

ANNEXURE 11

BIDIRECTIONAL CHECKLIST

Bi-directional Metering for SSEG Checklist

This checklist provides guidance on the minimum as well as key metering requirements when it comes to implementing bi-directional metering for SSEG customers. The checklist has been populated from the NRS 049, Annexure B: Guidance to Purchases: Table B:4

The type of functionality required will depend on the Municipal approach of doing SSEG metering which could be influenced by the level of resources available for doing metering. This checklist is to provide some guidance depending on the applicable approach.

NOTE: This checklist does not cover general metering requirements when it comes to standard metering functions, like import values, meter interfaces, mounting, IP rating, accuracy class etc.

Nr	Bi-directional Metering functionality and Register requirement	Entry level approach	Intermediate to Advance level approach (AMR, AMI or Smart Metering Systems)	Comments/ Notes
1	<i>Separate Import and Export Active Energy Registers (+A, -A)</i>	✓	✓	Needed for all levels of bidirectional metering
2	<i>4 Quadrant Measuring capabilities</i>	✓	✓	Only for large basic customers (>100Amp)
3	<i>Separate Import and Export Reactive Energy Registers (+Q, -Q)</i>	✓	✓	
4	<i>Separate import and export power registers (+P, -P)</i>	✓	✓	
5	<i>On site communication interface like Optical probe</i>	✓	✓	
6	<i>Customer interface & meter's display has direction indicators (+P, -P)</i>	✓	✓	
7	<i>Prepayment Meters Charge registers for import and export energy for the prepayment account</i>	✓	✓	
8	<i>STS functionality</i>	✓	✓	
9	<i>Net Energy register</i>	✓	✓	
10	<i>Time of Import and Export for Time of Use Tariffs</i>	✓	✓	(Intermediate level) If ToU implemented or to be implemented soon. (Advance level) Only for customers on Time of Use tariff
11	<i>Tamper Protection (Needs to stipulate what the meter needs to do and what it should)</i>	✓	✓	(Entry Level) Meter must indicate clearly when it's in

	display when going into tamper.)			tamper mode. Must also specify why it is in tamper mode.
12	Consider the physical design of meter (footprint) to match those being replaced	✓	✓	
13	Customer interface & meter's display can be configured to display SSEG registers (import and export energy and power)	✓	✓	
14	Import and Export Load Profiles (30min)		✓	
15	Minimum of 6 channels to upload from the Meter to the AMR or AMI system		✓	
16	Clock Synchronisation capability		✓	Important for Time of Use billing and to time stamp events and actions for meters based on a time schedule.
17	Apparent power import and export (+S, -S)		(Optional)	Not needed for residential. Can be calculated from other measurements.
18	Register for Quality of Supply (QS) measurement		(Optional)	Future – not for residential metering, but mainly for bulk or large customers and if more metering parameters are available

Metering specifications to be future ready for AMI application

19	Ability to remotely read all applicable registers, instantaneous values, monitor import and export generation and STS prepayment information	✓	✓	
20	Remote communication interface like GPRS, Wi-Fi, Radio Frequency (RF), Power Line Carrier (PLC), RS 485, etc.		✓	
21	Remotely monitor and audit for improved revenue protection		✓	
22	DLMS/COSEM gateway capabilities and compliant		✓	
23	Load Management Capabilities	✓	✓	

24	<i>Remotely disconnect and reconnect the meters supply control switch</i>	✓	Only when AML is in place
25	<i>Over the air meter firmware update</i>	✓	
26	<i>Remote meter configuration via DLMS commands</i>	✓	
27	<i>Pulse output for secondary meter</i>	✓	
27	<i>Other?</i>		