

No.	Description	Comment
1	AMI functionality	
1.1	Standards interface between meter and telecommunication module	
1.2	Support IEC62056/DLMS COSEM protocol for communication	
1.3	Remote and local connect and disconnect capability	
1.4	Remote and local meter configuration	
1.5	Support Time-Of-Use metering	
1.6	Support Critical-Peak-Pricing and Real-Time-Pricing Scenarios	
1.7	Bi-Directional and Net Metering(Import and Export)	
1.8	Load profile storage in meter	
1.9	Outage Detection	
1.9.1	Report of outage immediately	
1.9.2	Report of restoration and interval of outage	
1.10	Meter loss of supply detection	
1.11	Theft detection	
1.12	Power Quality Measurement	
1.12.1	Voltage min/max	
1.12.2	Total Harmonic Distortion	
1.12.3	Sag/Swell	
1.12.4	Harmonic	
1.13	Scalability	
1.13.1	Modularity	
1.13.2	Automatic detection of new addition	
1.13.3	Open standard interface	
1.14	System acts as a communication gateway to devices at customer side(HAN).	
1.15	Self-Healing Network : The ability of the network to detect and repair network problems automatically	
1.16	Net Metering	

No.	Description	Comment
1.17	Sub Metering	
1.18	Remote and local reading of meters	
1.19	Time Clock Synchronization	
1.20	Demand control for normal and emergency situation	
1.21	Firmware upgrades	
1.22	Information and communication security	
1.23	Recording event and alarm	
1.24	Security according ISO27002-4,5,6,7,10,11 and 12	
1.25	Tamper detection and report it after interval meter reading	
2	Telecommunication and network	
2.1	Two ways communication between meter and center	
2.2	Open protocols for communication	
2.3	Bandwidth sufficient for remote download	
2.4	Easily extended	
2.5	Secure	
2.6	Does not interfere with other telecommunication networks	
2.7	On-demand reads	
2.8	Traffic balancing	
3	Software Requirements	
3.1	Network Management : The ability to remotely diagnose meters and network components , and to monitor and control the status of AMI communication network	
3.2	System can permit multiple authorized clients within utility and external to the utility to access the metering data.	
3.3	Load management	
3.4	Energy management	
3.5	Meter alarm and event management	

No.	Description	Comment
3.6	Management of meter's interval data aggregation	
3.7	Meter configuration management	
3.8	Customer load and demand management	
3.9	Customer side display management	
3.10	Energy management and control of grid	
3.11	Grid stability management	
3.12	Power quality management	
3.13	Monitoring of grid balancing	
3.14	AMI communication network and intermediate devices management	
3.15	Data Input to software	
3.15.1	Meter reads and reports from AMI system	
3.15.2	Data from utility's customer information systems	
3.15.3	Information related to rate structures and scenarios	
3.15.4	Data transmitted for billing	
3.15.5	Requests for data from the software by utility and interested parties	
3.15.6	Reports and acknowledgements	
3.16	Disseminate Data from the software	
3.16.1	Data transmitted to utility's agent for Billing	
3.16.2	Request from Interested parties	
3.16.3	Messages	
3.16.4	Report generation	
3.16.5	Internal and external user Interfaces	
3.16.6	The software shall have the capability to present data and reports in a way that is accessible by the public	
3.16.7	Provide data on request at scheduled or ad-hoc intervals	
3.17	Data management	
3.17.1	Software shall aggregate meter data for purposes such as billing, reporting and analysis	

No.	Description	Comment
3.17.2	Data versioning	
3.17.3	Software shall have the capability to complete an audit trail for all Meter Reads in order to record events involving the processing of data	
3.17.4	Validate , Edit and Estimate meter reads	
3.17.5	Manage clock changes	
3.17.6	Support data versioning for all information	
3.18	Data Storage	
3.18.1	Receive and manage information to support relationship between meters and interested parties	
3.18.2	Software shall store Meter Reads, interval consumption data , and billing quantity data . The software shall optionally support the storing of other interval data such as, but not limited to, demand, volts, amps and power factor	
3.18.3	Data archival and restoration	
3.18.4	Security	
3.18.5	User authentication	
3.18.6	Reliability	
3.19	Scalability to support the utility smart grid targets	
3.20	Provide billing quantity data for customers on different rate structure including , hourly , RPP, CPP , TOU and RTP	
3.21	Provide data on request at scheduled or ad-hoc intervals	