

**General Specification for Electrical Installation in Government
Buildings of the Hong Kong Special Administrative Region
(2017 Edition)**

The 2017 edition of the General Specification for Electrical Installation has incorporated updates and revisions to the 2012 edition (incorporating Corrigendum No. GSEE02-2012). Please refer to the summary of major changes for the updates and revisions involved.

Electronic version of this 2017 edition can be viewed on the ArchSD Internet website.

In view of the updates and revisions, there will be an introductory period of 6 months in preparation for full implementation of this 2017 edition as contract document by 1 October 2017. In summary,

- For tenders to be invited on or after 1 October 2017, this 2017 edition shall be used.
- Existing contracts (including contracts using previous editions tendered before 1 October 2017) will not be affected.

MAJOR CHANGES IN THE GENERAL SPECIFICATION FOR ELECTRICAL INSTALLATION
IN GOVERNMENT BUILDINGS OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
2017 EDITION

Old Ref. No. (2012)	New Ref. No. (2017)	Major Changes
General		
Clauses in Sections A, B, C, D & E	-	a) To replace “Architect” by “Supervising Officer”; b) To update year of editions for various Standards, including IEC, BS EN, EN, BS and ISO.
TABLE OF CONTENT		
PART A (TABLE OF CONTENT)		
-	A3.11	To add a new clause “Painting”
-	A4.2.6	To add a new clause “Checking Drawings of Other Trades”
PART C (TABLE OF CONTENT)		
C3.5	C3.5	To replace the clause heading of “(NOT USED)” by “Cable termination”
PART D (TABLE OF CONTENT)		
D1	D1	To revise SECTION heading of “General Requirement” as “General Requirements”
D1.1	D1.1	To rename clause heading of “General Requirement” to “General”
-	D1.2	To add a new clause “Methods and Procedures”

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-	D1.3	To add a new clause “Notices of Inspection, Testing and Commissioning Works”
-	D1.4	To add a new clause “Labour and Materials”
-	D1.5	To add a new clause “Inspection, Measuring and Testing Equipment ”
-	D1.6	To add a new clause “Readiness for Inspection, Testing and Commissioning”
-	D1.7	To add a new clause “"Type-test" Certificate”
-	D1.8	To add a new clause “Off-site Tests / Factory Tests”
-	D1.9	To add a new clause “Site tests”
D2	D2	To rename SECTION heading of “Routine Inspection” to “Inspection”.
D2.1	-	To delete clause “Off-site Routine Inspection and Functional Test”.
D2.2	D2.1	To renumber this clause to “D2.1”.
D2.3	D2.2	To rename clause heading of “Visual Inspection of Installation” to “Visual Inspection and Checking”.
-	D2.3	To add a new clause “Handover Inspection”.
D3	-	To delete this section.
D4	D3	To renumber this section to “D3”.
D4.1	D3.1	To renumber this clause to “D3.1”.

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D4.2	D3.2	a) To re-number this clause to “D3.2;” and b) To rename clause heading of “Testing and Commissioning Procedure” to “Procedures, Standards and Requirements”.
-	D3.3	To add a new clause “Master Programme for Testing and Commissioning Works”.
-	D3.4	To add a new clause “Documents and Deliverables”.
D4.3	D3.5	To renumber this clause to “D3.5”.
PART E (TABLE OF CONTENT)		
E	E	To rename PART heading of “Training, Inspection, Attendance and Operation and Maintenance During Maintenance Period” to “Training, Inspection, Attendance, Operation and Maintenance During Maintenance Period”.
E1	E1	To rename SECTION heading of “Training to Users and Operation and Maintenance Agents” to “General Requirements”.
E1.1	E1.1	To rename clause heading of “Particulars of Training Course and Training Schedule” to “General”.
-	E1.2	To add a new clause “Completion of Outstanding and Defective Works”.
-	E1.3	To add a new clause “Repair and Maintenance Records”.
E2	E3	To renumber this Section “Emergency Services and Attendance to Fault Calls” to “E3” and rename it as “Inspection, Attendance, Operation and Maintenance Requirements”.
-	E2	To insert the Section heading of “Training To Users and Operation and Maintenance Agents” as

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		“E2”.
E2.1	E3.1	To renumber the clause to “E3.1” and rename it as “Response and Attendance to Emergency and Fault Calls”.
-	E2.1	To insert a new clause “General” as “E2.1”.
E2.2	-	To delete this clause “Monitoring Mechanism on Contractor’s Performance”.
E2.3	E3.6	To renumber the clause to “E3.6”.
E3	E3	To rename SECTION heading of “Inspection, Operation and Maintenance Requirements” to “Inspection, Attendance, Operation and Maintenance Requirements”.
E3.1	E3.2	To renumber the clause to “E3.2”.
-	E3.1	To substitute by clause “E2.1” and rename it as “Response and Attendance to Emergency and Fault Calls”.
E3.2	-	To delete the clause “Monitoring Mechanism on Contractor’s Performance”.
E3.3	E3.3	To rename clause heading of “Final Inspection before the End of Maintenance Period” to “Inspection During Maintenance Period”.
E3.4	E3.5	To re-number the clause to “E3.5”.
-	E3.4	To add a new clause “Joint Inspection at the End of Maintenance Period”.
E4	-	To delete this section.

Old Ref. No. (2012)	New Ref. No. (2017)	Major Changes
PART A		
SECTION A1		
A1.3	A1.3	<ul style="list-style-type: none"> a) To delete the 2nd paragraph “A1.3.1 - Terms and Definitions”; b) To redefine “Conditions” as “The “Conditions of Contract” as defined in the Contract. For Nominated Sub-contract works, the “Main Contract Conditions” and the “Sub-contract Conditions” as defined in the Nominated Sub-contract as appropriate”; c) To delete “Publication” under the term of “ISO”; d) To rename “Proprietary brand name materials or product” to ”Proprietary brand name products or Materials” e) To rephrase the definition of “Proprietary brand name products or Materials” as “The phrase “or alternative products or materials having equivalent functions or performance” is deemed to be included wherever products or materials are specified by proprietary brand names in the Contract. Alternative products or materials of different brands or manufacture having equivalent functions or performance may be submitted for the consideration of the Supervising Officer.”; f) To add a term of “or equivalent standards” which is defined as “Means internationally recognised standards acceptable to the Supervising Officer having similar requirements and specification as regards to the type of construction, functions, performance, general appearance and standard of quality of manufacture and approved by the Supervising Officer”; and g) To add a term of “O&M” which is defined as “Operation and Maintenance”.

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SECTION A2		
A2.1.1	A2.1.1	<p>To add following regulations of compliance under “Statutory Regulations”:-</p> <ul style="list-style-type: none"> a) Fire Service (Installations and Equipment) Regulations, Fire Services Ordinance (Cap. 95), and other subsidiary legislation made under the Ordinance; b) Dangerous Goods Ordinance (Cap. 295), and other subsidiary legislation made under the Ordinance; c) Energy Efficiency (Labelling of Products) Ordinance (Cap. 598); and d) Fire Safety (Buildings) Ordinance (Cap. 572).
A2.1.2	A2.1.2	<p>To add following requirements of compliance under “Other Requirements”</p> <ul style="list-style-type: none"> a) Public Lighting Design Manual issued by Lighting Division, Highways Department; and b) Code of Practice for Fire Safety in Buildings, 2011 published by the Buildings Department.
A2.1.3(e)	A2.1.3(e)	To replace the item of “Construction Site Safety Manual published by the Environmental, Transport and Works Bureau” by “Construction Sites Safety Manual published by the Development Bureau, the Government of the HKSAR”.
SECTION A3		
A3.1	A3.1	To delete “(System International d’Unites).
-	A3.2(g)	To insert item of “Date of power energisation from power supply company” as sub-clause A3.2(g).

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A3.2(g)	A3.2(h)	Re-number sub-clause to A3.2(h).
A3.2(g)	A3.2(i)	Re-number sub-clause to A3.2(i).
A3.3	A3.3	4 th paragraph: To replace ‘The EE Contractor shall ensure that such works ...of the Installations.’ by ‘The EE Contractor shall ensure that such works ...of the Installations and its subsequent servicing.’.
A3.5	A3.5	1st paragraph: To replace ‘The EE Contractor shall cooperate at all times.....on the Site.’ by ‘The EE Contractor shall cooperate at all times.....on the Site and keep the Site in a clean and tidy condition.’.
A3.6	A3.6	a) 1 st paragraph: To replace “The site supervisor shall be vested Architect” by “The site supervisor shall be vested Supervising Officer and his Representative.”; b) 2 nd paragraph: To insert “The qualified and competent site supervisor shall have minimum 5 years on site experience for similar type of installation works.” after the 1 st sentence of “The site supervisor shall be technically competent..... for the Installations.”; and c) To insert the following clause as the last paragraph: “All tradesmen must be experienced in the trade and the work carried out shall be consistent with good practice in Hong Kong and to the satisfaction of the Supervising Officer. In this connection, the EE Contractor’s attention is drawn to the Special Conditions of Contract under the Contract for the requirements relating to Qualified Tradesmen/Qualified Skilled Workers

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		<p>and Intermediate Tradesmen/Qualified Semi-skilled Workers.</p> <p>The EE Contractor shall also employ a full time competent foreman on Site for each trade. All trade foremen shall be registered tradesmen/skilled workers of the relevant trade.”.</p>
A3.7	A3.7	<p>a) 2nd paragraph</p> <p>To replace the last sentence of “Upon approval of all items, the to the site office for reference.” by “Upon approval of all items, the to the site of the Supervising Officer’s Representative for reference.”; and</p> <p>b) To add the following clause as the last paragraph:</p> <p>Additional items may be required by the Supervising Officer and/or specified in the Particular Specification.</p>
A3.9	A3.9	<p>a) 2nd paragraph:</p> <p>To delete the 1st sentence of “Materials and equipment delivered to Site are the Employer’s property.;</p> <p>b) 3rd paragraph:</p> <p>To add “and equipment” at the end of the 1st sentence of “Where the Building Contractor all incoming/outgoing materials.”; and</p> <p>c) Top add the following clause as the last paragraph:</p> <p>“The EE Contractor shall print the major technical details on equipment/ materials or</p>

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		supporting documents (e.g. delivery note), or else submit a written declaration to confirm compliance of the equipment/materials with the approved technical details so as to facilitate checking of equipment/materials delivered on site”.
-	A3.11	<p>To add a new clause of “Painting” as below:</p> <p>“All paints shall be submitted for the approval of the Supervising Officer. The volatile organic compound (VOC) content, in grams per litre, of all paint and primer shall not exceed the prescribed limit under the Air Pollution Control (Volatile Organic Compounds) Regulation or the limit set by Environmental Protection Department (EPD), whichever is more stringent.</p> <p>VOC content of paint shall be determined by methods stipulated in Air Pollution Control (Volatile Organic Compounds) Regulation or other methods acceptable to EPD.”.</p>
SECTION A4		
A4.1	A4.1	To rephrase the 2 nd sentence as “These drawings shall conform to the latest version of CAD Standard for Works Projects (CSWP) as posted in the website of the Development Bureau and in accordance with the latest version of CAD Manual for ArchSD Projects.”.
A4.2.5	A4.2.5	<p>2nd paragraph:</p> <p>To replace “No Installations shall...” by “No work shall...”.</p>
-	A4.2.6	<p>To add a new clause of “Checking Drawings of Other Trades” as below:</p> <p>“The EE Contractor shall follow the design intent of the Contract Drawings in planning and carrying out the work and shall cross check with other trades in order to verify the level, space and</p>

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		<p>sequence in which the installations are to be installed.</p> <p>If directed by the Supervising Officer, the EE Contractor shall, without extra charge, make reasonable adjustments to the proposed installation drawing layouts as are necessary to prevent conflicts with the work of other trades or for the proper sequence of and execution of Works under the Contract.”.</p>
A4.3.1	A4.3.1	To replace the whole clause by “The EE Contractor shall submit to the Supervising Officer as-built drawings, including the draft prints and revised draft prints for checking and the final approved drawings for record in accordance with the requirements set out in the contract documents.”.
A4.3.2	A4.3.2	To add “Subject to the acceptance of Supervising Officer, smaller size (A2 to A4) can be used for installation drawings.” after the last sentence.
A4.3.3	A4.3.3	<p>1st paragraph:</p> <p>To add “Unless otherwise specified in other part of the contract documents,” before the sentence of “the as-built drawings required to be provided by the EE Contractor”.</p>
A4.4.2	A4.4.2	<p>2nd paragraph</p> <p>To add “and searchable” after “.....shall be in format readable”.</p>
A4.4.3	A4.4.3	To replace the whole clause by “The EE Contractor shall submit to the Supervising Officer the draft of O&M Manuals and User Manual for checking and approval and the approved O&M Manuals and User Manual for record according to the requirements as specified in the contract documents..”.

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A4.4.4	A4.4.4	To revise the requirements of “Structured and Contents of O&M manual”.
PART B		
SECTION B1		
B1.1.1	B1.1.1	To delete the 2 nd paragraph “All tradesmen...Intermediate Tradesmen”.
B1.1.2	B1.1.2	To delete the 2 nd paragraph “Instruments used for...project”.
B1.1.3	B1.1.3	To delete “comply” and “s” of “Works” from “Works shall be carried out in such a manner as to conform in all respects comply with all the ordinances, regulations, etc.”.
SECTION B2		
B2.1.20	B2.1.20	To add “Penetration seals for openings where conduit passing through the fire barrier shall be provided in compliance with Code of Practice for Fire Safety in Building.” at the end of the paragraph.
B2.2.8	B2.2.8	2 nd paragraph: To replace the last sentence of “These supports shall be painted with at least two coats of an approved anti-rust paint to prevent corrosion.” by “Unless otherwise specified the hangers or brackets shall be hot-dip galvanised, painted with anti-rust epoxy coating or the use anti-rusting material to prevent corrosion.”.
B2.2.10	B2.2.10	To add “Penetration seals for openings where trunking passing through the fire barrier shall be provided in compliance with Code of Practice for Fire Safety in Building.” at the end of the paragraph.

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SECTION B3		
B3.4.4	B3.4.4	To add “Penetration seals for openings where ducts, cables and the like passing through the fire barrier shall be provided in compliance with Code of Practice for Fire Safety in Building.” at the end of the paragraph.
B3.9.4	B3.9.4	1 st paragraph To replace the sentence of “The hangers or brackets shall be painted with anti-rust epoxy paint unless otherwise specified.” by “Unless otherwise specified the hangers or brackets shall be hot-dip galvanised, painted with anti-rust epoxy coating or the use anti-rusting material to prevent corrosion .”.
B3.11.7	B3.11.7	To add “Unless otherwise specified the hangers or brackets shall be hot-dip galvanised, painted with anti-rust epoxy coating or the use anti-rusting material to prevent corrosion.” after the sentence of “Supports shall be properly spaced at distance not exceeding 1500 mm for straight run to satisfactorily support the weight of the ladder and cables.”.
SECTION B6		
B6.8	B6.8	To add “Penetration seals for openings where busduct trunking passing through the fire barrier shall be provided in compliance with Code of Practice for Fire Safety in Building.” at the end of the paragraph.
B6.11	B6.11	To replace “...Safety Electrical Connection...” by “...Safety Earth Connection...”.
B6.12.4	B6.12.4	To add “Penetration seals for openings where busbar trunking passing through the fire barrier shall be provided in compliance with Code of Practice for Fire Safety in Building.” at the end of the paragraph.

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B6.12.5	B6.12.5	To add “Unless otherwise specified the hangers or brackets shall be hot-dip galvanised, painted with anti-rust epoxy coating or the use anti-rusting material to prevent corrosion.” at the end of the paragraph.
B6.13.5	B6.13.5	To insert “Unless otherwise specified the hangers or brackets shall be hot-dip galvanised, painted with anti-rust epoxy coating or the use anti-rusting material to prevent corrosion.” after the sentence of “Supports for the busbar trunking system shall be by means of hangers and brackets supplied by the same manufacturer as the busbar trunking system.”
SECTION B7		
B7.10.1	B7.10.1	1 st paragraph: To replace “...Clause 11K...” as “...Clause 11C...”.
PART C		
SECTION C1		
C1.1.3(d)	C1.1.3(d)	To replace “Relative humidity: 99% maximum” by “Relative humidity: maximum or non-condensing”.
C1.6	C1.6	To delete the sentence of “Wood screws shall be to BS 1210:1963 with countersunk head unless otherwise specified.”.
SECTION C2		
C2.1.2(e)	C2.1.2(e)	To replace “BS 7211:1998” by “BS EN50525-3-41:2011”.
C2.1.3(f)	C2.1.3(f)	To replace “Table 7” by “Table 3”.

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C2.1.3(g)	C2.1.3(g)	To replace ‘Table 8’ by ‘Table 4’.
C2.1.3(h)	C2.1.3(h)	To replace ‘Table 9’ by ‘Table 5’.
C2.1.3(i)	C2.1.3(i)	To replace ‘Table 6’ by ‘Table 4’.
C2.1.3(j)	C2.1.3(j)	To replace ‘Table 7’ by ‘Table 5’.
C2.1.4(d)	C2.1.4(d)	To replace “BS 6004:2000” by “BS EN50525-2-31:2011”.
C2.1.4(e)	C2.1.4(e)	To replace “BS 6004:2000” by “BS EN50525-2-31:2011”.
C2.1.4(f)	C2.1.4(f)	To replace “BS 6007:2006;” by “BS EN50525-2-41:2011”.
C2.1.4(g)	C2.1.4(g)	To replace “BS 6500:2000” by “BS EN50525-2-11:2011”.
C2.1.4(h)	C2.1.4(h)	To replace “BS 7919:2001” by “BS EN50525-2-21:2011”.
C2.1.4(i)	C2.1.4(i)	To replace “BS 7919:2001” by “BS EN50525-2-21:2011”.
C2.1.4(j)	C2.1.4(j)	To replace “BS 7919:2001” by “BS EN50525-2-21:2011”.
C2.1.6(iv)	C2.1.6(iv)	To replace “EN 50267-2-1:1999 or EN 50267-2-2:1999” by “BS EN 60754-1:2014 and BS EN 60754-2:2014”.
SECTION C3		
C3.5	C3.5	<p>To replace the clause heading of “(NOT USED)” by “CABLE TERMINATIONS” and add the requirement as below:</p> <p>“Cables shall be terminated in approved non-ferrous mechanical glands which comply with BS EN</p>

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		62444:2013 complete with compression devices for securing the cable sheath. An armour clamp shall be required for bonding to metal sheaths. Where the cables are installed in entirely dry situations, the gland shall be designed with a compressible gasket or packing for securing the inner sheath and means of anchoring the armour. For cables installed wholly or partly in outdoor or damp conditions compressible sealing and clamping features shall be provided for securing the inner and outer sheaths and also the armour; barriers shall be incorporated to prevent the ingress of moisture.”.
SECTION C4		
C4.2.2	C4.2.2	1st paragraph: To delete “of the microgap type” from the 1st sentence of “Lighting switch shall be of the microgap type suitable for use in AC circuits, and shall be of the quick make-and-break type when used in DC circuits.”.
C4.7.2	C4.7.2	1st paragraph To revise the compliance standards of Ammeter and Voltmeter in the 1st two sentences of the paragraph as “Ammeter and voltmeter shall be of moving iron type, moving magnet type or moving coil with transducer type complying with the relevant parts of IEC 60051 series (including IEC60051-1:1997 to IEC 60051-9:1988/ADM2: 1995). The accuracy class shall be "2.5" or better in accordance with the relevant parts of IEC 60051 series.”.
C4.7.3	C4.7.3	To replace “IEC 60044-1:2003” by “IEC 61869-2:2012”.
SECTION C5		
C5.1.2(c)	C5.1.2(c)	To replace “Relative humidity - up to 99%” by “Relative humidity - up to 99% or non-condensing”.

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C5.5.2	C5.5.2	3 rd paragraph: To replace “IEC 60755:2008 and IEC 60044-1:2003” by “IEC TR 60755:2008 and IEC 61869-2:2012”.
C5.6.1	C5.6.1	1 st paragraph To replace the 2 nd sentence of “It shall be totally enclosed in a moulded insulating case for safe use by unskilled people and also designed to be maintenance free. “ by “It shall be totally enclosed in a moulded insulating case and lockable for safe use and also designed to be maintenance free.”.
C5.16.1(c)	C5.16.1(c)	To add “IEC 61000-6-2:2016, IEC 61000-6-4:2011” as compliance standards for AHF.
C5.16.1(f)	C5.16.1(f)	To add requirements of “THD setting”, “Resonance avoidance” and “Communication” under new sub-clause items (x), (xi) and (xii) respectively.
C5.16.3(e)	C5.16.3(e)	a) 1 st paragraph: To add “information at display panel” after the 1 st sentence of “As a minimum the AHF shall include the following read-out”; and b) 2 nd paragraph: To add “The front display unit shall be capable of working independently or powered up by separate tool through a service port featured at each AHF without energizing the AHF for diagnostics in case of AHF breakdown. The display shall provide past performance and display of all parameter set points and the event log at the juncture before the breakdown of AHF.” at the end of the last sentence.
C5.19.2(a)(iv)	C5.19.2(a)(iv)	To replace the whole sub-clause item by “the limiting harmonics produced by the equipment shall

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		<p>comply with the following requirements:</p> <ul style="list-style-type: none"> a) IEC 61000-3-2:2014 Limits - Limits for harmonic current emissions (equipment input current \leq 16 A per phase); b) IEC 61000-3-4:1999 Limits - Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16A; c) IEC 61000-3-12:2011- Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current $> 16A$ and $\leq 75A$ per phase; and d) IEC 61800-3:2012 Adjustable speed electrical power drive systems - EMC requirements and specific test methods”.
C5.21.1(c)	C5.21.1(c)	To delete “Specification for Stabilized Power Supplies, DC110 Output;”
C5.23.1(f)	C5.23.1(f)	<ul style="list-style-type: none"> a) To replace “IEC 60255-22-2:2008” by “IEC 60255-26:2013”; b) To replace “IEC 60255-22-3:2007” by “IEC 60255-26:2013”; c) To replace “IEC 60255-22-4:2008” by “IEC 60255-26:2013”; d) To replace “IEC 60255-22-5:2008” by “IEC 60255-26:2013”; and e) To replace “IEC 60255-25:2000” by “IEC 60255-26:2013”.
C5.24.1(e)	C5.24.1(e)	To add “IEC 61000-4-6:2009” and “IEC 61000-4-8:2009”as compliance standards for digital power analyzer.

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C5.24.2(a)(vi)	C5.24.2(a)(vi)	To add “Modbus” under “Communication - digital”.
SECTION C6		
C6.1	C6.1	To add “Where busbar trunkings are installed within switchroom for interconnections among LV cubicle switchboards and incoming mains connection of power supply company, the construction of busbar trunking shall comply with IEC 61439-2:2011 as a part of LV cubicle switchboard assembly. Each run of such busbar trunking shall be restricted to not more than 20m length and shall not be installed outside switchroom.” as the last paragraph.
SECTION C7		
C7.1.2	C7.1.2	To add “IEC 62722 – 1:2014 for Luminaires Performance – Part 1: General Requirements” as a compliance standard for luminaries.
C7.7.1	C7.7.1	To add paragraphs that “The integrated compact fluorescent lamp up to 60W shall have obtained a Grade 1 Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department.” and “The non-integrated compact fluorescent lamp shall have obtained a Recognition Type Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department.”.
C7.8.1	C7.8.1	To add “The electronic ballast shall have obtained a Recognition Type Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department” at the end of the paragraph.
SECTION C9		
C9.1.2	C9.1.2	To add the following compliance standards for LED luminaires:

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		<p>a) IEC 60598-2-3:2011 Luminaires – Part 2 Particular Requirements Section 3: Luminaires for road and street lighting;</p> <p>b) IEC 60598-2-5:2015 Luminaires – Part 2 Particular Requirements Section 5: Floodlights;</p> <p>c) IEC 60598-2-13:2012 Luminaires – Part 2 Particular Requirements Section 13: Ground recessed luminaires;</p> <p>d) IEC 60598-2-22: 2014 Luminaires – Part 2 Particular Requirements Section 22: Luminaires for emergency lighting;</p> <p>e) IEC 62722 – 1:2014 Luminaires Performance – Part 1: General Requirements; and</p> <p>f) IEC 62722-2-1: 2014 Luminaires Performance – Part 2.1: Particular Requirements for LED Luminaires.</p>
C9.2.3	C9.2.3	To replace “...at 40°C ambient temperature’ by “...at ambient temperature not lower than 40°C”.
C9.4.1(c)	C9.4.1(c)	To replace “CRI shall be minimum 75 for colour temperature from 2700 – 6000K for indoor luminaires and minimum 80 for self-ballasted LED lamp” by “CRI shall be minimum 80 for colour temperature from 2700 – 6000K for indoor luminaires and self-ballasted LED lamp”.
C9.4.1(d)	C9.4.1(d)	To replace “The power factor of the LED luminaireminimum 0.6 respectively” by “The power factor of the LED luminaire.....minimum 0.7 respectively”.
-	C9.4.3	To add a new sub-clause as below:

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		<p>“Self-ballasted LED lamps for general lighting services shall comply with the following requirement;</p> <p>a) IEC 62560: 2011: Self-ballasted LED lamps for general lighting services by voltage>50V – Safety specification; and</p> <p>b) IEC62612 – Self-ballasted LED lamps for general lighting services with supply voltages > 50 V - Performance Requirements.”.</p>
-	C9.4.4	<p>To add a new sub-clause as below:</p> <p>“For double-capped LED tubular lamp designed to retrofit tubular fluorescent lamp, the LED lamp shall comply with IEC62776 “Double-capped LED Lamps Designed to retrofit linear fluorescent lamps – Safety Specifications”.</p>
SECTION C10		
C10.9.3(d)(ii)	C10.9.3(d)(ii)	To replace “BS 6500:2000” by “BS EN50525-2-11:2011”.
-	C10.15.2(c)	To add a sub-clause of “The water heater shall have obtained a Grade 1 Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department”.
C10.15.4(b)	C10.15.4(b)	To replace “BS 6282-1:1982” by “BS EN 13959:2004”.
C10.18.3(l)	C10.18.3(l)	To replace “BS 6500:2000” by “BS EN50525-2-11:2011”.
C10.19.3(k)	C10.19.3(k)	To replace “BS 6500:2000” by “BS EN50525-2-11:2011”.
C10.20.3(n)	C10.20.3(n)	To replace “BS 6500:2000” by “BS EN50525-2-11:2011”.

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C10.23.3(f)	C10.23.3(f)	To replace “BS 6500:2000” by “BS EN50525-2-11:2011”.
-	C10.30.2(d)	To add a sub-clause of “The dehumidifier shall have obtained a Grade 1 Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department”.
-	C10.31.3(f)	To add a sub-clause of “Room cooler shall have obtained a Grade 1 Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department”.
-	C10.32.3(c)	To add a sub-clause of “The refrigerator shall have obtained a Grade 1 Energy Label under the Energy Efficiency Labelling Scheme of Electrical and Mechanical Services Department”.
SECTION C11		
C11.14	C11.14	<p>5th paragraph:</p> <p>To delete “BS 921:1946 or” from the 1st sentence of “The Switchboard shall be provided with two rubber mats of ribbed surface, complying with BS 921:1946 or IEC 61111:2009.....”.</p>
C11.15	C11.15	<p>4th paragraph:</p> <p>To replace the whole paragraph by “If modifications are made to a verified Switchboard, clause 10 of IEC 61439-1: 2011 shall be used to check if these modifications will affect the performance of the Switchboard. New verifications shall be carried out if an adverse effect is likely to occur and the method of ‘verification testing’ shall be used. The following certification bodies shall be considered eligible to be third party design checker for assessment and verification of switchboard design employing design calculation approach as allowed in IEC 61439-2:</p> <p>a) Certification bodies recognized by the Director of Electrical and Mechanical Services as</p>

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		<p>Recognized Certification Bodies for testing of Low Voltage switchgear and control gear assemblies;</p> <p>b) A competent and independent short circuit testing organization internationally recognized as having equal status as The Association of Short Circuit Testing Authorities (ASTA); or</p> <p>c) Local academia specializing in electrical engineering work.”.</p>
SECTION C12		
C12.1.2(b)(ix)	C12.1.2(b)(ix)	To rephrase “..... Engine protective device for engine over-speed shall also be provided, the engine over-speed sensor.....“ by “Engine over-speed protective device shall also be provided. The engine over-speed sensor.....”.
C12.1.7	C12.1.7	To add “BS EN 55014-1:2006/ A2:2011” as compliance standard for radio interference suppression.
C12.2.12	C12.2.12	To delete “BS921:1976 or” from the 1st sentence of “The cubicle shall be provided with two rubber mats of ribbed surface, complying to BS921:1976 or IEC 61111:2009.....”.
C12.7.1(a)(i)	C12.7.1(a)(i)	To replace “BS 2594:1975” by “EN12285-1:2003”.
C12.7.1(a)(ii)	C12.7.1(a)(ii)	To replace “BS EN 499:1995” by “ISO 2560:2009”.
C12.7.1(a)(iii)	C12.7.1(a)(iii)	To rephrase the 2nd sentence as “No longitudinal weld in any ring shall lie within the bottom half of the tank circumference in accordance with EN 12285-1:2003 or other technically equivalent national or international standards. Cross seams are not allowed. Longitudinal seam welds in adjoining rings of plate shall be staggered from one another by a minimum of 5 times tank wall

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		thickness but not less than 25mm.”.
C12.7.1(b)	C12.7.1(b)	To replace “ISO 12944:1998” by “ISO 12944:1998+Part 5:2007”.
C12.7.2(b)(viii)	C12.7.2(b)(viii)	To correct typo of “form” to “from”.
C12.7.3(a)(iii)	C12.7.3(a)(iii)	To replace “a manual/auto/off” by “an auto-off-manual”.
C12.7.3(a)(v)	C12.7.3(a)(v)	To replace “IPMCSP” by “EIMCSP”.
C12.7.5(a)(i)	C12.7.5(a)(i)	<p>a) To replace “IEC 60079-0:2007 Electrical Apparatus for Explosive Gas Atmospheres; and” by “IEC 60079-0:2011 Explosive Atmospheres; and”; and</p> <p>b) To replace “IP Model Code of Safe Practice (Electrical) of the Institute of Petroleum Code of Great British (IPMCSP)” by “The Energy Institute Model Code of Safe Practice (Electrical) (EIMCSP).”.</p>
C12.7.5(b)(ii)	C12.7.5(b)(ii)	To replace “IPMCSP” by “EIMCSP”.
C12.7.5(b)(iii)	C12.7.5(b)(iii)	To replace “IPMCSP” by “EIMCSP”.
C12.10.3	C12.10.3	To replace “EN 1677-5:2001” by “BS EN 1677-5:2001/A1:2008”.
SECTION C13		
C13.2.9(b)	C13.2.9(b)	To delete “with dimensions conforming to BS 91:1998 Table 2.”from the last sentence.
C13.2.11(a)	C13.2.11(a)	To delete “Grade 2 of” from the last sentence of “Resistance temperature detector (RTD) shall comply with Grade 2 of IEC 60751:2008”.

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C13.3.1(f)	C13.3.1(f)	Table C13.3.1(f) – Standards: a) To replace “IEC 60044-1:2003” by “IEC 61869-2:2012” for current transformers; and b) To replace “IEC 60044-2:2003 & IEC 60044-5:2004” by “IEC 61869-3:2011 & IEC61869-5:2011” for voltage transformers.
C13.3.10	C13.3.10	6 th paragraph: To replace “IEC 60044-1:2003” by “IEC 61869-2:2012”.
C13.3.11	C13.3.11	1 st paragraph: a) To replace “IEC 60044-2:2003” by “IEC 61869-3:2011”; and b) To replace “IEC60044-5:2004” by IEC61869-5:2011”.
C13.3.17	C13.3.17	4 th paragraph: To delete “to BS 921:1976 or” and replace it with “with” from the 1 st sentence of “The switchboard shall be provided with two rubber mats of ribbed surface, complying to BS 921:1976 or IEC 61111:2009,”. .
C13.4.8(a)	C13.4.8(a)	To replace “ISO 8501:1994” by “the relevant parts of ISO 8501 series”.
C13.6.4	C13.6.4	To replace “BS EN 50262:1999” by “BS EN 62444:2013”.
PART D		
SECTION D1		
D1.1	D1.1	a) To rename clause heading of “General Requirement” as “General”; and

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		b) To replace the 2 nd , 3 rd and 4 th paragraphs by “Throughout the execution of the Installations, the EE Contractor shall be responsible for ensuring compliance with the statutory and related requirements included in Section A2 and shall notify the Supervising Officer of any infringement which directly or indirectly detracts from the safe and satisfactory operation of the Installations whether or not such infringement relates to the works covered in the Installations or to those associated with others. All sub-standard works or defects found during inspection, testing and commissioning shall be rectified or replaced to the satisfaction of the Supervising Officer.”.
Table D1.1	Table D1.5	a) To re-number Table D1.1 to Table D1.5 and relocate it under clause “D1.5”; b) To revise specifications of earth loop tester, RCD tester, Insulation resistance tester; and c) To delete and replace the specification of “low resistance ohmmeter” by “Applied voltage tester”.
-	D1.2	To add a new clause “D1.2” for “Methods and Procedures” as below:- “The EE Contractor is required to submit detailed inspection, testing and commissioning methods and procedures together with report formats for reporting the inspection, testing and commissioning results for the Supervising Officer’s approval at least four months before commencement of the testing and commissioning works, or four months after the acceptance of his Tender, whichever is earlier.”.
-	D1.3	To add a new clause “D1.3” for “Notices of Inspections, Testing and Commissioning Works” as below:-

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		<p>“For items to be witnessed by the Supervising Officer or his Representative, the EE Contractor is required to provide advanced notice for inspection, testing and commissioning works, together with details of date, time and list of items to be inspected or tested, unless otherwise specified in the Conditions:-</p> <p>(a) Off-site Inspection and Test</p> <p>An advanced notice of at least one week before commencement of the inspection or test shall be provided.</p> <p>(b) On-site Inspection, Testing and Commissioning</p> <p>An advanced notice of at least 3 days before commencement of inspection, testing or commissioning of any part or parts of the Installations shall be provided.”.</p>
-	D1.4	<p>To add a new clause “D1.4” for “Labour and Materials” as below:-</p> <p>“The EE Contractor is responsible for provision of all labour and both consumable and non-consumable materials for carrying out the inspection, testing and commissioning works at their expenses. Unless otherwise indicated in the Conditions, all electricity supply and other fuels, such as diesel during preliminary runs and for full adjustments and inspection and commissioning tests shall also be arranged and provided by the EE Contractor. The EE Contractor shall provide and adopt measures to avoid damage to the building, Installations, decorations and fixtures during the inspection, testing and commissioning works for any of the Installations.</p> <p>The EE Contractor shall also provide all necessary equipment, apparatus and tools for carrying out the inspection, testing and commissioning works.</p>

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		The EE Contractor shall despatch competent and experienced commissioning personnel to carry out the inspection, testing and commissioning works.”
-	D1.5	<p>a) To add a new clause “D1.5” for “Inspection, Measuring and Testing Equipment” as below:-</p> <p>“The EE Contractor is required to supply the calibrated equipment and instrument for the inspection, testing and commissioning works in accordance with the requirements as specified in the Particular Specification for supply of inspection, measuring and testing equipment. Certified true copy of calibration certificates shall be submitted. The period between calibration and testing shall not exceed the calibration period as recommended by the equipment/instrument manufacturer or 12 months whichever is shorter.”; and</p> <p>b) To include Table D1.5 which is renumbered and relocated from Table D1.1 originally under D1.1 with amendment made to earth loop tester, RCD tester, Insulation resistance tester and low resistance ohmmeter.”</p>
-	D1.6	<p>To add a new clause “D1.6” for “Readiness for Inspection, Testing and Commissioning” as below:-</p> <p>“The EE Contractor is required to check the completion of the works to be inspected, tested or commissioned, the associated builder’s works, the associated building services installations and all other prerequisites to ensure that inspection, testing and commissioning can be proceeded in a safe and satisfactory manner without obstruction.”</p>
-	D1.7	<p>To add a new clause “D1.7” for ““Type-test" Certificate” as below:-</p> <p>"Type-test" for materials and equipment, where specified, shall be carried out at the manufacturer’s works, recognized institutions or accredited laboratories, or elsewhere as approved in order to demonstrate their compliance with the specified requirements. "Type-test" certificates together with</p>

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		the corresponding drawings, sketches, reports and any other necessary documents shall be submitted to the Supervising Officer for approval before delivery of the materials and equipment.”.
-	D1.8	<p>To add a new clause “D1.8” for “Off-site Tests / Factory Tests” as below:-</p> <p>“Factory tests and off-site tests as required shall be carried out at the manufacturer’s works, laboratories by independent regulatory/testing bodies, independent accredited laboratories or elsewhere as approved. This shall include quality control tests and general inspection tests in factory recommended by the manufacturer or for compliance with relevant standards.</p> <p>Where collection of test samples on the Site is required for the off-site tests, the EE Contractor shall submit the sampling and analysis methodology, including but not limited to the proposed independent accredited laboratory and the procedures for collection and analysis of test samples and submission of test results, for the Supervising Officer’s approval. The EE Contractor shall notify in advance the date for collection of test samples to the Supervising Officer’s Representative, who shall supervise the sampling, transport and delivery of the test samples. Collection of test samples shall be conducted by the independent accredited laboratory unless otherwise agreed by the Supervising Officer. The collected test samples shall be kept in sealed and locked containers inaccessible to unauthorized persons at all times. The test results in sealed envelope shall be submitted by the independent accredited laboratory to the Supervising Officer directly.</p> <p>Where specified, performance tests shall be carried out in factory for each or some of the offered equipment before delivery. After the performance tests, factory test report/certificate certified by a qualified factory engineer shall be submitted in duplicate to the Supervising Officer for approval immediately after the tests and before the equipment is dispatched from the manufacturer’s works.</p>

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		Factory tests shall be witnessed by an independent approved agency where specified. The EE Contractor shall note that the Supervising Officer may require witnessing the tests and inspection of locally and/or overseas manufactured equipment during construction at the manufacturer's works.”.
-	D1.9	<p>To add a new clause “D1.9” for “Site Tests” as below:-</p> <p>The EE Contractor shall carry out site tests for all system installations during construction period for individual components and/or part of the installed works to ensure safe and proper operation of the complete installations according to the specified requirements. Site tests for electrical works in the Installations shall comply with the COP for the Electricity (Wiring) Regulations unless otherwise specified. Registered or suitably qualified workers shall be deployed to conduct site tests, where applicable, for the Installations.</p> <p>Works to be permanently covered up shall be subject to inspection and testing before covering up. If the Supervising Officer or his Representative discovers any work that has been covered up before inspection and testing, this work shall be uncovered for inspection and testing to the satisfaction of the Supervising Officer or his Representative.”.</p>
SECTION D2		
D2.1	-	To delete clause D2.1 “Off-site routine inspection and functional test”
D2.2	D2.1	To delete the 1 st paragraph and replace it by “The EE Contractor shall provide details of materials and equipment delivered to the Site including, but not limited to, brand name, model number, country of origin (if specified), their tested standards and record of Supervising Officer's approval,

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		purchase order, delivery order, record of delivery, payment vouchers, ex-factory certificate and shipping voucher, and all other relevant documents as applicable to the Supervising Officer for identification and verification of the materials and equipment delivered to the Site are in compliance with the approved submissions”.
D2.3	D2.2	<p>a) To rename clause heading of “Visual inspection of installation” as “Visual inspection and checking”</p> <p>b) To add the following specification as the 1st two paragraphs:-</p> <p>“The EE Contractor shall be responsible for arranging adequate provisions to facilitate visual inspections and checking of the work in progress to be carried out by the Supervising Officer or his Representative from time to time during the construction period. The EE Contractor shall keep such inspection record for checking from time to time. Any defective works or sub-standard works found during visual inspection and checking shall be rectified or replaced before proceeding with further tests.</p> <p>Visual inspection and checking shall include but not limited to the inspection and verification of the installed equipment being the approved brands and models and checking of any visible damages (such as scratches or dents, or painting problems) found on the equipment surface.”.</p>
-	D2.3	<p>To add new clause of “Handover Inspection” with specification as below:-</p> <p>“The EE Contractor shall carry out detailed inspections for all components and equipment installed by him and make all necessary checking including operational settings for all equipment and systems in accordance with the instructions and recommendations from the manufacturer and to the</p>

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		<p>satisfaction of the Supervising Officer before the handover of the Installations.</p> <p>If it is considered difficult or impossible to gain access to a part or parts of the complete installation for dismantling or maintenance purposes, the EE Contractor shall be required to carry out demonstrations on dismantling and assembling those parts of the installation to confirm the provisions are adequate. The EE Contractor shall be responsible for carrying out all necessary modification work at no additional cost to the Employer to alleviate the difficulties associated with dismantling or maintenance access.</p> <p>The EE Contractor shall note that the Installations cannot be handed over until all the foregoing requirements where applicable have been carried out to the satisfaction of the Supervising Officer.</p> <p>The EE Contractor shall provide the following documents and data before the handover inspection:-</p> <p>(a) Test Certificates</p> <p>Test records/certificates where applicable shall be provided:-</p> <ul style="list-style-type: none"> (i) Copies of manufacturer's works test records/certificates on electrical installation items; (ii) Copies of electrical test records/certificates for works carried out on site; and (iii) Copies of works completion certificates for electrical works; <p>(b) "As-built" Drawings</p> <p>"As-built" drawings as detailed in the contract documents shall be provided.</p>

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		(c) Operation and Maintenance Manuals and User Manual O&M Manuals and User Manual as detailed in the contract documents shall be provided.”.
D2.4	D2.4	a) To delete the 1 st paragraph; and b) To rephrase the 2 nd paragraph of “The EE Contractor shall test results and as agreed between the Architect or his representative and the EE Contractor” to “The EE Contractor shall test results as agreed between the Supervising Officer or his Representative and the EE Contractor”.
SECTION D3		
D3	-	To delete Section D3.
SECTION D4		
D4.1	D3.1	To rephrase the whole clause as “Where testing and commissioning works for the Installations are required to be witnessed by the Supervising Officer or his Representative, the EE Contractor shall carry out the proper testing and commissioning works to his satisfaction before inviting them to witness the works. The EE Contractor shall arrange to enable the Supervising Officer or his Representative to witness the complete testing and commissioning. Unless otherwise approved by the Supervising Officer, testing and commissioning works carried out by the EE Contractor in the absence of the Supervising Officer or his Representative shall not be accepted as the approved test record. Any defects of alignment, adjustment, workmanship, materials and performance or other

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		irregularities which become apparent during commissioning or testing shall be rectified by the EE Contractor and the relevant part of the commissioning or testing procedure shall be repeated at the EE Contractor's own expense.”.
D4.2	D3.2	<p>a) To rename the clause heading of “Testing and Commissioning Procedures” as “Procedures, Standards and Requirements”</p> <p>b) To rephrase the whole clause as:-</p> <p>“The EE Contractor shall follow relevant approved standards, procedures, guidelines in the testing and commissioning works, which shall include but not limited to:-</p> <ul style="list-style-type: none"> (i) Statutory obligations and requirements, specifications and standards specified in Part A; (ii) Testing and Commissioning Procedure for Electrical Installation in Government Buildings of the Hong Kong Special Administrative Region issued by BSB, ArchSD; (iii) Detailed inspection, testing and commissioning methods and procedures approved by the Supervising Officer; and (iv) Equipment manufacturers' recommendations and specifications, if any”.
-	D3.3	<p>To add a new clause “Master Programme For Testing and Commissioning Works” with the following specification:-</p> <p>“The EE Contractor is required to submit a programme for testing and commissioning works within the first three months after acceptance of his Tender. The programme shall indicate the tentative dates of all tests and commissioning works that will be carried out throughout the Conditions and</p>

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		<p>all necessary submissions and approval relating to testing and commissioning. The EE Contractor shall ensure that the testing and commissioning programme matches the master programme for construction and that all testing and commissioning works are complete before the prescribed or extended date for completion of the Works. The programme shall also be updated as the Installations progress towards completion</p> <p>The programme shall detail the types of testing and commissioning works required, the breakdown of the programme into floor-by-floor and/or area-by-area basis, the tests that are required during construction and before completion of the Installations, the period of each test with float time allowed, the milestone dates for the key activities of works etc. Critical path programme shall be submitted. The EE Contractor shall plan the programme so as to minimise the overlapping of different tests arranged simultaneously in different locations of the Site.</p> <p>A detailed checklist of all the Installations to be commissioned and tested shall be submitted at the same time. The checklist will be used for progress monitoring and shall be updated from time to time as the Installations progress towards completion.”.</p>
-	D3.4	<p>To add a new clause “Documentation and Deliverables” with the following specification:- “The EE Contractor shall submit full commissioning and testing report to the Supervising Officer within 14 days after completion of the commissioning and testing of the Installations. The report shall be in accordance with the requirements approved by the Supervising Officer”.</p>
D4.3	D3.5	<p>1st paragraph: To delete “Contract under the Electrical” from the 1st sentence of “Where there are emergency lighting, exit sign and emergency generator installations included in the Contract under the Electrical Installation,.....”.</p>

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PART E		
SECTION E1		
E1.1	E1.1	<p>a) To rename the clause heading “Particulars of Training Course and Training Schedule “ by “General”</p> <p>b) To rephrase the whole clause as “Unless otherwise specified in the Particular Specification, the EE Contractor shall provide training, inspection, attendance and operation and maintenance services for the Installations during Maintenance Period as specified in this General Specification.</p> <p>The EE Contractor shall supply and install, without additional cost to the Employer, replacements for any equipment or parts thereof, which may, in the opinion of the Supervising Officer, become unserviceable, especially where the causes are attributable to faulty materials, workmanship, or inadequate performance.</p> <p>In the execution of servicing and maintenance, repair and operation work on site, apart from transportation, necessary labour, tools, equipment and testing instruments, the EE Contractor shall also be responsible for keeping adequate stocks of spare parts/equipment and other items necessary to maintain all emergency repair in an efficient, satisfactory and safe operation condition at all time.</p> <p>The interruption of electricity supply and functioning of the Installations during execution of works shall be kept to the minimum. Such interruption shall only be allowed with the prior approval of the Supervising Officer or his representative.</p> <p>The EE Contractor shall also replace all burnt out or defective lamps or luminaires for failure or</p>

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		deficiency in performance at no cost to the Employer if the failure of the lamps and luminaires is still within the manufacturer's guaranteed life period. The EE Contractor will be permitted to charge for the cost of lamps only if they fail beyond the guaranteed life period.”.
-	E1.2	<p>To add a new clause “Completion of Outstanding and Defective Works” with the specification as below:-</p> <p>“After receiving the list of defects and outstanding works issued with the Certificate of Completion, the EE Contractor shall complete the outstanding works and rectify the defects concerned to the satisfaction of the Supervising Officer within the agreed time frame during the Maintenance Period. The EE Contractor shall also rectify as soon as practicable any defects identified within the Maintenance Period.</p> <p>The EE Contractor shall submit periodic report on the progress of outstanding and defective works to the Supervising Officer and attend inspection with the Supervising Officer's Representatives to verify satisfactory completion of the outstanding and defective works.”.</p>
-	E1.3	<p>To add a new clause “Repair and Maintenance Records” with the specification as below:-</p> <p>“The EE Contractor shall be responsible for maintaining a log book in each of the specific locations (e.g. switch room, plantroom, etc.) agreed with the Supervising Officer or his representative. Every attendance and details of work done for the Installations including but not limited to repair, servicing and maintenance shall be entered into the log book by the EE Contractor so as to form a comprehensive record of attendance and works done. In addition, the EE Contractor shall also keep repair and maintenance records for the Installations in his own office and shall be required to forward such records for checking if so requested by the Supervising Officer.”.</p>

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SECTION E2		
E2	E3	To renumber this Section “Emergency Services and Attendance to Fault Calls” to “E3” and rename it as “Inspection, Attendance, Operation and Maintenance Requirements”.
-	E2	To insert the Section heading of “Training To Users and Operation and Maintenance Agents” as “E2 “.
E2.1	E3.1	<p>a) To renumber the clause to “E3.1” and rename it as “Response and Attendance to Emergency and Fault Calls”; and</p> <p>b) To delete 1st paragraph and replace it by “The EE Contractor shall attend to emergency, fault and complaint calls arising from defective work materials and/or system operation at any time within the time limit according to the category of urgency stipulated below during the Maintenance Period and rectifies all defects leading to fault or breakdown of the equipment and/or system. The costs for the attendance, labour, materials and spare parts for repair, submission of fault/breakdown reports, etc. are deemed to have been allowed for in the Tender.”.</p>
-	E2.1	<p>To insert a new clause “General” as “E2.1” with specification as below:-</p> <p>“Training for the operation and maintenance of system and equipment shall be provided and arranged by the EE Contractor. The training shall include all training facilities, material and handouts etc. The EE Contractor shall submit a “Training Schedule” at least 3 months prior to the prescribed or extended date for the completion of Works for the Supervising Officer’s approval. The schedule shall include but not limited to the following requirements:</p> <p>a) Facilities and training programmes to ensure that the users and operation and maintenance</p>

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		<p>agents acquire full knowledge and appreciation of all aspects of the design, day-to-day operation, breakdown and routine maintenance, diagnosis and hence capable to effectively and efficiently operate and maintain the system/equipment;</p> <p>b) All aspects of operation and maintenance of the plant including the use of special tools, and equipment portfolio for major systems covering quantity of equipment, equipment cost, recommended serviceable life by the manufacturer and cycle of major overhaul;</p> <p>c) Details and duration of the training course(s), qualifications of the instructor and the qualification requirements for the trainee(s)</p> <p>d) Full details of the training syllabus, including principles, theory and practical “hands-on” demonstration to reach the required depth of appreciation.”.</p>
E2.2	-	To delete the clause “Monitoring Mechanism on Contractor’s Performance”.
E2.3	E3.6	To renumber the clause to “E3.6”.
SECTION E3		
E3	E3	To delete the 1 st to 4 th paragraphs.
E3.1	E3.2	To renumber the clause to “E3.2”.
-	E3.1	Please note the changes as mentioned under old ref. no. “E2.1” above.
E3.2	-	To delete the clause “Monitoring Mechanism on Contractor’s Performance” and replace it by “maintenance schedule” originally under “E3.1”.

Old Ref. No. (2012)	New Ref. No. (2017)	Major Changes
E3.3	E3.3	To rename the clause heading of “Final Inspection before the End of Maintenance Period” as “Inspection During Maintenance Period” with the whole clause rephrased as below:- “The EE Contractor shall, in addition to the routine servicing and maintenance, make further inspections for the Installations to check and, if necessary, re-adjust the equipment/systems to meet the actual operation conditions and to test the Installations to meet statutory requirements including the submission of test reports and certificates.”.
E3.4	E3.5	To re-number the clause to “E3.5”.
-	E3.4	To add a new clause of “Joint Inspection at the End of Maintenance Period” with the specification as below:- “The EE Contractor shall attend inspections to the Installations at the expiry of the Maintenance Period in order to facilitate the acceptance and handing over of the Installations to the Employer’s operation and maintenance agents. The EE Contractor shall conduct site checking and make necessary adjustments to the equipment/systems one month before expiry of the Maintenance Period to ensure that the Installations are in good working order, safe and satisfactory operation condition for handover.”.
SECTION E4		
E4	-	To delete the section E4.