Memo

To	Distributors
Copies	Reconciliation participants Metering Equipment Providers Approved Test Houses
From	Grant Benvenuti
Date	8 January 2021
Subject	Considering future generation requirements in design of substation switchgear and network connections

For your information

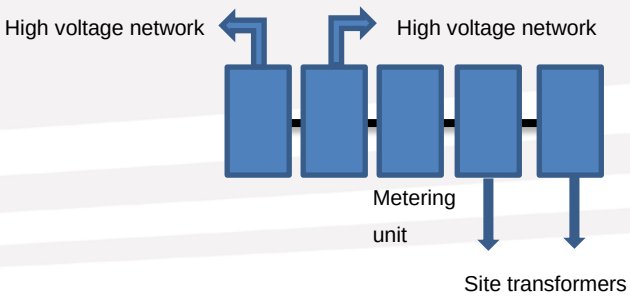
Reminder to consider future generation at sites with multiple connections to the network

Distributed generation (especially solar) is becoming more common on large sites. Many large sites have dedicated transformers with two or more connections to the network. When generated electricity flows out one transformer, through the high voltage buswork and back into the site through another transformer self-consumption can be recorded as electricity flowing both to and from the network, (unless the metering and substation is designed so that these flows are all on the metered side of the high voltage metering unit). This disadvantages the consumer who may end up paying network and retailer charges for electricity that is self-consumed onsite.

The cost of remediating these kinds of network design issues are borne by consumers and can greatly exceed the cost of installing or relocating meters.

Substation and high voltage switchgear configuration

We strongly recommend distributors design high voltage switchgear in such a way that if the consumer adds generation or additional connection points (transformers), metering can be easily configured to only meter exported electricity that enters the wider network. This will normally involve locating the metering upstream of any site transformers. An example configuration would be:



Making future costs explicit

If a consumer does not wish to install high voltage metering at the time of the switchgear design, then we strongly recommend participants (retailers, distributors, metering equipment providers) ensure the customer is aware of the limitations of low voltage metering when exporting from one connection (transformer) to another within the same site. By making these costs explicit, including the costs of inserting a high voltage metering unit in the future, the consumer will be able to assess the benefits of making this change now or in the future.

We have recently granted an exemption for this issue, however, are unlikely to grant similar exemptions in the future

The Authority has recently granted an exemption to enable volumes at an installation that did not consider the possibility of generation to be calculated via subtraction and avoid the need to reconfigure the network connection.

Configuration of the connection to the network meant that generation transported within the site was metered on the low voltage side of the transformers and is measured as import and export from one transformer to the other on the same site. It was not practical to install high voltage metering upstream of the tie between the two transformers within the consumer premises because of the design of the high voltage switchgear.

With forward planning this issue could have been addressed as part of the design of the network connection.

As participants have now been made aware of the need to consider future generation when connecting to the network, we do not expect similar exemptions will be necessary in the future.

Exemptions are designed to support participants when there are exceptional short-term situations

An exemption is a temporary release from an obligation in the Code. It is intended, for example, to provide the participant time to become compliant with the Code, or to suggest a Code amendment.

Exemptions are time bound and even exemptions due to physical network configurations will have an expiry.

Further information about exemptions is available on the Authority website.

Grant Benvenuti

Manager Market Operations