Proposed Modifications to the Metering Code

The Authority has received requests for modification to the Metering Code. Pursuant to Section 1.6 of the Metering Code, the proposed modification to the Code and the reasons for making the modification are given in the table below. All interested parties are invited to comment on the proposed modification. Written representations with regard to the proposed modification should be sent to EMA via email at Lim_Mui_Nah@ema.gov.sg not later than ***(23 May 2006)***.

Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
MC/2005/1	1.4	**"**meter" means any electrical device capable of measuring and permitted in terms of this Code to be used to measure the flow of real or reactive electrical power, and includes an installation meter, a pool meter, an intertie meter, and a generation meter, from which readings are to be taken for settlement purposes;	**"**meter" means any electrical device capable of measuring and permitted in terms of this Code to be used to measure the flow of real or reactive electrical power, and includes an installation meter, a prepaid meter, a pool meter, an intertie meter, and a generation meter, from which readings are to be taken for settlement purposes;	To include prepaid meter in the definition of meter
MC/2005/2	1.4	New	"prepaid meter" means a meter with the additional capability to allow electricity consumption based on the amount of payment made in advance by the consumer for the electricity to be consumed. For the purpose of this code, prepaid meters refer to those installed at non-contestable consumers' domestic premises in accordance with the Regulated Supply Service Code.	To add definition for prepaid meter

[1] Reference to the section of the code where change has been made in the version dated on January 2004 as published on the web.

Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
MC/2005/3	2.3.3 (d)	No later than two business days following meter installation, the MESP shall provide the applicable MDM the meter information delineated in section 2.7 of this Code.	No later than two business days following meter installation, other than that for a prepaid meter, the MESP shall provide the applicable MDM the meter information delineated in section 2.7 of this Code.	The information for prepaid meters is managed by the market support services licensee, the provision of which is covered under the Regulated Supply Service Code. Unlike normal meters, the market support services licensee will capture and provide the relevant information to the MESP.
MC/2005/4	2.6.2	A MESP for a meter installation shall report all relevant meter parameters for a replacement meter in that meter installation, as described in section 2.7, to the applicable MDM.	A MESP for a meter installation, other than that for a prepaid meter, shall report all relevant meter parameters for a replacement meter in that meter installation, as described in section 2.7, to the applicable MDM.	Similar to the above, the market support services licensee will capture the relevant meter information of the replacement meter prior to issue of replacement meter for site installation.

[1] Reference to the section of the code where change has been made in the version dated on January 2004 as published on the web.

Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
MC/2005/5	2.7.1	A MESP shall provide the following information for each meter installation for which it acts as MESP to the MDM responsible for managing the data from that meter installation: (a) A unique identifier assigned by the MESP to the meter installation, cross-referenced to the location of the meter installation; (b) The date of installation of the meter installation; (c) The functionality of the meter and the unit of measurement used to measure energy flowing through the meter installation; (d) Identification of the ancillary equipment; (e) Any site-specific adjustment factors as defined in the Market Support Services Code to be applied, including the sign of the loss adjustment; (f) The existence of redundancy and sources of check metering data, where required by this Code, and identification of the meters designated as the main meter and as the check meter; and (g) Initial meter register reading	A MESP shall provide the following information for each meter installation, other than that for a prepaid meter, for which it acts as MESP to the MDM responsible for managing the data from that meter installation: (a) A unique identifier assigned by the MESP to the meter installation, cross-referenced to the location of the meter installation; (b) The date of installation of the meter installation; (c) The functionality of the meter and the unit of measurement used to measure energy flowing through the meter installation; (d) Identification of the ancillary equipment; (e) Any site-specific adjustment factors as defined in the Market Support Services Code to be applied, including the sign of the loss adjustment; (f) The existence of redundancy and sources of check metering data, where required by this Code, and identification of the meters designated as the main meter and as the check meter; and (g) Initial meter register reading	Consistent with modifications made to clauses 2.3.3 (d) and 2.6.2.

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Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
MC/2005/6	2.7.2	New	The market support services licensee shall provide the following information for each prepaid meter installation to the relevant MESP: (a) A unique identifier assigned by the MESP to the meter installation, cross-referenced to the location of the meter installation; (b) The date of installation of the meter installation; (c) Initial meter register reading	Consistent with modifications made to clauses 2.3.3 (d) and 2.6.2.
MC/2005/7	3.3.5	All manually read meters within a meter installation shall be scheduled to be read by the MR for the meter installation at least once every two months, in accordance with the schedule dictated by the MDM for the meter installation.	All manually read meters, other than prepaid meters, within a meter installation shall be scheduled to be read by the MR for the meter installation at least once every two months, in accordance with the schedule dictated by the MDM for the meter installation	As the readings for prepaid meters will be derived from every top up done by consumers, there will not be a need to do meter readings.
MC/2005/8	3.4.1	For kilowatt-hour meters, the MR for the meter installation shall verify at the time of the meter being read that the meter identification number on the meter matches the meter identification number for the read-route location schedule.	For kilowatt-hour meters, other than prepaid meters, the MR for the meter installation shall verify at the time of the meter being read that the meter identification number on the meter matches the meter identification number for the read-route location schedule.	There is no need to do verification as no manual reads will be done and all information will be configured in the Smartkey.

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Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
MC/2005/9	4.2.7	New	For prepaid meters, in the event that the applicable market support services licensee detect there has not been any top-up and suspect of unauthorized usage, the applicable market support services licensee shall inspect the premises.	To detect unauthorized energy use.
MC/2005/10	4.5.7	For manually read, kilowatt-hour meters, the MDM for the other meter installation shall compare average daily usage for the meter reading period with average daily usage for the previous meter reading period. If the difference is greater than 20 percent, the MDM shall communicate with the meter entity to determine if a satisfactory explanation exists to justify the difference. If, in the opinion of the MDM, the difference is justified, the data shall be considered to be settlement-ready data.	For manually read kilowatt-hour meters, other than prepaid meters, the MDM for the other meter installation shall compare average daily usage for the meter reading period with average daily usage for the previous meter reading period. If the difference is greater than 20 percent, the MDM shall communicate with the meter entity to determine if a satisfactory explanation exists to justify the difference. If, in the opinion of the MDM, the difference is justified, the data shall be considered to be settlement-ready data.	There is no need to do verification as no manual reads will be done and all information will be configured in the Smartkey.
MC/2005/11	4.5.8	If data from an interval meter or a manually read, kilowatt-hour meter do not pass the validation procedures referred to in section 4.5.5, 4.5.6 or 4.5.7, the MDM for the meter installation shall:	If data from an interval meter or a manually read, kilowatt-hour meter, other than prepaid meters, do not pass the validation procedures referred to in section 4.5.5, 4.5.6 or 4.5.7, the MDM for the meter installation shall:	There is no need to do verification as no manual reads will be done and all information will be configured in the Smartkey.

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Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
MC/2005/12	Appendix A	British Standards (BS) BS EN 60521 Class 0.5, 1 and 2 alternating current watt-hour meters BS EN 60687 Specification for alternating current static watt-hour meters for active energy (classes 0.2 S and 0.5 S) BS EN 61036 Alternating current static watt-hour meters for active energy (classes 1 and 2) BS EN 61268 Alternating current static var-hour meters for reactive energy (classes 2 and 3) BS EN 7856 Code of practice for design of alternating current watt-hour meters for active energy (classes 1 and 2) BS EN 60044-1 Instrument transformers. Current transformers BS 3941 Specification for voltage transformers BS EN 61107 Data exchange for meter reading; tariff and load control - Direct local data exchange.	British Standards (BS) BS EN 60521 Class 0.5, 1 and 2 alternating current watt-hour meters BS EN 60687 Specification for alternating current static watt-hour meters for active energy (classes 0.2 S and 0.5 S) BS EN 61036 Alternating current static watt-hour meters for active energy (classes 1 and 2) BS EN 61268 Alternating current static var-hour meters for reactive energy (classes 2 and 3) BS EN 7856 Code of practice for design of alternating current watt-hour meters for active energy (classes 1 and 2) BS EN 60044-1 Instrument transformers. Current transformers BS 3941 Specification for voltage transformers BS EN 61107 Data exchange for meter reading; tariff and load control - Direct local data exchange.	To include new meter specifications.

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Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
		International Electrotechnical Commission (IEC) IEC 60521 Class 0.5, 1 and 2 alternating-current watt-hour meters IEC 60687 Alternating current static watt-hour meters for active energy (Classes. 0.2 S and 0.5 S) IEC 61036 Alternating current static watt-hour meters for active energy (Classes. 1 and 2) IEC 61268 Alternating current static var-hour meters for reactive energy (Classes. 2 and 3) IEC 60044-1 Current Transformers IEC 60186 Voltage Transformers IEC 61107 Data exchange for meter reading, tariff and load control - Direct local data exchange Singapore Standards (SS) SS318 Specification for current transformer	BS EN 62052-11 Electrical metering equipment (AC) – General requirements, tests and test conditions – Part 11: Metering equipment BS EN 62053-11 Electrical metering equipment (AC) – Particular requirements – Part 11: Electromechanical meters for active energy (Classes 0.5, 1 and 2) BS EN 62053-21 Electrical metering equipment (AC) – Particular requirements – Part 21: Static meters for active energy (Classes 1 and 2) BS EN 62053-22 Electrical metering equipment (AC) – Particular requirements – Part 22: Static meters for active energy (Classes 0.2S and 0.5S) BS EN 62053-23 Electrical metering equipment (AC) – Particular requirements – Part 23: Static meters for reactive energy (Classes 2 and 3)	

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Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
			International Electrotechnical Commission (IEC) IEC 60521 Class 0.5, 1 and 2 alternating-current watt-hour meters IEC 60687 Alternating current static watt-hour meters for active energy (Classes. 0.2 S and 0.5 S) IEC 61036 Alternating current static watt-hour meters for active energy (Classes. 1 and 2) IEC 61268 Alternating current static var-hour meters for reactive energy (Classes. 2 and 3) IEC 60044-1 Current Transformers IEC 60186 Voltage Transformers IEC 61107 Data exchange for meter reading, tariff and load control - Direct local data exchange IEC 62052-11 Electrical metering equipment (AC) – General requirements, tests and test conditions – Part 11: Metering equipment	

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Modification Ref. No.	Section[1]	**Original Text**	**Modification**	Reasons
			IEC 62053-11 Electrical metering equipment (AC) – Particular requirements – Part 11: Electromechanical meters for active energy (Classes 0.5, 1 and 2) IEC 62053-21 Electrical metering equipment (AC) – Particular requirements – Part 21: Static meters for active energy (Classes 1 and 2) IEC 62053-22 Electrical metering equipment (AC) – Particular requirements – Part 22: Static meters for active energy (Classes 0.2S and 0.5S) IEC 62053-23 Electrical metering equipment (AC) – Particular requirements – Part 23: Static meters for reactive energy (Classes 2 and 3) Singapore Standards (SS) SS318 Specification for current transformer	

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