

NOA Constraint Management Pathfinder

Invitation for Expressions of Interest

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Introduction

This invitation for Expressions of Interest (EOI) invites potential participants to express an interest in participating in the NOA Constraint Management Pathfinder (CMP) by completing an Expression of Interest submission. NOA CMP is looking for options to help reduce network congestion costs between the Anglo-Scottish boundary between Oct 2022 – Sep 2023.

The pack is split into three sections:

1. How to submit an EOI	Outlines the process for providing us with your EOI submission
2. Context	Provides background to the NOA Constraint Management Pathfinder and links to documentation from previous steps
3. EOI outline	Gives an overview of the process for NOA Constraint Management Pathfinder and documentation included in this EOI pack

1. How to submit an Expressions of Interest (EOI)

- This EOI invites prospective parties to declare an interest in tendering into this procurement exercise but does not commit the party to progressing with the tender in any way.
- Any party wishing to tender later on in the procurement process, must have submitted a completed EOI template including the options they are considering tendering for by the specified EOI submission deadline and the options must have passed assessment against the criteria.
- Providers may submit an EOI at any time during the 6-week period (if required).
- Following the submission of EOIs, we will assess proposed solutions against the technical criteria and feedback to all providers.
- A pass/fail outcome will be bilaterally communicated to all providers. A successful outcome is required to be invited to participate in the commercial assessment.
- We will publish an anonymised summary of the EOI. At this stage, no commercial sensitive information will be published.

The deadline for submission is 17:00 16th April 2021. Please send your responses via email to box.networkdevelopment.roadmap@nationalgrideso.com

1. How to submit an EOI (2/2) - Webinars

We will be holding webinars to give an overview of the information included in this invitation for expression of interest.

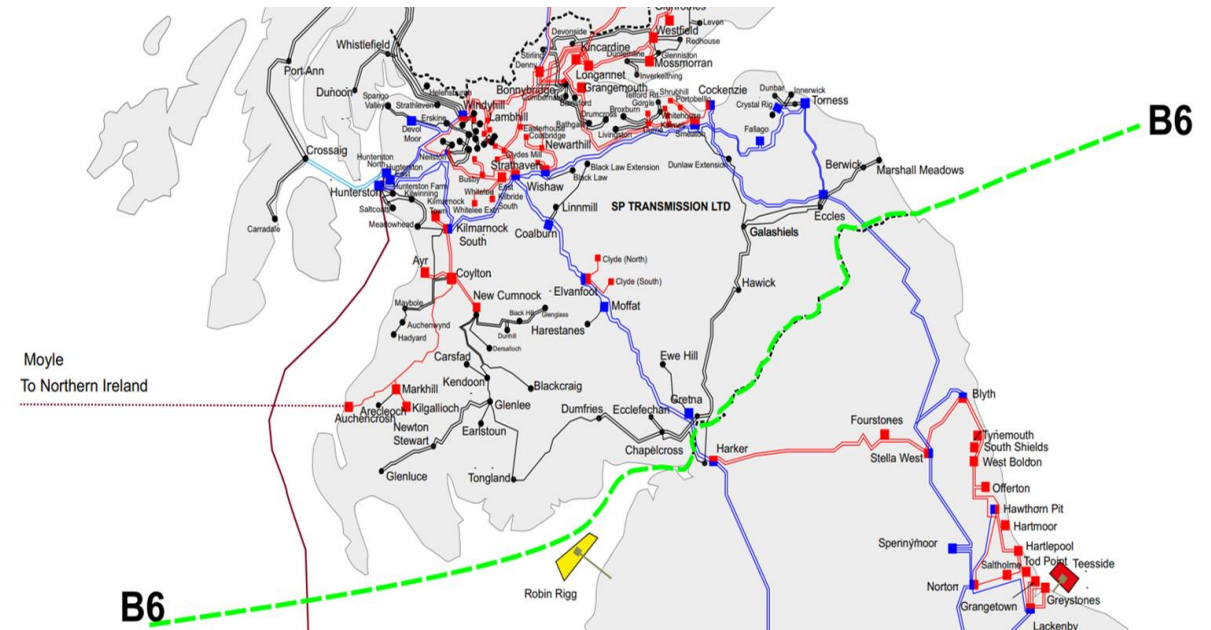
Webinar dates and registration links will be share following the launch of the EOI. We are currently considering webinars for:

- Expression of Interest Summary
- Assessment Methodology
- Contract Terms

2. Context

Why are we running a Constraint Management Pathfinder?

- Over the next decade, according to the Future Energy Scenarios, 40GW of additional generation capacity is expected to connect in GB. A lot of this generation is expected predominantly in the North i.e. Scotland and East of the country. This is going to increase network congestion leading to an increase in the costs to manage network constraints.
- As part of our [Network Development Roadmap](#), we want to explore the benefits and practicalities of applying a Network Options Assessment (NOA)-type approach to the operability aspects of network constraints.
- NOA CMP is the first step to resolving these constraints by introducing a post fault generation turn down service which can resolve network congestion on the transmission network at the time of a network fault.
- The outcome of this stage of CMP will help provide end consumer value by allowing more flow on the circuits pre fault which would otherwise be turned down.
- For the avoidance of doubt, an outcome could be that we accept no market tender if none of the solutions considered provide economic benefits against our forecasted alternative cost of managing constraints through the Balancing Mechanism (BM).



2. Context

- In February 2020, we ran an RFI which looked at two build solutions which would result in one asset on a specific side of the constraint absorbing energy and another asset in another location, injecting active power post fault.
- We learnt from the RFI that there were solutions that were available on the network and could be used to resolve network constraints.
- In October 2020, we announced that we were going to run a tender but for a different service design, that would be focused on single asset solutions.
- In December 2020, we released a pack which provided more information on the service that the pathfinder was considering which can be found by clicking [here](#).
- In the pack, we mentioned that we were looking to run an EOI to find participants who would be interested in providing the post fault intertrip service, prior to running the tender.



2. Context

What approach are we using to develop all pathfinders?

- The pathfinders are using a learn by doing approach. This means:
 - We are developing the pathfinders within the existing industry framework. Where we see areas which could be improved in the framework these will be flagged. This approach enables us to continue moving forward but recommendations may not be implemented before the pathfinder is completed given the timescales to make changes to the framework.
 - We are developing the service terms and assessment methodology in parallel with the expression of interest so that we have a better understanding of the types of solutions which are on offer as we design the procurement approach.
 - We will learn lessons from other pathfinders which will influence how the process develops.
 - We are putting forward ambitious timelines for the work which we may find need to be changed as more information becomes available and we understand the scale of participation.
 - We may buy services from new technologies and will learn new information about these during the process.
 - We are learning how to manage the interaction between tenders which may require new connections and the existing connection process.

3. CMP EOI outline



This section gives an overview of the process for NOA CMP and the documentation included in the invitation for Expressions of Interest (EOI).

3. CMP requirements

- The ESO's aim is for this service to be procured annually with the first tender in Q1 of FY 2021/22 procuring services for contract delivery from 1 October 2022 - 30 September 2023 subject to the intertrip link being operational by 1st October 2022. If the connection to the unit is delivered earlier, participants are able to start delivering the contract sooner and being paid from that point.
- Units intending to participate in this service, must be connected to the Scottish transmission networks and can be connected to both the onshore or offshore transmission networks above the B6 boundary between Scotland and England.
- The initial requirement that we are looking to procure is for 800MW of transmission connected generation which can be disconnected within 150ms when armed and tripped. However, depending on system conditions and generators running on the system at any given time, different generators could be used to make up this volume. Therefore, the ESO is looking to procure more than 800MW in the tender and only use a volume of 800MW at realtime.
- In operational timescales, the ESO will forecast system flows and where a constraint on the B6 boundary is identified, contracted units will be armed to be disconnected post fault.
- The level of MW that is armed will be dependent on the prevailing level of constraint and other technical considerations.
- Following a fault, generation which is armed will be disconnected within 150ms of fault occurrence by the Anglo-Scottish Intertripping Scheme
- Following the fault, the ESO will reconnect units to the system as safely and as quickly as possible.
- Payment for this service will include:
 - Arming payment (per MWh per settlement period) – for when the intertrip service is armed
 - Tripping fee – single payment when the fault occurs for each unit that had been armed and disconnected.

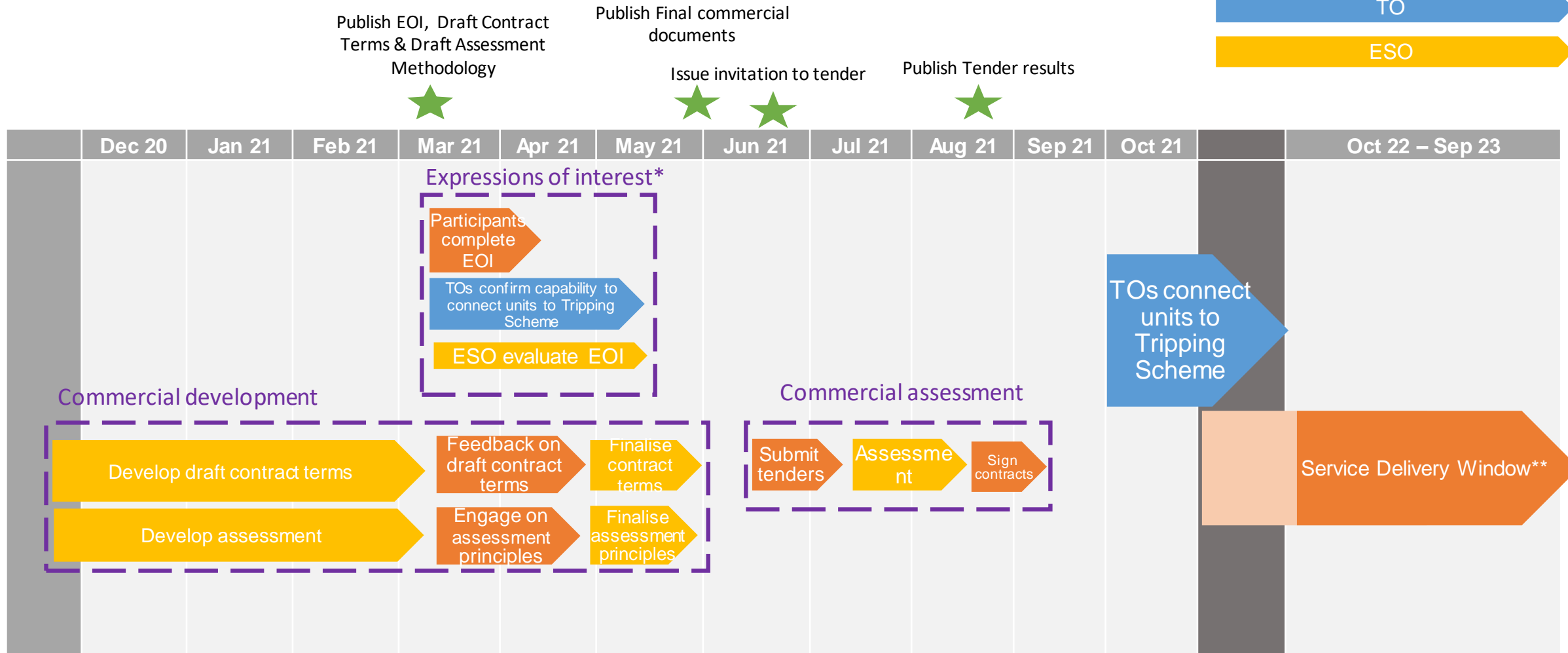


3. CMP procurement scope

Topic	CMP
Requirement procured	Commercial generation intertrip
Region	Scotland
Service delivery period	Services can start as early as October 2021, though the tendered period will be between October 2022 and September 2023.
At what voltage levels can solutions be offered?	Solutions must be connected to the transmission system at this stage to enable timely connection to the Anglo Scottish tripping scheme
Technology	Any generation can participate but they must demonstrate effectiveness through an assessment following the EOI stage before submitting a commercial assessment.
What is most preferred	<p>Both large generation plants and ones located close to the SCOTEX or B6 circuits are more effective than smaller solutions located further north in Scotland. Also, parties larger than 100MW in size are more preferred as there are a limited number of trip channels available on the tripping scheme.</p> <p>Due to the complexity in the assessment, effectiveness of a plant will be provided once the EOI is submitted by the participant. The assessment methodology will include a range of generation scenarios to reflect the true effectiveness during operational timescales.</p>

Timeline overview

KEY:



* Providers may submit an EOI at any time during the 6 week period.

** Providers are able to begin delivery of the service earlier if they are able to, though the end date will remain as September 2023.

3. Expression of Interest Criteria

Expressions of interest will be assessed against the following pass/fail criteria. Each proposed solution must fulfil all the criteria below to be invited to participate in the feasibility study stage. The proposed solution:

- must be directly or radially connected to a point on the transmission system in Scotland.
- must be connected to the main GB transmission system. This is also subject to review of network connectivity during the feasibility study stage.
- If the party is connected to the distribution network, they can still submit their EOI form for the ESO to gauge interest. The ESO can use this information for the future to see how the party can be connected in a future tender.
- must be able to safely be tripped off within 150ms following fault occurrence.
- must be effective for the fault being secured. This is assessed against different generation background scenarios.
- The participant must agree to participate in the NOA constraint management pathfinder tender. The participant must be willing for key parameters (including price) submitted into the assessment to be published following the assessment outcome.
- At this stage, only customers already connected to the network are considered. Any new connections under construction can participate once their proposed solution is online and can be intertripped by the scheme. If the solution is connecting before October 2022, the EOI can be submitted and subject to successful EOI and tender, the party can potentially be connected to the tripping scheme.
- The participant must complete EOI template fully and submit in the excel template provided by the end of EOI deadline.

3. Associated documentation

Alongside the publication of this slide pack, we are also publishing the following documents:

- Expression of interest invitation letter
- Expression of interest submission form
- Technical specification

Following the commencement of the EOI, the below documents will also be published:

- Assessment methodology
- Draft contract terms – we will be consulting on these terms before they finalised prior to the tender.

3. Development of commercial documents

- Following the EOI, we will publish the draft contract terms and assessment methodology.
- We will hold a webinar for each of these to provide an overview of each document with the opportunity for questions. Details on how to register will be shared shortly.
- For the contract terms, we will be holding a formal consultation during which feedback will be able to be submitted.
- The contract terms and assessment methodology will then be finalised ahead of the commercial assessment taking place.

