Locational Procurement – Frequently Asked Questions

Version 1 – 4 November 2026

This document is supplemented by the information previously published on Locational Procurement https://www.neso.energy/industry-information/balancing-services/enduring-auction-capability-eac#Locational-procurement

Contents

- Rationale and Benefits of Locational Procurement
- Market Design
- 12 Zone Model
- Unit Registration
- Available Transfer Capacity (ATC) Mechanism and Constraint Data
- Calculation of NESO Requirements
- Multi Zone Sharing
- Auction Clearing and Pricing

Rationale and Benefits of Locational Procurement

For further detail on the Quantitative Analysis carried out for Locational Procurement, please see Response & Reserve Locational Procurement webinar slides - 20 Nov. From slide 13 onwards: https://www.neso.energy/document/373051/download

The Q&A and recording of the webinar can be found here: https://www.neso.energy/industry-information/balancing-services/enduring-auction-capability-eac#Locational-procurement

For more information on the development of our design for Locational Procurement please see the NSIDE-NESO Case Study on Defining Locational Procurement for NESO in Great Britain - https://www.n-side.com/en/insights/defining-locational-procurement-for-neso-in-great-britain/

How are the proposed changes being assessed alongside wider reforms?

NESO's strategic network planning provides a longer-term view of how the transmission network will evolve, informing the proposed procurement zones and future reviews of their boundaries. Day-ahead procurement operates within this framework, using forecast operational requirements and network conditions to determine where Response and Reserve capacity is needed.
Locational Procurement currently proposes 12 zones aligned with material transmission boundaries. Strategic-planning outputs will help determine whether those boundaries remain appropriate as the network evolves. The current proposal is to review the zones approximately every two to four years broadly in line with the Centralised Strategic Network Planning (CSNP) cycle— with additional reviews where there is a significant topology or constraint change.

The Reformed National Pricing Balancing (RNP), Settlement and Dispatch Reforms will take a holistic approach to wider changes across the industry and ensure that key design and implementation interactions are captured. This includes Cost-Benefit Analyses that take account of in-flight changes and likely reforms in its counterfactual and sensitivities to ensure potential conflicts are assessed. Where there might be conflicting purposes or adverse outcomes between RNP and Locational Procurement of Response and Reserve, this will be captured in the RNP analysis. The RNP work on constraint management markets would be expected to build on the capability that Locational Procurement of Response and Reserve services provide NESO.

The introduction of Locational Procurement for Response and Reserve services is underpinned by our commitments in the Operability Strategy Report and Electricity Markets Roadmap. The Market Design Framework supports our market reforms, and monthly updates are published in our Electricity Markets Roadmap which outlines the sequencing of market reforms.

What are the expected benefits of the introduction of Response and Reserve Locational Procurement, including the rationale for procuring Response on a zonal basis?

The expected benefits of Response and Reserve Locational Procurement include improved system security, reduced balancing and redispatch costs and strengthened resilience. Procurement outcomes should better reflect the operational realities of the transmission network topology.

Through Locational Procurement NESO are seeking to improve market efficiency by providing clearer locational signals for investment and participation, ensuring capacity is secured where delivery is the most effective and gives the greatest operational value. The service will help manage constraints, angle and frequency stability, as well as regional frequency, and provide alignment between Ancillary Services and the Wholesale Market.

Transition Schedule and timeline

NESO are working through the Discovery phase of the project including impact assessment and planning. An updated Locational Procurement Market Design Proposal and supporting documents are expected to be published shortly with formal consultation planned for mid-November 2026. Implementation and launch will follow in 2027 subject to Ofgem approval and NESO processes and systems being in place.

As the transition schedule and timeline for implementation are developed further, more detail will be shared with industry. Through the consultation process we will be seeking feedback from Participants on their implementation requirements. We will provide sufficient advance notice before implementation, enabling industry participants to prepare fully.

Market Design

Non-BM unit participation: The design should ensure non-BM units can participate on equal terms. How will registration, metering, and settlement processes be streamlined for non-BM assets?

There are no non-BM specific changes to registration, metering or settlement.

What detail is available on the rationale for introducing locational procurement for the Response services?

Without Locational Procurement, there is a risk that a large portion of response services, for a given period, are procured in a geographically close proximity to one another. This in turn may impact the frequency stability should all assets deliver response capacity at the same time. Locational Procurement helps to mitigate this risk by allowing NESO to set minimum and maximum values per zone or groups of zones.

Finally, as the EAC auction co-optimises response and reserve services at the same time, it is required that the response units are also defined in a zone's boundary.

What other design options did you consider and what other markets were compared in the development of Locational Procurement?

As part of the market design development work, we explored the option of a zonal-nodal market arrangement where a unit can be defined in GSP Groups, but NESO could reject if a given share of the unit's capacity was located within a specified constraint or in a given set of nodes. This was rejected as formation of different clearing prices was more opaque in this scenario. Furthermore, as constraints and GSP Groups do not align, it would have led to more complicated operations and results analysis.

During the market design development, we also studied other markets to understand what other Transmission System Operators (TSOs) are doing that we could learn and benefit from. This included:

- The FCR Cooperation in the CE Market: a joint cross-border market where European TSOs buy primary frequency control reserves together to keep the power grid stable at a lower cost.
- The Nordic aFRR Capacity Market: a regional balancing capacity market for automatic Frequency Restoration Reserves (aFRR) balancing capacity.
- The Baltic Balancing Capacity Market: which enables the Baltic states to reliably secure balancing capacity through daily cross-border capacity auctions, ensuring system stability.

12 Zone Model

Can you share how you determined that a 12-zone structure was the optimal configuration versus the 5-zone that was also considered?

A 12-zone model will be used to procure Response and Reserve services in the electricity system across England, Wales and Scotland which aligns with the DFS 12-zone model. The zones will be defined based on transmission constraints, market liquidity, and operational efficiency.

The 12-zone model showed increased overall savings compared to the 5-zone model in our simulations. This is explained by the larger zone model being able to reduce further the volume of sterilised services. The 5-zone model still left a considerable amount of intra-zonal constraints, and this would be worse for any model with fewer zones.

The webinar we held on 20 November 2025 provides more detail on this. For further detail the slides, Q&A and recording can be found on our website link here.

Having more than 12 zones could reduce intra-zonal constraints to an extent; however, it comes with drawbacks including increased zone pairs which means more ATC values to derive, validate and publish every day. Also, having smaller zones means more uncertainty in the underlying data for the demand, inertia and largest loss inputs that drive the zonal requirements. As a result, a higher number of smaller zones could reduce intra-zonal sterilisation while increasing requirement forecast error.

Additional zones would also increase the algorithm solve time and overall problem tractability. Finally, the number of aggregated units that would have to split would increase with more zones.

How have you considered whether the proposed design will lead to any dominant market behaviour in any of the zones and how have you addressed this?

The sharing of reserve between zones serves to ameliorate negative impacts from dominant market participants. The requirement in one zone can be met by procurement in other zones, provided there is sufficient Available Transfer Capacity (ATC). Ultimately, NESO can control the local requirements to limit procurement cost exposure under tight scenarios.

The interaction between locational procurement and the Local Constraint Market (LCM) needs careful coordination, should the service remain in its current form. Participants should not face conflicting locational signals or double-counting of constraint management actions. How will this be managed?

From 7 October 2026, the Demand Flexibility Service (DFS) will replace the Local Constraint Market (LCM) – LCM-DFS Comms. This transition continues to build on the opportunity for flexibility across both margin and constraint actions. DFS uses the same 12-zones that are proposed for Locational Procurement.

Timing and scope of the zone review, any consideration of seasonality?

There will be a periodic review of the zones, which we anticipate will be every 2-4 years but that may not result in a different number of zones or any new zone boundaries.

We are considering linking the review to the publication of the Centralised Strategic Network Plan (CSNP) which has a three-year cycle. The CSNP report is expected to decide which boundaries are reinforced and when, so it will contain crucial information for the zone review.

If zone definitions need to be updated following a review, NESO will clearly communicate any changes to industry and work with any affected Participants to support the reallocation of impacted assets to the updated zones.

Minor updates would be done as and when required. These could include updates to reflect routine changes in network topology such as the addition or removal of GSPs or substations into zones, changes to GSP catchment areas, correcting of spelling or other errors. Support will be provided in cases where these minor updates have an effect on a provider's portfolio.

At this stage it is not envisioned that there will be any consideration of seasonality for the zone definitions, but it could be something we look at in future and would engage with industry on.

Unit Registration

What does the Unit Registration process look like and what additional information is required? Where possible can this information align with locational data collected by the DNOs, and the latest Flexibility Market Asset Registration (FMAR) design to simplify future integration.

Please see the Locational Procurement - Onboarding Guidance published alongside this document for further information on the registration process for both new and existing Participants. Where possible we will look to align with the DNO data and FMAR design.

What tools can NESO provide to allocate Units to zones (ideally could NESO do the allocation to zones based on MPANs / BMU IDs)?

NESO will do this allocation based on the information we already have available in SMP. Please see the Locational Procurement – Onboarding Guidance published alongside this FAQ document.

How will the interaction between GSP Group and Zone work in practice?

SMP will capture both the GSP Group (where defined) and the Zone. The Zone is the information that will be used for Locational Procurement.

If an aggregated unit is registered within a single Zone, which could potentially span across two market zones with different clearing prices, then which price would be applied?

For Locational Procurement of Reserve and Response, an aggregated unit will not be able to span zones and must be allocated to one zone only. In that zone, there will be a single clearing price for a service and period.

Aggregated units (Can an aggregated unit span more than one zone?

All assets within an aggregated unit must be within the same zone and GSP Group and cannot cross zonal boundaries.

What dispute process will apply where a participant disagrees with its assigned zone?

Any disputes resulting from the assigned zone would be reviewed on a case-by-case basis, working with Participants to ensure allocation into the correct assigned zone.

How will co-located assets be treated?

Co-located assets by definition are already in the same zone.

Is this mandatory and will there be a hard cutover date?

Yes, the locational element of the Response and Reserve services will be mandatory, there will not be an option for taking part in a non-locational market. There will be a hard cutover date for the introduction of Locational Procurement (which will be the Locational Procurement go-live date). The co-optimised nature of the EAC auction process will require this.

Available Transfer Capacity (ATC) Mechanism and Constraint Data

How will Available Transfer Capacity (ATC) be calculated?

The calculation of ATC is only applicable to Reserve services (and does not apply to Response services). The ATC calculation will be based on two factors: the Constraint Limits and Constraint Flows during the day-ahead stage. These figures are currently published daily by NESO for several boundaries. For existing Constraint Limits and Flow publications, please refer to Day Ahead Constraint Flows and Limits | National Energy System Operator.

For each constraint boundary, the limits are assessed and determined to ensure network loadings remain within permitted safety ratings and secured for a credible trip event considering all planned outages. A margin is then included to account for forecast uncertainty and any other required ATC derating due to e.g. interzone response flows.

Finally, there is a process to convert the boundary figures to cross-zonal ATC. This depends on whether the boundary shares a border with one or multiple zones.

When will ATC information be available to Participants?

ATC information will be published after each auction. NESO will keep this approach under review and consider whether changes are appropriate based on auction outcomes and market behaviour.

What post-auction information will be provided to Participants?

There will be no major changes to the existing post-auction information provided to participants. A new 'Zone' field will be added to the relevant datasets to allow parties to filter their calculations appropriately.

How will ATCs be used in multi zone sharing?

Multi-zone sharing relies on sufficient ATC between the zones. That is, sharing between zones can only be up to the ATC level of the zone interconnections. The algorithm is indifferent to the route taken to ensure local demand is met and will select the solution that results in the highest market welfare. In the case of identical market welfare, the solution that uses less transmission capacity will be chosen.

Will there be a 'buffer' in the expected ATC in case of within day changes?

Yes. The ATC calculations include factors to account for any uncertainty in boundary forecasts.

Changes between day-ahead forecast and real time. How often will ATCs be updated?

ATC forecasts for the next day are calculated on a daily basis. The accuracy of ATCs, in terms of the differences between forecasted and actual values will be monitored. Any difference will be studied and fed back to the forecasting team so that process improvements can be made.

How will reserve ATCs take into account response procurement?

The algorithm will allocate ATC to reserve services to meet local demand over each period. However, that ATC has previously been derated by a factor to account for pre-fault response flows.

Are there any worked examples for the calculation?

Worked examples (Locational Procurement Examples) will be included alongside the updated Market Design document to provide additional information for Market Participants.

Calculation of NESO Requirements

We are not clear how NESO will calculate the required capacity in each zone and would be concerned over how accurate this calculation will be in practice, given the size of the zones proposed. What further detail is available?

Regarding reserve capacity, NESO expects regional reserve requirements to build on the existing methodologies used to calculate national reserve requirements, covering demand and generation forecast error for regulating reserve, wind forecast error for wind reserve and the largest individual BMU loss for slow reserve.

The underlying datasets can be augmented with locational information for BMUs, GSPs and wind units, allowing these reserve drivers to be assessed at a regional level, rather than solely a national level. For example, this enables identification of the largest loss within a region for locational slow reserve, and calculation of regional demand, generation and wind forecast-error requirements for regulating and wind reserve.

NESO has already completed a Regional Dynamic Reserve Setting proof of concept, which demonstrated the calculation of locational regulating reserve recommendations at the zonal level used by the procurement algorithm. Final locational methodologies will be validated to assess their accuracy and robustness across different zone sizes prior to implementation.

For response, the zonal requirement will not be calculated as a single precise capacity value. Instead, NESO will define minimum and maximum response requirements for each zone, providing a range that reflects the regional response requirement.

Multi Zone Sharing

Do you expect any reduction in procurement volumes as a result of Locational Procurement?

We don't expect a significant reduction in procurement volumes for Reserve as a result of Locational Procurement, and Response volumes will not change at all. In the latter case, Response levels are deterministic, driven by Frequency Risk and Control Report (FRCR) requirements.

Meanwhile, NESO's suite of reserve products covers multiple contingencies and scenarios, including largest national loss, generation shortfall and demand unpredictability, none of which are intrinsically linked to where we buy the reserve. However, we do expect that regional procurement will allow us to deploy the reserves we procure more efficiently with regards to constraints. It is still expected that some amount of reserve will be bought closer to real time, as our forecasts solidify, much as we do under a national procurement strategy. Whether the volumes procured for each settlement period reduce or increase will be dependent on the state of the network and our forecast accuracy for that settlement period. Multi-zone sharing of reserve means that a quantity procured in one zone is also counted towards the local requirements of any other zone, as long as sufficient ATC exists.

If a unit in one zone contributes to reserve needs in a neighbouring zone, and prices between zones vary, then which price would the unit receive and why?

How will sharing be reflected in settlement and in performance monitoring? How will scarcity or low-liquidity outcomes will be managed? How will ATC constraints limit sharing? How will conflicts between zones will be resolved?

The clearing price of a service and zone is not related to whether that zone was sharing with other zones or not. Whether there is a single clearing price for a service and period or whether it varies

per zone depends on the binding constraints (local demand for reserve and minimum/maximum for response). When a constraint is binding, then price spreads are allowed for the same service and period. More detail can be found in the July 2025 Response and Reserve Webinar (see slide 18). As part of the consultation process examples of this will be shared with industry in the Locational Procurement Examples document.

Multi-zone sharing is not reflected in settlements or performance monitoring as it is not a unit level quantity but a global quantity. Capacity is fungible within a zone, so no individual unit can be marked as the shared MW.

Auction Clearing and Pricing

Will the timings of the Auction change?

Auction timings will remain unchanged. The auction will run daily at 14:00hrs.

Worked examples of pricing across zones Will NESO provide worked examples showing how pricing works across zones?

Worked examples have been prepared and will be included in our consultation documentation.

How has NESO stress-tested the proposed design and model?

This has been done throughout the design and development phase. Post go-live NESO will monitor and review effectiveness. If there is a need for future changes to be made these will be made through working with industry in the usual way.

Is there a risk that a unit, that did not win a day ahead contract for an ancillary service, could get dispatched through Real Time Dynamic Response (RTDx) and Optional Reserve in operational timescales?

When we introduce RTDx, the constraint picture may have changed between day-ahead and within-day so it is possible for a unit to be rejected at day-ahead based on the constraints as they were expected at that time but the unit could subsequently be dispatched through the BM within day as better data is available.

Note that Response services are not impacted by ATCs (ATCs are only applicable to Reserve services). NESO would only have min/max zonal values, but these may also change from day-ahead to within day.

Will NESO run mock auctions to help participants prepare for Locational Procurement before go-live?

We will be adding Locational Procurement to the sandbox first (date TBC). Mock auctions will be run prior to any planned go-live date to allow time for Participants to prepare and test the auction platform. Further details of the sandbox environment and mock auctions will be shared with Participants as we progress towards go live.