

Issue 24 – Summary of Possible Solutions

This note attempts to summarise (in tabular form) how Reactive Power is handled under the current baseline, the initial Issue 24 solution (which the DTI advised was inconsistent with the Act), and the Issue 24 solution endorsed by the Group.

Current Baseline

The following table shows the treatment of Reactive Power under the current baseline. For clarity, three separate columns are shown:

- The Legal Status column shows how the Reactive Power is treated (in terms of the legal definitions in the BSC and CoPs);
- The Responsible Party shows which Party is responsible for (i.e. obliged to meter) the Reactive Power: the Import Party (i.e. the Party responsible for the Active Import), or the Export Party (i.e. the Party responsible for the Active Import).
- The Metering Solution shows how the Reactive Power is metered.

TABLE 1 – TREATMENT OF REACTIVE POWER FLOWS UNDER CURRENT BASELINE				
Flow of Active Energy	Power Factor	Legal Status of Reactive Energy Flow	Responsible Party	Metering Solution
Import	Lagging	"Reactive Import"	Import Party	Measurement Quantity RI on Import Party's MPAN
Import	Leading	"Reactive Export"	Export Party	Measurement Quantity RE on Export Party's MPAN
Export	Lagging	"Reactive Export"	Export Party	Measurement Quantity RE on Export Party's MPAN
Export	Leading	"Reactive Import"	Import Party	Measurement Quantity RI on Import Party's MPAN

The problem with this solution is that Leading Reactive Power flows at times of Active Export are being allocated to the Import Party, leading to anomalies when those Reactive Power meter readings are used (i.e. for DUoS charging).

Initial Proposed Issue 24 Solution

The initial proposed Issue 24 solution did not make any change to what counted as Import and Export, i.e. the Legal Status column remained unchanged. It did however propose changes to the Responsible Party and Metering Solution columns. Red text shows differences from the current baseline:

TABLE 2 – TREATMENT OF REACTIVE POWER FLOWS UNDER ISSUE 24 ORIGINAL SOLUTION				
Flow of Active Energy	Power Factor	Legal Status of Reactive Energy Flow	Responsible Party	Metering Solution
Import	Lagging	"Reactive Import"	Import Party	Measurement Quantity RI on Import Party's MPAN
Import	Leading	"Reactive Export"	Import Party	Measurement Quantity RE on Import Party's MPAN
Export	Lagging	"Reactive Export"	Export Party	Measurement Quantity RE on Export Party's MPAN
Export	Leading	"Reactive Import"	Export Party	Measurement Quantity RI on Export Party's MPAN

The view from the DTI was that this solution is inconsistent with the licensing requirements in the Electricity Act.

Group Endorsed Issue 24 Solution

This revised Issue 24 solution attempts to overcome this problem by bringing the Legal Status column in line with the Responsible Party column. The legal drafting will ensure that reactive power 'consumed' by a generator with leading power factor is no longer defined as 'Import', which is intended to remove the legal obstacle to making an Export Party responsible for it. Again, red text shows differences from the current baseline:

TABLE 3 – TREATMENT OF REACTIVE POWER FLOWS UNDER ISSUE 24 REVISED SOLUTION				
Flow of Active Energy	Power Factor	Legal Status of Reactive Energy Flow	Responsible Party	Metering Solution
Import	Lagging	"Lagging Import-Related"	Import Party	Measurement Quantity RI on Import Party's MPAN
Import	Leading	"Leading Import-Related"	Import Party	Measurement Quantity RE on Import Party's MPAN
Export	Lagging	"Lagging Export-Related"	Export Party	Measurement Quantity RE on Export Party's MPAN
Export	Leading	"Leading Export-Related"	Export Party	Measurement Quantity RI on Export Party's MPAN

NB no change is proposed to Measurement Quantity IDs (in order to minimise the system impact). So, for example, a Leading Export-Related Reactive Power flow would still be assigned to Measurement Quantity RI on the Export Party's MPAN, but would not be described as Reactive Import in the BSC or CoPs.