NEDA Metering Guideline

Version 1.0
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Single Buyer Department
Tenaga Nasional Berhad

GLOSSARY & DEFINITIONS

In this guideline, the following words and expressions shall bear the following meanings:

Capacity	The nett MW and MVAr *capacity* of a *generating unit*, or any other transmission/distribution *apparatus* at a particular time, to supply electrical energy.
Connection Point	The agreed point of supply established between a *distributor* and other *entity*.
Customer	A person who engages in the activity of purchasing *energy* supplied through a *transmission or distribution system*; and/or the final end *User* of *energy*.
Current Transformer (CT)	A *transformer* for use with *meter*s and/or *protection* devices in which the current in the secondary winding is, within prescribed error limits, proportional to and in phase with the current in the primary winding.
Demand	The *demand* of MW and MVAr of electricity (i.e., both active and *reactive power*), unless otherwise stated, at a particular time or during a time period.
Distribution Network	A *system* comprising of electrically *connected* equipment or elements that produce, transport, transform, control, and consume electrical power at v*oltage* levels of 33kV, 22kV, 11kV, 6.6kV, 400V and 230V.
Distribution System	The *system* consisting (wholly or mainly) of electric lines which are owned and operated by *distributor* and used for the distribution of electricity from *grid supply point*s or *generating unit*s or other entry points to the point of delivery to *consumers* or *other distributors*.
Electrical Contractors	Are contractors having a license from PKK in the electrical category (Class I, II or III) and also registered with the Energy Commission, and have own certified charge man and wireman, which are also registered with the Energy Commission.
Electrical Consultant Engineer	Professional Electrical Engineer registered with the Board of Engineers Malaysia (BEM) after having fulfilled all requirements to be a professional engineer as specified by BEM.
High Voltage or HV	A voltage equal to or greater than 50 kV.
Low Voltage or LV	A voltage level less than 1000 volts or 1 kV.
Medium Voltage or MV	A voltage equal to or exceeding 1 kV but not exceeding 50 kV.

Meter	A device complying with Standards which measures and records the production or consumption of electrical *energy*.
Metering	Recording the production or consumption of electrical *energy*.
Metering Data	The data obtained from a *metering* installation, the processed data or substituted data.
Metering Point	The point of physical *connection* of the device measuring the current in the power conductor.
Metering System	The collection of all components and arrangements installed or existing between each *metering point* and the *metering data*base.
Voltage *Transformer* (VT)	A *transformer* for use with *meter*s and/or *protection* devices in which the voltage across the secondary terminals is proportional to and in phase with the voltage across the primary terminals.

1.0 METERING GUIDELINE TERMS AND DEFINITIONS

1.1. Unless the context otherwise requires, words and phrases used in the *Metering* Guideline that are not defined in Glossary & Definitions shall have the same meaning as defined in the Electrical Supply Application Handbook (ESAH).

2.0 GENERAL REQUIREMENTS

2.1. All necessary *meters* (main and check) for measuring the import or export of electricity shall be provided and maintained by TNB. *Customer* shall ensure the point at which every supply line terminates in their premise is visible and easy to access by TNB personnel.

2.2. At any point in the premises at which the supply line or lines terminate, the developer/customer shall provide the meter board or metering panel according to TNBôs specifications in ESAH for the installation of meter and their accessories. TNB may change any meter and its accessories or their positions in any premise as deemed necessary at any time for purposes of maintenance and meter reading.

2.3. The customer shall ensure that the General Packet Radio Service (GPRS) signal strength or any other mode of communication approved by TNB in the metering room/location is adequate or sufficient for effective GPRS communication of Remote Meter Reading (RMR). The minimum signal strength is -77dBm and above.

2.4. For low voltage supply requiring metering CT, TNB shall provide low voltage CTs for the metering installation. The CTs shall be of the single ratio.

2.5. For *medium voltage* installations, *CTs* and *VTs* will be provided and installed by TNB at TNB's outgoing switchgear. However for situation whereby *CTs* and *VTs* could not be provided by TNB, *CTs* and *VTs* shall be provided and installed by *customer* and should fulfil the requirements below:

i. The *metering CTs* shall be of the single ratio and only for energy *metering* purpose
ii. The *metering CTs* shall be subjected to testing by TNB
iii. The passed calibration test certificates for the *metering VTs* from nationally or internationally accredited laboratory shall be submitted
iv. *VT* and *CT* ratio test must be carried out by *customer* during commissioning and witnessed by TNB representative

2.6. For *high voltage* installations, the *customer* shall provide the *metering CTs* and *VTs* according to TNBôs specifications in ESAH and fulfill the requirements below:

i. The *metering CTs* shall be of the single ratio and only for *energy metering* purpose
ii. Factory Acceptance Test (FAT) for *CTs* and *VTs* must be conducted and witnessed by TNB representative
iii. The passed calibration test certificates for the *metering VTs* from nationally or internationally accredited laboratory shall be submitted
iv. *VT* and *CT* ratio test must be carried out by *customer* during commissioning and witnessed by TNB representative

2.7. *Customers* participating in NEDA programme shall agree that all data declared in the Market Participants Interface (MPI) web portal are final and binding for settlement purposes.

2.8. Based on the declared export *capacity*, TNB may request NEDA participants to install separate *metering system*.

2.9. The schematic drawings and *metering* room layout, together with the load data declared using Borang Maklumat Awal Perjangkaan as shown in **Appendix 1,** are required to be sent to the TNB Single Buyer office. All drawings must be signed by a Professional Engineer.

2.10. The *Electrical Consultant Engineer/Electrical Contractor* shall ensure clear understanding of TNB *metering* requirements. Should there be any doubt, he should consult the TNB Single Buyer office.

2.11. The *metering* guidelines are subject to change from time to time.

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