIS EC5-Enduring Framework Agreement will set out details of the provider and unit but does not in itself enable the ESO to use the unit on the CMIS EC5-Enduring.
- Instead, the outcome of any tender events shall determine the successful Users to be connected to the CMIS EC5-Enduring and be utilised during the service term.
- At the point of being notified of the tender outcome, successful Users will be bound to the CMIS EC5-Enduring Contract Terms.

### CMIS EC5-Enduring Standard Contract Terms

The CMIS EC5-Enduring Contract Terms will set out the details of the service, such as payment terms, the service terms, utilisation etc.

Please note:

- The contract service term will run from April until March each year on a rolling basis (i.e. a 12 month rolling contract period).
- The ESO will notify Providers of their intention to either extend or end the service at least 3 months ahead of the year's end of service term.
- The ESO will run yearly fee resubmissions, which will enable the awarded participants of CMIS EC5-Enduring to resubmit the caps for arming and intertripping fees for the following year's service.

# Commercial Requirements



## 3. Commercial Requirements

### Revenue:

Generators can earn two forms of revenue under the CMIS EC5-Enduring service, these being:

- **Arming Fee (£/MWh):**

- This is the fee that the ESO pays when the User is armed by the EAOTS. The arming fee is paid on a £/MWh basis, and Users shall be paid based on the volume of energy exported for each settlement period (each settlement period being 30 minutes in duration) whilst the asset is armed. Once armed, the User will continue to receive the fee until:
  - a) The User has been notified that they have been disarmed; or
  - b) A fault occurs on the circuits that the EAOTS was monitoring, and the Generator is intertripped as a result; or
  - c) The User desynchronises or trips for any reason other than a signal from the EAOTS
- This payment will cover all settlement periods that the User is armed for.
- The Arming Fee provided by each User in the Tender process shall act as their Price Cap, meaning it cannot be increased above the price cap during the first year of the service term, but can be decreased during the year to encourage ongoing competition.

- **Intertrip Fee (£/trip):**

- This is the fee that the ESO will pay as a one-off cost per trip, should a network fault occur when the User is armed for either a Fast Trip or a De-load by the EAOTS. This payment is intended to cover costs incurred by the User for being Fast Tripped, or De-loaded.
- All bidders **must** submit a Tripping Fee. If a bidder has submitted a Tripping Fee then they may also submit a De-load fee, but submitting a De-load fee is optional.
- The Intertrip Fees provided by each User in this process are fixed for the first year of the service term, meaning they cannot be changed at all from the tender submitted prices for the year.
- Contracted Users will be able to submit new Arming Price Caps and Intertrip Fees on an annual cycle, once they have provided the service for at least 12 months (see Section 1.3 'Yearly Fee Resubmission' of the Service Specification for details).



## 3. Commercial Requirements

### Construction Quote

- For a User not connected to the EAOTS, or proposing to adjust the existing EAOTS arrangement, the Provider shall submit a Construction Quote as part of the Tender submission to provide the cost and timeline to connect to the EAOTS interface point.
- The Quote needs to identify all costs for connecting to the EAOTS or adjusting existing EAOTS arrangements to meet the technical requirements.
- The amount reimbursed will be capped at the amount quoted by the User for connection costs in the CMIS EC5-Enduring tender submission.
- If the construction works to connect a generator to the EAOTS involve works from a DNO/ OFTO, the DNO/ OFTO will make a claim for any costs they incur through their re-opener mechanism.

### Construction Cost Reimbursement

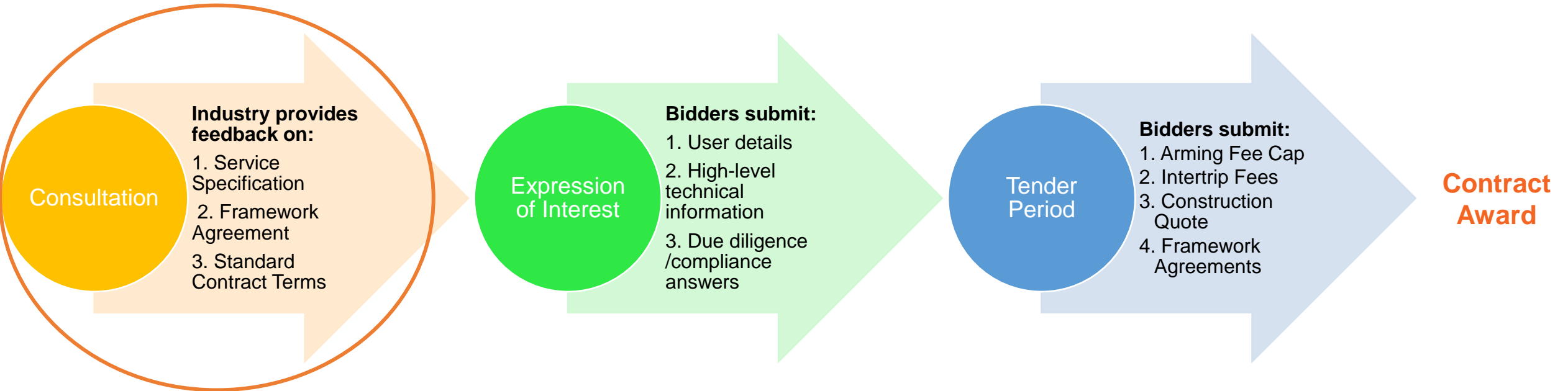
- The ESO's strategy is to reimburse the costs to Users to connect to the EAOTS once connection to the EAOTS has been completed and proven, and is subject to the ESO receiving all appropriate invoices detailing the works completed.
- The ESO intend to recover all User connection costs that are incurred for the CMIS service through the existing BSUoS process.

*\*Please note, this reimbursement strategy is still under review and will be confirmed at a later phase of this tender.*

# Tender Procedure



## 5. High Level Tender Process



We are currently in the Consultation stage of the tender process

# Consultation

Consultation

Industry provides feedback on:

- 1. Service Specification
- 2. Framework Agreement
- 3. Standard Contract Terms



# 6. Consultation

- We are looking to get feedback on any aspect of the ESO’s proposed EC5-Enduring service, including the Service Specification, Framework Agreement, and Standard Terms and Conditions.
- These documents have been comprehensively updated since the B6 CMP 24/25 tender to reflect the nuances of the East Anglia region and the ESO’s increased understanding from the live B6 service.

It is recommended that **all potential bidders** review the key documents, even if they have previously interacted with the service.

- After the consultation, the ESO will consider the feedback received, and update where appropriate.
- Feedback from the market at this stage is important, as this helps ensure we bring a service to market that is of real interest to providers, as well as ensuring the service brings real value to the consumer. In particular, we would value feedback on:
  - Construction Quote
  - Interactions with 3<sup>rd</sup> parties e.g. OFTO’s, DNO’s
  - Solutions to ensure the speed of Tripping required is attained
  - Commercial evaluation e.g. the use of ALF’s (Annual Load Factors).

Constraint Management Intertrip Service EC5-Enduring Consultation Feedback Form

ESO

**Introduction**

This feedback form has been created to submit any questions and/or feedback as part of the Constraint Management Intertrip Service (CMS) EC5-Enduring Consultation on the:

- 1) The Service Specification
- 2) The Framework Agreement
- 3) The Standard Contract Terms and Conditions

Please separate questions and/or feedback into the relevant tab and section they apply to. You are able to expand the sections and add any others that are not already provided for.

Please note that parties are able to propose new wording for the legal text in column E to support their comments from column D in the "2) Framework Agreement" and "3) Standard Contract Terms" tabs.

The deadline for consultation responses is **9:00am Friday 1st December 2023**.

Please send consultation responses to the following email address: [box.cms@nationalgrideso.com](mailto:box.cms@nationalgrideso.com)

**Details**

Please populate the gold cells with your company's name and contact information:

Company Name	
Company's Primary Contact - Name:	
Company's Primary Contact - Email:	
Company's Primary Contact - Telephone Number:	
Company's Secondary Contact - Name:	
Company's Secondary Contact - Email:	
Company's Secondary Contact - Telephone Number:	

#	Section	Clause	Question/Comment	Proposed Rewording to Draft Terms
1	e.g. Commence and Terms / Service Obligations / Payments / Definitions...	e.g. 2.1		
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# Expression of Interest

Expression  
of Interest

## Bidders submit:

1. User details
2. High-level technical information
3. Due diligence /compliance answers



## 7. Expression of Interest

### Compliance and Technical Evaluation

- Following the consultation, bidders will be invited to submit an Expression of Interest (EOI). The EOI submission will need to include responses to basic due diligence/compliance questions and high-level technical questions.
- The ESO and the TO will then evaluate the responses through Feasibility Studies. These will assess whether the bidder passes the basic due diligence/compliance questions and if they meet the high-level technical requirements to join the CMIS EC5-Enduring.
- These ESO/TO Feasibility Studies will check whether the User meets these key points, which include (but are not limited to):
  1. Registration (or will be registered) with the ESO Balancing Mechanism system as non-aggregated BMU Unit(s)
  2. The speed to receive intertrip signals from the Transmission Owner
  3. Two high-speed telecommunication channels from intertrip central controllers to remote receiving terminals
  4. An available East Anglia Operational Tripping Scheme connection by April 2028
  5. An EAOTS remote intertrip device/terminal available for the User to connect to
  6. Mitigations for any impact on other parties/intertrip schemes
- If a bidder does not pass the Feasibility Study assessment at this stage, then they will be unable to submit a Tender for this service.

# Tender Period

Tender  
Period

- Bidders submit:**
1. Arming Fee Cap
  2. Intertrip Fees
  3. Construction Quote
  4. Framework Agreements





## 8. Tender Period

### Tender Submission

- Those that pass the Expression Of Interest stage will be notified that they can proceed to the tender period of the process, where they will be invited to submit:
  1. The CMIS EC5-Enduring Framework Agreement for signature (which is submitted separately to the tender using DocuSign)
  2. Their commercial tender bids i.e. Arming Fee cap and Intertrip Fees
    - Arming fee (£/MWh)
    - Intertrip fee (One off payment):
      - Bidders must provide a Tripping Fee (£/trip)
      - Optional de-load fee (£/de-load)
  3. A Construction Quote to connect to the East Anglian Operational Tripping Scheme, including:
    - Proposed technical solution
    - Project plan
    - Cost details

A template for this is included in Appendix 1 of the Service Specification document.

# Tender Evaluation: Two-Stage Approach



## 9. Tender Evaluation: Two-Stage Approach (1/2)

### Stage 1: The Construction Quote

The Construction Quote will be evaluated against whether it meets the following criteria:

- The requirements of the Service Specification.
- The achievability of the Project Plan.
- The justification/reasonableness of the costs.
- The requested detail has been provided.

The ESO may also request further information and/or resubmissions to clarify the Construction Quote. The decision of whether these criteria have been met is at the ESO's sole discretion and if the ESO determines that one or more of the criteria have not been met, then the User may be removed from the tender process.

The ESO needs to ensure that it drives best value to the consumer, so has an expectation that bidders will keep any and all Construction Works costs to a minimum.

## 9. Tender Evaluation: Two-Stage Approach (2/2)

### Stage 2: Commercial Assessment

The ESO has a base requirement to procure 2.4 GWs for the CMIS EC5-Enduring, at the lowest overall cost to the consumer. The ESO will look to contract with every bidder that is cheapest ranked, up to the base requirement of 2.4GW.

The ESO shall determine the lowest cost bidders by calculating each Users 'User Offer' (£/MWh) and then ranking these User Offers in order of cheapest to most expensive. This is done by adding:

- the Users normalised fixed costs (e.g. connection costs)
- the arming fee (£ per MWh)
- the normalised Intertrip fee (£/trip).

Please note:

- The formula for the 'User Offer' and the detailed breakdown of the formula is provided in Section 3.3 of the Service Specification.
- Although 2.4GW is the base requirement, due to nature of the evaluation being across four years, there is the potential that more MWs will be procured and be available in later years of the service.
- The ESO can change the base requirement of 2.4GW during the evaluation, for any of the four years, to ensure that the ESO gains the best value for the consumer.

# Indicative Timelines



## 10. Indicative Timelines

Project	Stage	Start	Finish
CMIS EC5- Enduring Tender	Consultation	2 <sup>nd</sup> Nov 2023	1 <sup>st</sup> Dec 2023 – 9:00am
	Webinar	17 <sup>th</sup> Nov 2023	
	Expression of Interest	8 <sup>th</sup> Jan 2024	9 <sup>th</sup> Feb 2024
	Framework Agreement Signed	25 <sup>th</sup> Apr 2024	14 <sup>th</sup> Aug 2024
	Commercial Tender & Construction Quote	25 <sup>th</sup> Apr 2024	14 <sup>th</sup> Aug 2024
	Contract Award	Oct/Nov 2024	

\*Please note, these dates are indicative and may be subject to change

# Consultation Submission



# 11. Consultation Submission

The ESO has launched this consultation to provide all interested stakeholders with an opportunity to ask questions and provide feedback on the proposed enduring service, including on:

1. The Service Specification
2. The Framework Agreement
3. The Standard Contract Terms and Conditions

### **Key Focus points for Consultation:**

- Construction Quote
- Interaction with 3<sup>rd</sup> parties i.e. OFTO's, DNO's
- Solutions to ensure the speed of Tripping required is attained
- Commercial evaluation e.g. the use of ALF's (Annual Load Factors).

The Consultation includes the following documents:

Document	Explanation
<b>1. CMIS EC5-Enduring Consultation Letter</b>	This letter introduces the CMIS EC5-Enduring Consultation.
<b>2. CMIS EC5-Enduring Consultation Presentation</b>	A presentation that provides the background and the rationale behind the CMIS EC5-Enduring.
<b>3. CMIS EC5-Enduring Service Specification</b>	This document aims to provide interested parties and prospective participants with the details of the CMIS EC5-Enduring . This includes the rationale and background of the service, as well as the commercial aspects and the technical requirements of the service.
<b>4. Draft Framework Agreement</b>	This document is the umbrella agreement that technically feasible assets will be invited to sign. It sets out the details of the provider and their asset but does not alone enable the ESO to utilise the asset for the service. It is the subsequent tender process (outlined in the draft Service Specification) that determines which assets are connected to the intertrip scheme for the CMIS EC5-Enduring.
<b>5. Draft Standard Contract Terms</b>	This document displays the proposed Terms and Conditions for the service. Please note, these Standard Contract Terms are specific to the CMIS EC5-Enduring.
<b>6. Consultation Feedback Form</b>	This file should be populated by parties that wish to submit consultation feedback and/or questions. This needs to be returned to the ESO using the information provided in the below section.

## Consultation Submission

Please populate the [CMIS EC5-Enduring Consultation Feedback Form](#) with any comments and/or feedback and send to [box.cmis@nationalgrideso.com](mailto:box.cmis@nationalgrideso.com) by **9:00am on Friday 1<sup>st</sup> December 2023.**



# We will now open for Q&A

Please submit any queries via the Q&A functionality in teams

Any confidential queries should be sent directly to the team by email [box.cmis@nationalgrideso.com](mailto:box.cmis@nationalgrideso.com)

Any questions that we are unable to answer will be taken away and responded to offline

We will publish a Q&A document afterwards to capture the generic Q&A from this webinar