

Effectiveness Factors

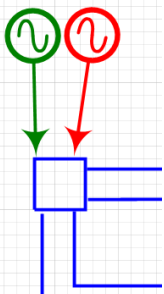
Based on feedback from providers please see below further details on the effectiveness factors that will form part of the assessment process.

The effectiveness changes the amount of reactive power required to meet the requirement. This will change the volume expected to be procured and the utilisation, this would reduce the tender benefit of the service. For example, if a unit A was assessed to be 50% effective and unit B 100% effective, to resolve the issue we would need to use twice as much reactive power on unit A than B. Therefore, A would need to be significantly cheaper to have the same tender benefit.

Provider effectiveness is completed through a technical assessment. It should be noted that effectiveness changes in certain system conditions, for example with certain outages. Assessment will be done against the same background to ensure all providers are treated equally.

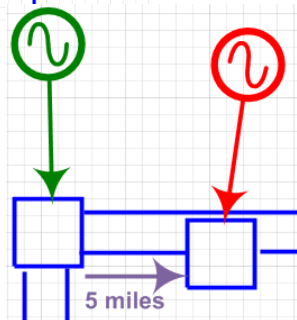
The below examples are all aimed to be illustrative, and provides approximations of potential differences in effectiveness. These will change when technical assessment is actually completed. Provider A in Green Provider B in red.

Example 1



Provider A and B are connected at the same site. The two different providers have different reactive ranges.

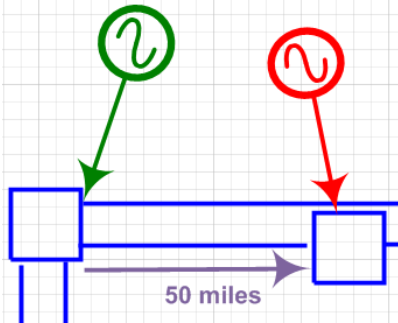
The providers would have the same effectiveness score.



Example 2

Provider A and B are connected at different, adjacent, sites, but sites that are geographically close together.

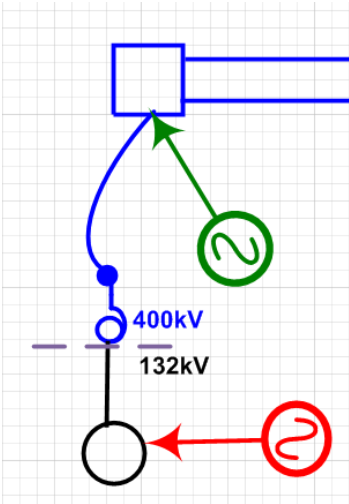
The providers would have the same effectiveness score.



Example 3

Provider A and B are connected at different, adjacent, sites, but sites that are geographically far apart together.

The providers would have the different effectiveness score, these could be 10 – 20% different.



Example 4

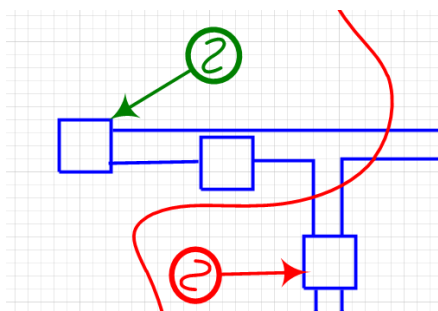
Provider A and B are connected at different voltage levels, but the same GSP. Provider B is connected at 132kV in the DNO network.

The issue that National Grid is procuring services for is measured at the transmission level. Therefore provider B that is connected at a 132kV voltage level is expected to be half as effective than Provider A.

Providers connected at lower voltages than 132kV would be expected to be less effective again.

Due to the offline nature of this assessment, this mean that the assessment of reactive power potential is more conservative than the Power Potential Project, the System

Operator awaits the learning from this project to improve our understanding of effectiveness.



Example 5

No one outside the region should tender in. The region has been defined based on potential effectiveness.

Provider A is inside the defined region and Provider B is outside the defined region.

Providers outside the region are assessed as only being 0 – 30% effective at resolving the issue. This means the tender effectiveness would be reduces by 70 – 100% when compared with Provider A.