Appendix 3B: Minimum Functional Specification (TECHNICAL)

No	REQUIREMENTS	YES	NO	COMMENTS
11.1 METER DATA MANAGEMENT SYSTEM				
1.	Is the master Meter Data Management System solution scalable? If it is, can it support at least 1 million Smart Meters at full scale?			
2.	Is the master Meter Data Management System solution interoperable **and** does it comply with MultiSpeak or IEC 6186-9 (CIM) specification?			
3.	Are there any limitations to MDMS's interoperability?			
6.	Can the system produce customer defined reports?			
7.	Will the master MDMS be able to handle readings of at least 15 minutes interval?			
9	Does the MDMS support self-definition of VEE ?			
10	Does the MDMS support definition of rule variables and self-definition of validation rules according to arithmetical operation symbols (+, -, *, \) if and non-logical operational symbols?			
11	Does the system supports visual guide design for common statistic reports. Supports pie, bar, line and simple combination presentation. Supports self-definition of data model, data column name and data type based on database table and SQL?			

12	*Does the system supports curve analysis indicators including but not limited to load direction, average load, current trends, voltage trends, electricity consumption trends, power factor, active power, reactive power, apparent power, maximum demand, harmonic data.*			

11.2 SECURITY

1	*Is the master MDMS software restricted through secure user names and passwords?*			
2.	*Can the system administrators restrict user permissions?*			
3.	*Can the system administrator create user groups (similar user) permissions?.*			
4.	*Logging of user activities and user logins?*			
5.	*Do data transfers use an advanced encryption standard?*			
6.	*Compliance with DoE Information Security Policies and with South Africa security legislation and regulations?*			
7.	*Compliance with DoE and South African data protection policies legislation and regulations (POPI)*			

11.3 ARCHITECTURE

1.	*Schematic drawing of proposed solution architecture attached?*			
2.	*Detailed overview of all the major components, systems and technologies attached?*			

11.4 INTERFACE

1	*Does the master MDMS support the bi directional communication with other MDMSs?*			
2	*Can the master MDMS respond to commands to generate management reports remotely and in real time?*			
3	*Can the master MDMS incorporate future integration with other MDMS's at different location? Is this a simple exercise that can be achieved with little or no down time?*			
4.	*Is there a secure mechanism provided for data collection or local configuration?*			

11.5 Forecasting Management

1	Support Common Series Forecasting Method including regression analysis method, correlational analysis methods, exponential smoothing method, dynamic average method, grey system method, artificial neural network method, and growth equation method, etc.			

2	Special Forecasting Method for Monthly Series Amount by taking advantage of features of space mesh development regularity, e.g. month correlation method, total volume proportioning method, etc.			
3	Support Forecast Process Management including manual and automatic forecasting. Also does forecast results adjustment, correction, release and forecast data deviation analysis			
4.	Support consumption measurement on a monthly, quarterly and yearly period. Adopts regression and grey models. Passes parameter for market analysis forecasting (i.e. time, organization, forecasting items such as energy and/or power.			
5	The frequency of load curve is daily, and the load point forecasting adopts time sequence model.			
6	Be able to add energy efficiency management in the next phase			