

Firm Frequency Response

Tender Assessment Principles (Issue #1, August 2005)

This note sets out the principles that National Grid Electricity Transmission plc (NGET) will consider in assessing tenders for Firm Frequency Response, and constitutes the Tender Assessment Principles published by NGET for the purposes of the Firm Frequency Response Tender Rules and Standard Contract Terms (the SCTs).

Except where the context suggests otherwise, terms defined in the SCTs shall have the same meaning when used in this note.

Main Economic Assessment

NGET's main objective is to balance the System economically. In deciding whether to accept an FFR Tender, we assess whether the cost of that FFR Tender is likely to be less or greater than the cost of alternatives to deliver the equivalent level of Frequency Response service.

For example:

The cost of an accepted FFR Tender may be made up of:

- Availability fee \times aggregate of hours comprised within frames (as tendered by the provider)
- Window Initiation fee \times forecast aggregate of windows nominated by NGET
- Nomination fee \times forecast aggregate of hours nominated by NGET
- Where appropriate, Response Energy price \times Volume of Response Energy delivered

While the cost of alternatives to accepting an FFR Tender may be made up of:

- Alternative Frequency Response service holding fees \times forecast aggregate of hours and volume required by NGET
- Expected utilisation prices \times forecast utilisation
- Forecast price and level for balancing actions in the Balancing Mechanism or elsewhere required to reload plant to optimise delivery of Response
- Forecast cost of creating additional Frequency Reserve, part of Operating Reserve, where required, to allow real-time optimisation to meet all Frequency Response requirements

Forecast level of nomination

We will forecast the aggregate of hours likely to be nominated (as notified by NGET to providers) in respect of an accepted FFR Tender. This is done by forecasting the level of overall requirement for Frequency Response services and by considering the forecast price of alternative Frequency Response services and the costs associated with the creation and optimisation of Frequency Reserve required to meet all Frequency Response requirements.

Alternative Frequency Response services may be: other accepted FFR Tenders; other providers' optional availability; and any mandatory or Commercial Frequency Response service, or equivalent service, available elsewhere. The balancing action

costs associated with the creation and optimisation of Frequency Reserve may be incurred through Bids and Offers, Warming contracts, PGBTs, Forward Trades or other services.

If the combination of Nomination fee and Window Initiation fee is modest, we may forecast to nominate an accepted FFR Tender more often, whereas if the combination of Nomination fee and Window Initiation fee is large then forecast level of nomination may reduce.

Technical capability of service

We will consider the level of Response capability of the tender across the range of Frequency Deviations, -0.8Hz and +0.5Hz, as appropriate. In assessing the response capability of the FFR Tender we will consider the level of provision of the following Frequency Response sub-products:

- Static (or non-dynamic) Primary Response
- Dynamic Primary Response
- Static (or non-dynamic) Secondary Response
- Dynamic Secondary Response
- Static (or non-dynamic) High Frequency Response
- Dynamic High Frequency Response

During each day and through the year each sub-product has a varying forecast requirement and forecast alternative cost of provision. Information as to the forecast requirement and historic procurement of Frequency Response will be provided within the Monthly Market Information.

Further Assessment Principles

In addition we will take account of other relevant factors in the appraisal of compliant FFR Tenders. The order in which the factors are listed is not an indication of the relative importance of each to the others.

- The level of all types of Frequency Response indicated in the FFR Tender.
- Any reduction in value we ascribe to Utilisation Restrictions indicated in the FFR Tender.
- For dynamic Frequency Response providers, the characteristic of Response as a function of Frequency Deviation across the entire Response matrix at the tendered Part Load Point or within the Part Load Point range.
- For static (or non-dynamic) Frequency Response providers, the tendered Frequency Relay Pre-Set Level(s), namely the frequency at which static (or non-dynamic) Response will be delivered by Frequency Relay operation, and the time taken to deliver the Frequency Response.
- The performance and reliability of the tenderer and/or tendered Unit or Site(s) in delivering Frequency Response through Firm Frequency Response, mandatory or commercial Frequency Response services or elsewhere.
- Where the tender includes a range within which the Part Load Point will be confirmed, NGET will assume the minimum capability of Frequency Response, as appropriate against requirements, within the tendered range.

- The interaction with any other Balancing Services provided by the tenderer to NGET from the Unit or Site(s) in question.
- The speed, flexibility and reliability of interface arrangements between NGET and the provider.
- The financial position of tenderer and its holding company (if any).
- The extent of planned outages and limitations on the transmission system or distribution system of any host Public Distribution System Operator affecting the Unit or Site(s).
- Any other factors that, in NGET's reasonable opinion, are relevant in appraising the viability of any FFR Tender submitted.