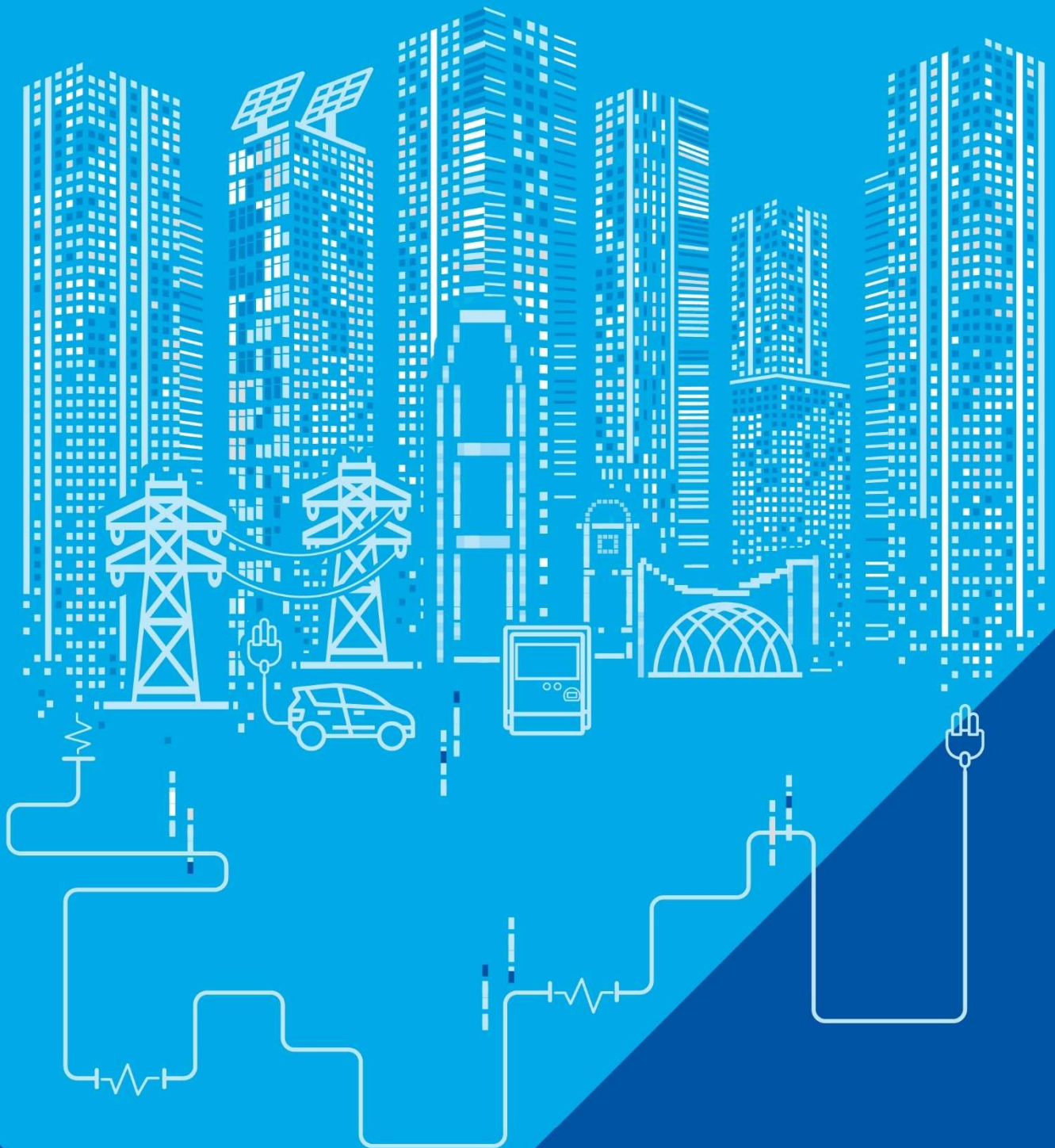


# SUPPLY RULES

January 2026



CLP 中電

Power Brighter Tomorrows

## Advisory Service

Advice concerning matters relating to the supply of electricity may be obtained free of charge from the Company.

### CLP Power Hong Kong Limited

Head Office: CLP Headquarters, 43 Shing Kai Road,  
Kai Tak, Kowloon, Hong Kong

Tel: (852) 2678 8111

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Emergency Service Hotline (24-hour) Tel: (852) 2728 8333

E-mail: [clp\\_info@clp.com.hk](mailto:clp_info@clp.com.hk)

Website: [www.clp.com.hk](http://www.clp.com.hk)

All CLP Power staff visiting customers' premises on official duties must produce their Employee Identity Cards. Each card displays the name and a photograph of the bearer. Please check before allowing entry to your premises. In case of doubt, ring the CLP Power Emergency Service Hotline immediately on telephone number 2728 8333.

## REVISION

Revision	Description	Rules	Effective Date
0	Original Issue		1 March 2001
1	First Revision	<p>Revision 104.2, 104.3, 106.2, 106.5, 106.6, 107.3, 201.2, 201.3, 203.1, 203.5, 205, 206, 209.1, 209.6, 212.1, 213.1, 214.2a, 216.3, 216.4, 220.3, 221, 225, 226.1, 228.1, 228.2, 228.4, 228.6, 229.2, 230.2, 232.1, 301.7, 305.1, 305.2, Appendix A, Appendix B</p> <p>Addition 106.4, 106.7, 107.1, 208, 214.2d, 306</p>	1 June 2022
2	Second Revision	<p>Revision 101, 202.4, 203.6, 209.1, 209.2, 209.5, 210, 214.2, 215, 215.1, 219, 220.1, 220.3, 221.1, 221.2, 225.1, 225.2, 228.1, 231, 232.2, 232.3, 233.6, 301.4, 305.2, Appendix A, Appendix B</p> <p>Addition 202.4d, 220.3e</p>	1 January 2026

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## 100 GENERAL

### 101 Scope

The Supply Rules constitute the terms and conditions upon and subject to which the Company supplies electricity.

In the event of any inconsistency or conflict from time to time between (a) the Supply Rules and (b) the provisions of the Electricity Ordinance, or any other legislation including subsidiary legislation, the latter will prevail.

### 102 Previously Published Supply Rules

The Supply Rules replace all previously published Supply Rules of the Company.

### 103 Compliance with the Supply Rules

1. Any person who applies for a new Supply or for their name to be registered with the Company as the Customer for any Account shall be deemed to be a Customer. A Customer is bound by and shall comply with the Supply Rules as revised from time to time.
2. No act or omission of the Company shall be treated as waiving any breach or non-observance by the Customer of the Supply Rules, unless the Company agrees in writing to such waiver.

### 104 Company's Right to Revise the Supply Rules

1. The Company may revise, amend or add to the Supply Rules at any time and from time to time provided that no such revision, amendment or addition contravenes the Electricity Ordinance or any other Ordinance. A revision, amendment or alteration may apply either generally to all Customers or specifically to a category or categories of Customers only.
2. Notice of any revision, amendment or addition shall be given by publishing details of the revision on the Company's website at [www.clp.com.hk](http://www.clp.com.hk). Any such revision, amendment or addition shall take effect and be binding on the Customers to which it applies, without the necessity for further notification to any Customer, upon such date as may be prescribed in the website notice.
3. The Company may also, either in addition to or in substitution for the publication of such notice, give notice of any revision, amendment or addition by such other means as may be thought adequate and appropriate by the Company.

### 105 Definitions

1. In the Supply Rules, the words and terms defined in Appendix A to the Supply Rules shall have the meanings respectively attributed to them in Appendix A.
2. In the Supply Rules, unless inconsistent with the context, words denoting persons include corporations and firms, words denoting the masculine gender include the feminine gender and the neuter gender, and words denoting the singular number include the plural number and vice versa.



3. The headings and table of contents are intended for guidance only and do not form part of the Supply Rules nor shall the Supply Rules be construed or interpreted by reference thereto or in any way affected or limited thereby.
4. Should there be any difference in interpretation between the English and the Chinese versions of the Supply Rules, the English version shall prevail.

## 106 Tariff and Charges

1. The Company may offer Supply at various tariff types and tariff rates, details of which can be obtained upon request.
2. The Company may introduce new or other modifications of tariff types, tariff rates and charges payable by the Customer. The consent of the Government will be sought where required before such introductions. Notice of any such revision, other than a variation to the fuel clause, will be given by publishing such details of the revision as the Company considers appropriate on the Company's website at [www.clp.com.hk](http://www.clp.com.hk) and/or by such other means as may be thought adequate and appropriate by the Company. Upon such publication, all Customers will be deemed to have received notice of the revision. Notice of any variation to the fuel clause will be given in the bills sent to Customers.
3. The Company will install and maintain the Company's equipment to provide Supply to the Customer. The Company may charge for the installation and/or maintenance, in which event the Company will notify the Customer in writing of the charges prior to providing the installation and/or maintenance required.
4. There may be a charge for meter readings taken by the Company in the event a Customer refuses to use the type of meter(s) considered appropriate by the Company.
5. The following Supplies can be provided at the discretion of the Company:
  - (a) a dedicated alternative Supply;
  - (b) a standby Supply;
  - (c) short duration Supply for filming, lighting and works of such nature;
  - (d) temporary Supply for construction purposes, and community functions;
  - (e) requests by Customers for special Supply arrangement; and
  - (f) any other services for the convenience or the benefit of the Customer.

The Company may charge for these services, in which event the Company will notify the Customer in writing of the charges prior to providing the service.

6. The Company may provide and charge the Customer for any other services in accordance with the service charges published by the Company from time to time, details of which can be obtained from the Company's website at [www.clp.com.hk](http://www.clp.com.hk).
7. The Supply and all related acts contemplated under the Supply Rules may be carried out within or outside a Customer's premises.

## 107 Correspondence

1. Applications, notices, consents, agreements or other correspondence required under the Supply Rules may be submitted or communicated through electronic means unless otherwise prescribed by the Company. For the avoidance of doubt, this applies to all applications, notices, consents, agreements and other correspondence required to be made in writing under the Supply Rules. Customers are encouraged to submit their applications for electricity supply/transfer of electricity accounts electronically, including through the Company's website or by mobile application.
2. Any notice or correspondence should be addressed to the Company and not to any individual employed by the Company.
3. Any notice, bill or correspondence to a Customer shall be deemed properly sent to the Customer if (a) sent to any of the latest communication channels given by the Customer or to any of the locations at which the Supply is provided to the Customer by the Company or (b) accessible by the Customer through any of the online accounts specified by the Company.

## 108 Prevention of Bribery

1. No payment of any kind for any service provided by the Company or its employees should be made except against a bill or letter issued by the Company.
2. The Company is a public body for the purposes of the Prevention of Bribery Ordinance, and as such it does not permit its employees to solicit or accept any advantage, which includes any gift, loan, fee, tip, reward or commission or any of the services provided by the Company or its employees. Any person offering such an advantage to an employee of the Company commits an offence and may be liable to prosecution under the Prevention of Bribery Ordinance.



## 200 CONDITIONS OF SUPPLY

### 201 Customer

1. The Customer appearing on the Company's records as the registered Customer in respect of an Account (the "registered Customer") shall be liable to the Company for all charges (including backcharges), fees and costs payable to the Company in respect of that Account. Any Customer who actually obtains and uses electricity supplied on that Account shall be liable jointly and severally with the registered Customer for all charges (including backcharges), fees and costs payable to the Company in respect of that Account. If a registered Customer ceases to use the Supply without arranging for the Company to terminate the Account or to transfer the Account to another Customer, then the registered Customer shall be liable for all charges (including backcharges), fees and costs payable to the Company in respect of that Account in respect of any period before ceasing to be the registered Customer of that Account.
2. If the Company reasonably believes that a Registered Customer has ceased to use electricity under the Account registered in that registered Customer name without arranging for the Company to terminate the Account or to transfer the Account to another Customer, the Company shall be at liberty to contact the person whom the Company reasonably believes to be the actual Customer to register as the registered Customer in place of the current registered Customer, and, if the person does so register, to amend its records accordingly. If such person the Company reasonably believes to be the actual Customer after being contacted by the Company refuses to register as the registered Customer, then the Company shall be entitled to disconnect the Supply to that Account.
3. When the Customer applies for a new Supply, the Customer is required to provide the Company with valid contact information. Furthermore, for identity verification purpose, the Customer is required to provide relevant identification information using an electronic application that is recognised by the Company, or present the Company with an original identification document for inspection, or provide a copy of the identification document. In addition, the Company may, for the purposes of providing to the Customer services, facilities and goods required, or for carrying on or developing the business operations of the Company or any related company or for any related purpose, require the Customer to provide the Company with such personal data as may be appropriate for the purpose in question. The Company may also request the Customer to update the personal data from time to time. If the Customer refuses to provide or update such personal data, the Company may not be able to provide or continue to provide the services, facilities and goods required.
4. The Company shall be at liberty to ignore any communication from or application or request by any person in relation to an Account in respect of which such person is not the registered Customer. The Company will not become involved in any dispute between any landlord and tenant or between the Customer and other parties.

### 202 Supply Frequency and Voltage

1. The Company supplies electricity by the alternating current system at a frequency of 50 hertz and in ranges of voltage. The ranges of voltage level available are set out below.
2. The Company shall determine which ranges of voltage are to be supplied.

3. The Company shall exercise reasonable care and skill to supply electricity to the main incoming terminals of the Customer's Installation at a frequency of 50 hertz plus or minus 2%.
4. The Company shall exercise reasonable care and skill to supply electricity to the main incoming terminals of the Customer's Installation at one or more of the following ranges of voltage at the Company's service termination:
  - (a) for a single phase Supply, a nominal voltage of 220 volts (root mean square value) plus or minus 6% between a phase conductor and neutral conductor;
  - (b) for a 3 phase Supply, using a 3 phase 4 wire system, a nominal voltage of 380 volts plus or minus 6% (root mean square value) between phase conductors and 220 volts (root mean square value) plus or minus 6% between phase and neutral conductors;
  - (c) for a 3 phase Supply, a nominal voltage of 11,000 volts (root mean square value) plus 10% or minus 2.5% between phase conductors;
  - (d) for a 3 phase Supply, a nominal voltage of 22,000 volts (root mean square value) plus 10% or minus 2.5% between phase conductors; and
  - (e) for a 3 phase Supply, a nominal voltage of 132,000 volts (root mean square value) plus 10% or minus 2.5% between phase conductors.
5. The Company shall exercise reasonable care and skill to supply electricity to the main incoming terminals of the Customer's Installation with the voltage dip performance as indicated in the European Standard EN50160.
6. The Customer shall ensure that the equipment to be connected to the Company's Supply system is suitable for the frequency and voltage to be supplied.

## 203 Application for Supply/Transfer

1. Any person who wishes to apply for or to transfer a Supply or change of load shall apply to the Company as far in advance of the date for desired commencement of the Supply as is reasonably practicable. Application may be made by telephone, by submission of a completed application form, by attendance at a Customer Services Centre or through other means accepted by the Company. The Company shall use all reasonable efforts to provide the Supply by the requested date.
2. Installations for which estimated load is less than 60 amperes should normally be arranged to receive a single phase Supply. An Installation requiring more than 60 amperes may be required to be arranged to receive a three-phase Supply.
3. There may be occasions when the Company finds it necessary to restrict loading on a single phase Supply. The Company may in such cases require that the Installation be adapted for a three-phase Supply.
4. Where rising mains are required, the Company shall be provided with full details of the proposed rising mains which shall be subject to the acceptance of the Company prior to the provision of Supply.
5. A person who wishes to have an Account transferred into that person's name shall apply to the Company. Application may be made by telephone, by submission of a completed application form, by attendance at a Customer Services Centre or through other means accepted by the Company. Provided that the applicant has paid all outstanding and accrued charges and the applicable deposit,

the Company may, but is not bound to, approve an application for transfer without the consent of the registered Customer and without incurring any liability to the registered Customer. The applicant will then be treated by the Company as the registered Customer on the Account.

6. Any person applying for a Supply for domestic, commercial and/or industrial uses must notify the Company at the time of application for Supply or transfer of Account or as soon as practicable thereafter if the interruption or disconnection of the Supply (even if only for an instant) would result in special or substantial loss or damage to any person. Upon receipt of such notification and subject to Rule 221.2, the Company may review the applicant's special circumstances and may advise the applicant of appropriate back-up facilities to be implemented by the applicant.
7. If in the reasonable opinion of the Company the transferee of an Account has been the occupant of the premises to which the Account is connected for any period of time before the date of the transfer of Account, and any meter irregularity is revealed after the date of the transfer which leads to backcharging, the transferee shall be liable to pay the Company the amount of the backcharges for the period of the occupation of the premises both before and after the date of the transfer.

## **204 Temporary Supply**

1. The Company may agree to a temporary Supply for lighting, construction and/or testing purposes.
2. A temporary Supply shall not be used as a permanent Supply. However, it will be subject to the same conditions as a permanent Supply and any additional conditions specified by the Company in writing.

## **205 Unmetered Supply**

An unmetered Supply will only be considered for special cases. Written application should be made to the Company. The Company shall determine the conditions governing such unmetered Supply for each case.

## **206 Standby Supply**

A standby Supply will only be considered for special cases. Written application should be made to the Company. The Company shall determine the conditions governing such standby Supply for each case.

## **207 High Voltage Supply**

1. The Company may provide Supply at high voltage where it is deemed necessary or appropriate by the Company.
2. A Customer requiring a high voltage Supply should apply in writing to the Company. Application should be made as early as possible since the work undertaken by the Company to provide a high voltage Supply normally requires a longer completion time. The Company shall determine the conditions governing the high voltage Supply for each case.

## 208 Alternative Supply

An alternative Supply will only be considered for special cases. Written application should be made to the Company. The Company shall determine the conditions governing such alternative Supply for each case.

## 209 Accommodation for Company's Equipment

1. A Customer shall provide, free of cost to the Company, suitable accommodation on or adjacent to their premises to house such equipment as the Company may require for the purposes of providing, storing and metering the Supply. The accommodation, which shall be specified by the Company, may include but may not be limited to substation premises together with associated building services, fire protection equipment, cable entry facilities, switchroom and structures for mounting cutouts and meter boards and facilities and physical measures to protect the Company's equipment from the elements and unauthorised interference. The Customer shall be responsible for the maintenance of such accommodation services and equipment in good order to safeguard the Company's equipment.
2. The Customer shall be responsible at their own cost and expense for any reinstatement work to the Customer's premises rendered necessary by the installation or repair of the Company's equipment. If the Customer fails to carry out such reinstatement, the Company may carry out the same and the costs thereof shall be payable by the Customer upon presentation of a bill by the Company.
3. If a Customer requests the relocation of any of the Company's equipment installed in premises provided by the Customer in accordance with Rule 209.1, and if the Company agrees to such request, the Customer shall be liable to pay the cost of such relocation and shall reimburse to the Company any costs incurred.
4. If a person requests the relocation of any of the Company's equipment installed in any private or public premises for that person's own benefit and if the Company agrees to such request, the person shall be liable to pay the cost of such relocation and shall reimburse to the Company any costs incurred.
5. The accommodation to be provided by the Customer must comply with all applicable regulations and with the Company's requirements.
6. Customer shall provide the Company with access to the Company's equipment at all times. The Company shall have liberty to enter a Customer's premises for the purposes of inspecting, operating, and maintaining the Company's equipment and for meter reading. A Customer shall not erect any fixtures or fittings in such a way so as to obstruct free access by the Company to any of its equipment.

## 210 No Interference or Tampering with Company's Equipment

1. The Customer must not interfere with or tamper with the Company's equipment. If any part of the Company's equipment is subject to interference or tampering, the Company may do any or all of the following:
  - (a) disconnect the Supply of electricity to the Customer immediately, and recover from the Customer the costs incurred in the disconnection and (if the Company reconnects the Supply) the costs incurred in the reconnection;

- (b) adjust the charges payable by the Customer as provided for in Rule 229;
  - (c) recover from the Customer the cost of making good any damage to or replacement of the Company's equipment and property; and/or
  - (d) relocate the Company's equipment to another suitable location, and recover from the Customer the cost incurred in the relocation.
2. Interfering or tampering with the Company's equipment by the Customer may also render the Customer liable to prosecution under the Theft Ordinance and the remedies set out above shall not limit or exclude the exercise of any other right or remedy available to the Company.

## 211 Provision of Supply Cable and Equipment

The Company will only be responsible for the provision and maintenance of its supply cables and equipment up to:

- (a) the Company's main fuses or service terminations; or
- (b) the incoming terminals of the Customer's main circuit breaker where the Supply is taken directly from the Company's transformer or high voltage switchgear.

## 212 Supply Position

1. The electricity supplied to a Customer will normally be provided at a single position approved by the Company. Each such supply point shall be the subject of a separate Account. Interconnection between two separate Accounts with a change-over design or connection in parallel is strictly prohibited, unless agreed by the Company in writing.
2. The Company will endeavour to provide the Supply at the position requested by the Customer. Where this is not practicable, it shall be the Customer's responsibility to connect the electrical Installation to the nearest supply position provided by the Company.

## 213 Meter Position

1. The position and spacing of meters must be in accordance with the Company's specifications to allow easy and convenient access for meter reading, inspection, operation and maintenance.
2. The meter position should be close to the source of Supply. In case arrangements cannot be made for the Company to inspect the entire section of the circuit between the source of Supply and the present or proposed meter position, the Customer shall arrange for a REW to inspect such circuit and to confirm that there is no other meter connected to the circuit. This requirement applies to premises which are directly supplied from the Company's LV Service Cable(s).
3. If work is to be carried out on the Customer's Installation which affects the meter, the Customer shall inform the Company before the commencement of such work.

## 214 Connection of Supply to New Electrical Installations

1. It is the duty of the Customer to ensure that any Installation is designed, installed, inspected and tested in accordance with the Supply Rules and the Electricity Ordinance by a REW of a REC. In connecting a Supply, the Company does not warrant or represent that any Installation it has inspected is safe or complies with the Supply Rules or any statutory requirements.
2. (a) The connection of any Installation to the Company's Supply mains shall not occur until the Installation has passed inspection by the Company. Before a Company inspection takes place, the Customer shall ensure that appropriate tests and inspection be made by a REW of a REC employed by the Customer to verify that the relevant provisions of the Supply Rules, Meter Installation Guide and all statutory requirements have been met. The Customer shall provide the Company with a copy of a Work Completion Certificate signed by the REW and REC. The REW responsible for the Installation is required to be present at the time of inspection by the Company, failing which the Company reserves the right not to carry out the inspection.  
  
(b) The Director of Electrical and Mechanical Services may exempt certain Installations from the requirements of Rule 214.2(a). Exempted Installations shall not be connected to the Company's Supply mains unless the interface requirements specified in Rule 300 have been met.  
  
(c) The Company may reconnect a Supply to a Customer's Installation without inspection if the reconnection is made within 4 months after the disconnection, and the disconnection was for reasons other than safety or contravention of the Electricity Ordinance or any other legislation.  
  
(d) The Company may connect a Supply in a manner considered appropriate by the Company.
3. If on inspection an Installation is found to be incomplete, or is likely to affect the safe and stable operation of the Company's system or another Customer's Installation, or fails to comply with the Supply Rules, Supply may not be given and a charge may be made for each subsequent inspection.
4. Any Installation connected to the Company's Supply without the Company's prior approval is strictly prohibited and may result in the Company taking any of the actions set out in Rule 210.1. In addition, the Customer shall be liable for all losses, damages, costs and expenses incurred by the Company arising therefrom and may be liable to prosecution under the Electricity Ordinance and other legislation.

## 215 Maintenance of the Customer's Electrical Installations

1. A Customer shall at all times maintain the Installation in accordance with the requirements of the Electricity Ordinance, all other relevant laws and regulations of the Hong Kong SAR Government, and the Supply Rules. The obligation to ensure that the Installation is at all times safe and complies with the Supply Rules and all statutory requirements remain with the Customer at all times.
2. If alteration to an Installation is made during shutdown maintenance, the Customer shall ensure that appropriate inspections and tests are carried out by a REW of a REC to verify that, after the alteration, the Installation is safe for restoration of Supply. The Customer shall



provide the Company with a copy of the Work Completion Certificate (Form WR1) signed by the REW and REC. The REW responsible for such alteration is required to be present at the time of inspection by the Company, failing which the Company reserves the right not to restore the Supply.

3. If changes are to be made to the metering arrangements or the Installation during shutdown maintenance, the Customer shall inform the Company before the shutdown.
4. If there are no changes in metering arrangements or alteration to the Installation during shutdown maintenance, the Customer shall make a declaration to that effect to the Company before restoration of Supply.

## **216 Additions or Alterations to Existing Electrical Installations**

1. A Customer wishing to have the Supply increased over and above the Approved loading or extended beyond the premises for which the Supply was originally intended, must inform the Company by submission of the relevant application form. The Company will advise the applicant of any additional charges and/or deposit which may be required.
2. In the case of an alteration or addition to an Installation which is connected to rising mains, the owner of the Installation should, before commencing any alteration or addition, obtain agreement from the owner of the rising mains by completing a "Confirmation of Agreement from Owner of Rising Mains for Connection of Electrical Installation with an Increased Current Demand" form provided by the Company if the new current demand of the Installation after the alteration or addition will exceed the existing approved loading before the alteration or addition is carried out on the Installation.
3. Before any Supply is given to an addition or alteration of an Installation, appropriate tests and inspection shall be made by a REW of a REC employed by the Customer to verify that the statutory requirements and the requirements of the Supply Rules and Meter Installation Guide have been met. The Customer or the REC/REW shall provide the Company with a copy of a Work Completion Certificate signed by the REW and REC.
4. The Company will normally inspect additions or alterations to an Installation prior to Supply being given to such additions or alterations. If on inspection, the Company is of the opinion that an addition or alteration to an Installation is incomplete, is likely to affect the safe and stable operation of the Company's system or another Customer's Installation or fails to comply with any of the Supply Rules or any requirements specified in the Meter Installation Guide, Supply may not be given and a charge may be made for each subsequent inspection.
5. Addition of load above the Approved loading of an existing Installation or extension of the Installation beyond the premises for which the Supply was originally intended without the Company's prior approval is strictly prohibited and may result in the Company taking any of the actions set out in Rule 210.1 or Rule 232. In addition, the Customer shall be liable for all losses, damages, costs and expenses incurred by the Company arising therefrom and may be liable to prosecution under the Electricity Ordinance and other legislation.

## 217 Customer's Generating Plant

The Customer shall take from the Company all the electricity that may be required for use at the premises except that the Customer may take electricity from an internal generating plant in times of emergency and for test runs of limited duration. The Customer shall not cause an internal generating plant to run in parallel with the Company's Supply nor shall any alteration be made to switchgear installed for the purpose of preventing such connection unless agreed by the Company in writing.

## 218 Customer Not to Supply Third Parties

Subject to Rule 219, a Customer shall not supply to, share with or re-sell to any third party electricity obtained from the Company other than with the prior written consent of the Company and under such conditions as the Company may specify, nor cause or permit or allow any electricity obtained from the Company to be supplied or diverted or extended to any premises which are not in the exclusive possession of the Customer.

## 219 Extension of Supply to Other Customers by the Company

The Company shall have the right to extend a Supply from a Customer's premises to other Customers. Such extension may involve electricity in excess of the first-mentioned Customer's requirements and may be accomplished by connection to the Company's supply distribution network or equipment at any point up to the first-mentioned Customer's meters. The Customer shall not withhold permission for extension of the Company's supply network across their property to other Customers.

## 220 Quality of Supply

1. The Company shall exercise reasonable care and skill to provide the Customer with an uninterrupted Supply which does not fluctuate in frequency or voltage outside the ranges set out in Rule 202, subject to the provisions of Rules 220.2, 220.3 and 233.2 to 233.6.
2. The Company does not promise that a Supply will not be interrupted or that its frequency or voltage will not fluctuate outside the ranges set out in Rule 202. A Supply may be interrupted or its frequency or voltage may fluctuate outside the ranges set out in Rule 202 even though the Company has exercised reasonable care and skill to provide an uninterrupted Supply which does not so fluctuate in frequency and voltage.
3. A Supply may be interrupted or its current, frequency or voltage may fluctuate outside the ranges set out in Rule 202 in circumstances such as the following:
  - (a) when the Company takes action for safety and security reasons;
  - (b) when the Company makes improvements or carries out maintenance, repairs or works;
  - (c) when the Company takes action for demand management;
  - (d) when matters outside the control of the Company cause it do so; and
  - (e) when the Company acts in accordance with instructions from regulatory authorities or for any other lawful reasons.

These are examples. They are not the only circumstances in which a Supply may be interrupted or its current, frequency or voltage may so fluctuate.

4. The Company's liability in respect of a fluctuation in frequency or voltage outside the ranges set out in Rule 202.3 and Rule 202.4 is limited by Rule 233.

## 221 Requirements of Customer's Equipment

1. Subject to the permitted operational limits set out below, the Company reserves the right to disconnect the Supply to any Installation which could generate or inject any objectionable effects on the Company's system or the electricity Supply to other Customers.

Type of Distortion	Operational Limit		
Voltage Fluctuation	Electric arc furnace	For 132kV and below	2%
	Motor	· Infrequent starting (intervals exceeding 2 hours)	3%
		· Frequent starting (intervals not exceeding 2 hours)	1%
	Rolling mill and traction (motor starting intervals not exceeding several minutes)	· Step-type change: up to 33kV 132kV · Ramp-type change: up to 33kV 132kV · Limit of total change: up to 33kV 132kV	1% 0.75% 1%/sec 0.75%/sec 3% 2.25%
Voltage Unbalance	Single-phase electric traction load	· Voltage: negative sequence 2% of positive sequence · Current into generators: negative sequence 5% of positive sequence	
Current Unbalance	Any 3-phase 4-wire circuits rated at 400A or above with single-phase loads	Maximum current deviation among 3 phases at the point of common coupling (PCC)	10%
Harmonic Voltage Distortion	Supply Voltage	Total Harmonic Distortion (THD)#	Individual Harmonics
	132kV	2.5%	1.5%
	33kV	5%	3%
	22kV	5%	3%
	11kV	5%	3%
	380V or 220V	5%	3%
	# Weekly 95 <sup>th</sup> -percentile of the 10-minute values		

Type of Distortion	Operational Limit		
	Supply Voltage	Total Demand Distortion (TDD)#	
Harmonic Current Distortion	11kV or above	IEEE519 sets out the detailed limits of the permissible current distortion.	
	380V or 220V	Max Demand Current at PCC <sup>^</sup>	TDD <sub>odd</sub> <sup>#</sup>
		I < 40A	20%
		40A ≤ I < 400A	15%
		400A ≤ I < 800A	12%
		800A ≤ I < 2000A	8%
		I ≥ 2000A	5%
	# Weekly 95th-percentile of the 10-minute values Even harmonics are limited to 25% of the odd harmonics <sup>^</sup> By historical data or actual measurement of the daily maximum for a period of at least 7 days		

Remarks: The Customer's equipment listed in the above table is for illustration purpose only. All types of electrical equipment, including but not limited to those that are not mentioned in the above table such as Battery Energy Storage System, Uninterrupted Power Transfer System, Electrical Vehicle Charging System, Cold Ironing Supply and Data Centre, etc., are also required to fulfil those requirements.

- The limits of the electric and magnetic fields of Customer's Installations associated with high voltage cables and conductors should comply with the tolerances published by the International Commission on Non-Ionising Radiation Protection (ICNIRP) in 1998. For instance, the limits of exposure to the general public are:
  - (a) the electric field strength should not exceed 5 kilovolts per metre (root mean square value); and
  - (b) the magnetic flux density should not exceed 0.1 millitesla (root mean square value).

- It is the responsibility of the Customer to ensure that any sensitive and/or essential equipment can continue to operate during voltage dips, fluctuations or supply interruptions. Such events may arise from external interference (including, but not limited to, lightning strikes, third-party cable damage or other acts beyond our control, etc.), government instructions or other lawful reasons, or faults within the Supply system. Customers are strongly advised to procure and install equipment that is capable of withstanding such disturbances. If the equipment is not capable of doing so, appropriate protective measures should be implemented. To safeguard their electricity supply, Customers should follow the technical recommendations outlined in Appendix B.

## 222 Power Factor

The power factor of a Customer's load shall at no time be permitted to fall below a minimum of 0.85 lagging and the Customer shall install any correction equipment necessary for maintaining not less than this value. The correction method employed and equipment installed shall comply with the requirements of the Company.

## 223 Deposits

1. Prior to the connection of a Supply or from time to time after connection, the Company may require payment of a deposit or deposits by the Customer as security for all charges which may become payable in respect of an Account. The amount of the deposit or deposits will be determined by the Company from time to time by reference to the usage on the Account and in the normal course of events will not exceed the highest expected charge on such Account for 60 days.
2. In certain circumstances, the Company may at its discretion accept a guarantee in lieu of a cash deposit from an institution recognised and approved by the Company. The Company may review the amount of such guarantee from time to time as the Company may think fit.

## 224 Deposit Interest

The Company will pay interest on a cash deposit held by it calculated and paid at such rates published by the Company from time to time. Interest on a cash deposit will cease to accrue:

- (a) when the Account is terminated (whether or not on the application of the registered Customer);
- (b) when the deposit is refunded or applied or set off by the Company towards or against any indebtedness of the Customer to the Company; or
- (c) when notice is sent to the Customer's last known address that the deposit is no longer required,

whichever is the earliest.

## 225 Deposit Refunds

1. The deposit may at any time be used by the Company for payment of outstanding amounts in respect of relevant Accounts.
2. Care should be taken of any written proof of payment of deposit issued by the Company as a duplicate document evidencing payment of deposit will not be issued. Subject to Rule 225.3, the presentation of the proof of payment of deposit may be required to enable any refund or transfer of the deposit to be made. If a written proof of payment of deposit is lost, the loss must be reported to the Company by the Customer in writing as soon as practicable after the loss is discovered. Unless the Company has received a written loss report in respect of a deposit, payment by the Company of the deposit (or any part of it) to any person presenting the written proof of payment of deposit and demanding a refund shall be a good discharge of all the Company's obligations in respect of the deposit (or relevant part of it), and shall not

prejudice the Company's right to recover any amount due to it from the Customer who paid the deposit. The Company may require the person presenting written proof of payment of deposit for refund or transfer to provide proof of identity. In the case of an application for the refund or transfer of a deposit following the loss of written proof of payment of deposit, the person applying shall be required to execute an indemnity in the form specified by the Company in respect of such refund or transfer.

3. Upon the termination of an Account the Company will, subject to the Company's rights under the Supply Rules, refund the deposit referred to in Rule 223 to the registered Customer. Upon presentation of a written proof of payment of deposit for refund or transfer of an Account, the refund or transfer will be made at the face value of the deposit paid as augmented by interest allowed in accordance with Rule 224. Where the written proof of payment of deposit is not presented but an indemnity is executed in accordance with Rule 225.2, the refund or transfer will be made in the amount of the deposit as augmented by interest allowed in accordance with Rule 224 as shown from the records of the Company. The Company may at any time apply all or part of any deposit paid by a Customer to the Company, or call on any guarantee of the Customer's obligations, in reduction of any amount owed by the Customer to the Company.

## 226 Metering of Electricity

1. To determine the amount of electricity consumed and the electricity demanded, a meter or meters will be installed by the Company on the Customer's premises in accordance with Rule 209.1. Meter(s) installed may be replaced as the Company considered appropriate and the type of meter(s) to be installed or replaced will be solely determined by the Company. The metering data of the meter(s) shall be prima facie evidence of the amount of electricity consumed and where appropriate the maximum demand.
2. Dependent on the type of Supply, the Company may employ high voltage metering.

## 227 Accuracy of Meter

The Customer accepts that the register or indicator of the meter may operate within permissible limits of plus 2.5% and minus 3.5% and that within these permissible limits no adjustment of charges will be made. Should the accuracy of a meter be disputed the Customer may request an accuracy test to be carried out by the Company. The Company may charge for this service if the meter is found to operate within the permissible limits.

## 228 Settlement of Charges

1. The Company may from time to time issue bills to each Customer for all electricity consumed under any Account in respect of which the Customer is the registered Customer and for any other electricity supplied by the Company to the Customer. The Company will bill the Customer for actual consumption in accordance with readings or metering data obtained from the Company's meters or, at the option of the Company, for projected or estimated consumption based upon the Customer's previous usage or such other basis as the Company considers appropriate. Where a bill for estimated consumption is issued, the Company will make any necessary adjustments if the Company is at a later stage able to obtain an actual reading. The Company may take meter readings on a periodic basis in a manner considered appropriate by the Company. Bills may be issued in respect of such periods or periods as the



Company may from time to time determine. The charges made by the Company to the Customer for electricity shall be calculated on the basis of the Company's published tariffs current at the time of the Supply in question and any variations which may have been made to the fuel clause in the tariff.

2. In the event of a tariff revision and/or an adjustment of the fuel clause, the revised tariff and/or fuel clause shall apply to the consumption and demand as and from the date announced by the Company as the date on which the revision and/or adjustment is to take effect. Since some of the Company's meters do not show consumption and demand by the day but only the total consumption and demand over a period, the Company shall be entitled to apply the revised tariff and/or fuel clause adjustment to the bill for the period in which the revised tariff and/or fuel clause adjustment is to take effect, on a pro rata basis according to the number of days in the period to which the revised tariff and/or fuel clause adjustment is to take effect. In the event that no meter reading is taken in the month in which the revision or adjustment is to take effect, the Company may apply a projected or estimated reading based on the revision or adjustment.
3. Bills must be settled on or before the due date. The Customer should allow sufficient mailing or bank processing time to ensure that payment of a bill is received by the Company by the bill's due date. A Customer who fails to settle a bill on its due date shall pay additional charges as required by the Company. Bills that do not bear a due date are payable upon issue.
4. In the event of non-receipt by the Company of payment of any outstanding amounts due from the Customer, the Company may transfer the outstanding amounts to another Account of the Customer and disconnect any Supply in a manner considered appropriate by the Company. Such a disconnection will be without prejudice to the exercise of the other rights or remedies available to the Company. In the event of such a disconnection a charge will be made to the Customer for reconnection of the Supply.
5. If a Customer is the Customer in respect of more than one Account, the Company may apply all or part of any of the deposits or guarantees held by or issued to the Company in respect of any of the Accounts in reduction of any amount owed to the Company by the Customer.
6. The Company may present bills to the Customer by electronic means.

## 229 Adjustment of Charges

1. When a meter is not subject to any abnormal condition other than incorrect calibration, and the meter is found to be outside the permissible limits of accuracy of plus 2.5% and minus 3.5%, the Company will make retrospective adjustments to the amounts shown in the Company's records as due from the Customer in respect of consumption and demand for the period reasonably estimated by the Company to be the period during which such incorrect calibration subsisted. Such adjustments shall be made with reference to the Company's records, the Customer's consumption history and other relevant circumstances.
2. When a Customer has been undercharged or overcharged, then the Company on the basis of its records, available technical evidence, the Customer's consumption history and other relevant circumstances will make retrospective adjustments to the amounts shown in the Company's records as due from the Customer in respect of consumption and demand to such extent and for such period as may be reasonably determined by the Company to be necessary to rectify such undercharge or overcharge.
3. Where a Customer has applied for and has been granted a Supply under a particular tariff

type and it is subsequently discovered that the Customer was not or has ceased to be eligible for the Supply under such tariff type, electricity provided during the period when the Customer was not so eligible shall be charged on the basis of a tariff type to be determined by the Company to be the correct tariff type. The Company shall be entitled to make retrospective adjustments to the amounts shown in the Company's records as due from the Customer in respect of tariff rates for the period in question determined by reference to the Company's records, available technical evidence, the Customer's consumption history and other relevant circumstances. A Customer shall cease to be eligible for a particular tariff type if the Customer does not comply with or observe any provision of the Supply Rules or other terms and conditions governing Supply under that tariff type.

4. The Company will advise a Customer of any adjustment under Rule 229.1 to Rule 229.3 by way of an amended or supplementary bill. Additional charges payable by the Customer under such a bill shall be payable upon its issue. In the event of non-payment of an amended or supplementary bill by a Customer, the Company may deduct the amount of such charges from the deposit held by it and recover any shortfall of the deposit.
5. The Company has no obligation to make any refund in respect of an adjustment under this Rule in respect of an Account which has been terminated. Where the Company makes a refund pursuant to the Supply Rules, it shall have discretion to make the refund either to the registered Customer of the Account in question or, when Supply under such Account is not used by the registered Customer, to any person the Company reasonably thinks fit. In making a refund, the Company may give credit to the Customer in question and will pay any balance due when the relevant Account is terminated.

## 230 Termination of Account

1. A registered Customer shall pay all bills issued by the Company in respect of all Accounts in the registered Customer's name whether or not the registered Customer is in occupation of the premises to which the Accounts relate until such time as the Supply has been terminated by the Company or the Accounts transferred.
2. A Customer intending to vacate any premises or intending to cease to be a Customer in respect of any Account or requiring any Supply to be disconnected must give at least two full working days' prior notice in writing, by telephone, by attending at a Customer Services Centre or by other means accepted by the Company to terminate the Account. After receiving such a request from a Customer, a notice will be sent to the last updated correspondence address of the registered Customer. If less than two full working days' notice is given, the Company will endeavour to disconnect the Supply or terminate or transfer the Account on or by the requested date but if it shall fail to do so, the registered Customer shall be responsible to the Company for any electricity consumed on that Account until the expiry of two full working days after receipt of such notice.

## 231 Change of Tariff

A Customer wishing to change the tariff type under which they obtain Supply shall apply in writing to the Company. The Company's response to such application will be notified to the Customer in writing within 30 days after receipt of the application. In approving an application, the Company will specify a commencement date for the Supply to be provided at the new tariff type. The commencement date will normally be the Company's next scheduled meter reading date following the date of the Company's approval. A Customer's application for Supply at a particular tariff type may be refused if the Customer has within 12 months prior to such

application been so supplied and has at their own request ceased to be so supplied under the same tariff type.

## 232 Refusal or Disconnection of Supply

1. The Company may refuse or disconnect a Supply in a manner considered appropriate by the Company when the law or any provision of the Supply Rules requires or permits it to do so.
2. The Company may refuse or disconnect a Supply in circumstances such as the following:
  - (a) when the Company considers that there is an imminent risk of an electrical accident;
  - (b) when the Company considers it necessary to ensure the safe and stable operation of its or another person's Installation;
  - (c) when the Company is not satisfied that it is safe to connect a Supply to an Installation;
  - (d) when it is impracticable or unsafe to supply electricity because of the location of the Customer's premises;
  - (e) when the Company has reasonable grounds to believe that the Customer's Installation may contravene the Electricity Ordinance or any other legislation or may affect the safe and stable operation of its or another person's Installation, and the Customer fails to allow the Company to inspect the Installation or to give the Company an inspection report in the form required by the Electricity Ordinance;
  - (f) when the Company considers that the Customer's Installation contravenes the Electricity Ordinance or affects the safe and stable operation of another person's Installation, and the Customer fails to rectify the problem in a time specified by the Company;
  - (g) when the Director of Electrical and Mechanical Services or any other regulatory authority orders the Company to disconnect a Supply;
  - (h) when the Customer does not agree to the Company's usual contractual terms or to provide reasonable evidence of credit worthiness;
  - (i) when the Customer has failed to pay a deposit which the Company has required them to pay under Rule 223;
  - (j) when the Customer has failed to settle the charges due under Rule 228;
  - (k) when an application is made for the bankruptcy or winding up of the Customer;
  - (l) when the Customer has failed to afford the Company reasonable access to its equipment or the Customer's Installation for the purpose of inspection or meter reading or any other purpose; and
  - (m) when the Customer has failed to perform its contractual obligations to the Company.

These are examples. These are not the only circumstances in which the Company may refuse or disconnect a Supply.

3. The Company may disconnect a Supply without notice in the following circumstances:
  - (a) when the Company considers that there is an imminent risk of an electrical accident;
  - (b) when the Company considers it necessary to ensure the safe and stable operation of its or another person's Installation; and
  - (c) when the Director of Electrical and Mechanical Services or any other regulatory

authority orders the Company to disconnect a Supply.

These are examples. These are not the only circumstances in which the Company may disconnect a Supply without notice.

4. The Director of Electrical and Mechanical Services may disconnect a Supply in the circumstances set out in the Electricity Ordinance.

## 233 Limitation of Liability

1. The Company accepts any liability it may have in law in respect of any loss, damage, cost or expense which is caused by its breach of contract with, or terms of supply to, the Customer subject to the limitations of liability which are set out in these Rules.
2. The Company shall not be liable to the Customer or any other person, whether claiming through the Customer or otherwise, for
  - (a) any economic, financial or physical loss in connection with an interruption of a business or a business process; or
  - (b) any loss of profit; or
  - (c) any loss of revenue, contract or business opportunity; or
  - (d) any loss or corruption of data, information or software; or
  - (e) any liability to any third party; or
  - (f) any indirect or consequential or special loss or damage, of whatsoever nature and howsoever arising.
3. The Company shall not be liable to the Customer or to any other person for any loss, damage, cost or expense of whatsoever nature and howsoever arising insofar as such loss, damage, cost or expense or its extent was outside the contemplation of the Company and the Customer when this contract was made. This Rule applies to both the physical and financial extent of loss, damage, cost or expense.
4. The Company shall only be liable to the Customer or any other person for a maximum of HK\$2 million in respect of any loss, damage, cost or expense whatsoever and however arising as a result of the occurrence of an event or incident or from a series of events or incidents which have the same or substantially the same causes, whether or not such liability arises in contract, tort (including negligence), breach of statutory duty or otherwise.
5. The limitations in Rule 233.2, Rule 233.3 and Rule 233.4 also apply to loss, damage, cost or expense arising out of any one or more of the following:
  - (a) an interruption of a Supply or a fluctuation in its frequency or voltage, whether or not it is negligent;
  - (b) a refusal or disconnection of a Supply, whether or not the law or any provision of the Supply Rules requires or permits it; or
  - (c) an intentional act of any servant or agent of the Company, whether or not the law or any provision of the Supply Rules requires or permits it.
6. The Company shall not be liable to the Customer or any other person for any loss, damage, cost or expense of whatsoever nature and howsoever arising which arises out of any one or more of the following:

- (a) an interruption of a Supply or a fluctuation in its frequency or voltage, when the Company takes action for safety, security, technical or operational reasons, or when acting upon the instructions from law enforcement agencies (e.g. Fire Services Department);
- (b) an interruption of a Supply or a fluctuation in its frequency or voltage, when the Company makes improvements or carries out maintenance, repairs or works;
- (c) an interruption of a Supply or a fluctuation in its frequency or voltage as a result of matters wholly or partly outside the control of the Company. Such matters may include an act or omission of a supplier to or contractor of the Company;
- (d) a fluctuation in frequency or voltage within a range referred to in Rule 202 which the Company, or the Company and the Customer, have determined is to be supplied; or
- (e) a refusal or disconnection of a Supply, when the law or any provision of the Supply Rules requires or permits it.

This limitation extends to loss, damage, cost or expense to or in respect of property, to all the kinds of loss, damage, cost and expense set out in Rule 233.2 and to all other kinds of loss, damage, cost and expense of whatsoever nature and howsoever arising.

- 7. The limitations of liability in Rule 233.2, Rule 233.3, Rule 233.4 and Rule 233.6 do not apply to claims arising from death or personal injury.
- 8. The Customer is advised to obtain insurance cover in respect of loss, damage, cost or expense that is not recoverable from the Company.
- 9. The Company considers that these limitations of liability are reasonable and effective in law. The attention of the Customer is drawn to Sections 7 and 8 of the Control of Exemption Clauses Ordinance (Cap.71), which may invalidate a term seeking to exclude or limit liability to the extent such term is unreasonable.

## 300 CUSTOMER INSTALLATION INTERFACE AND OTHER REQUIREMENTS

### 301 Customer's Main Switch

A main switch is, in general, required to be installed for an Installation such that by operating the main switch the Supply to the entire Installation can be switched "on" and "off" as necessary.

1. A Customer's main switch or circuit breaker shall be provided for every Customer's Installation which shall interrupt all live conductors of the Installation. The main switch or circuit breaker shall be readily accessible to the Customer and shall incorporate:

- (a) means of isolation and switching;
- (b) means of protection against over-current; and
- (c) means of protection against earth leakage.

Where a Customer's main switch or circuit breaker is connected directly to the Company's HV or LV transformer or switchgear, its overcurrent and earth fault protection shall discriminate with the Company's relevant high voltage protection settings.

For a 3-phase 4-wire Supply, a linked switch or linked circuit breaker may be arranged to disconnect the phase conductors only. In such case a link shall be inserted in the neutral conductor and securely fixed by bolts or screws.

2. The means of isolation and switching shall be:
  - (a) a device selected and installed in such a way as to prevent unintentional reclosure;
  - (b) capable of cutting off the full load current of the whole installation from Supply; and
  - (c) provided with clearly and reliably indicated ON & OFF positions.
3. The means of protection against overcurrent shall be a device capable of breaking (and for circuit breakers, making) any overcurrent up to and including the prospective short circuit current at the point where the device is installed. Such a device may be a circuit breaker incorporating overload release, or fuses or a circuit breaker in conjunction with fuses. Where Supply is taken directly from the Company's transformer, the main switch or circuit breaker shall have an adequate short-circuit breaking capacity. It shall be 40kA at low voltage (For High Voltage Supply, please refer to Rule 207). The incoming terminals of the main switch or circuit breaker shall be suitable for terminating and receiving the Company's Supply cables. The neutral conductor shall have a cross-sectional area not less than that of the phase conductor.
4. The means of protection against earth leakage shall be by earthed equipotential bonding and automatic disconnection of Supply. The characteristics of the protective device for automatic disconnection and the earth fault loop impedance at the main switch shall be coordinated so that disconnection is achieved within 5 seconds during an earth fault. Reference shall be made to the time-current characteristics of the protective device supplied by the manufacturer to achieve this objective.



5. Where a Customer's Installation comprises installations in two or more buildings, means of local isolation complying with Rule 301.2 shall be provided in each building.
6. A circuit breaker used to receive Supply direct from the Company's transformer or switchgear shall normally be of the draw-out type. A fixed type circuit breaker may be used in conjunction with an isolator provided it is mechanically interlocked with the isolator. For high voltage Installations, additional facilities are required to lock off the circuit breaker at an isolated or earthed position.
7. Where the Supply is to be taken from more than one transformer, interconnection facilities between the main incoming circuit breakers must be provided. All incoming and interconnection circuit breakers shall be of the 4-pole type interrupting all live conductors and mechanically and electrically interlocked to prevent the Company's transformers from operating in parallel.

Where emergency/essential generator is installed, an electrically and mechanically interlocked 4-pole change-over device shall be used for interconnection between the normal and emergency/essential sources to ensure that neutral imbalance and fault currents return to the correct source of Supply.

8. A schematic wiring diagram showing the main distribution system shall be displayed near the main switch.
9. Where the Customer's Installation is supplied from the Company's overhead line system, the Installation shall be protected against earth leakage by a RCD.
10. Instantaneous type RCD shall not be used as protective device to afford protection against earth leakage for rising mains or circuits providing electricity Supply to multi-Customer's installations.

## 302 Customer's Installation

1. In multi-Customer premises no part of the communal or individual Customer's Installation shall pass through any other individual Customer's unit within the building.
2. Rising Mains Installation
  - (a) Any building of more than four floors including the ground floor shall be provided with 3-phase electrical rising mains with a 3-phase tee-off at each floor unless otherwise agreed by the Company.
  - (b) The design of the rising mains Installation shall be agreed by the Company.
  - (c) Separate riser earthing conductors shall be provided to earth all units therein. The minimum cross-sectional area of riser earthing conductor shall be 70mm<sup>2</sup> for copper and 150mm<sup>2</sup> for aluminium.
  - (d) The Customer's main connection between the Company's meter and the Customer's main switch shall be installed and maintained by the Customer and shall be not less than 4mm<sup>2</sup> stranded copper conductors. The neutral conductor shall have a cross-sectional area not less than that of the phase conductor unless otherwise accepted by the Company.
  - (e) In multi-Customer premises a device capable of both isolating and switching the full load current of the whole Installation shall be provided for each Customer at a position immediately before the Company's meter. For a single-phase Installation this device

shall be of double-pole type interrupting all live conductors.

### 3. Electro-magnetic Field (EMF) Shielding and Surge proof supply equipment

Customers are recommended to install their own EMF Shielding and Surge proof equipment to protect their own sensitive equipment. The Company may offer advice to Customers on these issues.

## 303 Electric Motor Installation

### 1. Low Voltage Induction Motors

(a) The choice of motor size and maximum acceptable starting current shall be in accordance with the following table:

Supply Arrangement	Motor Size (M) in Kilowatts	No. of Phases	Maximum Starting Current (in Multiple of Full Load Current)
<b>From Company's Overhead Line System</b>	$M \leq 1.5$	1-phase	6
	$1.5 < M < 3.8$	3-phase	6
	$3.8 \leq M \leq 11$	3-phase	2.5
<b>From Company's Non-Overhead Line System</b>	$M \leq 2.2$	1-phase	6
	$2.2 < M < 11$	3-phase	6
	$11 \leq M \leq 55$	3-phase	2.5

(b) The Customer shall ensure that motors exceeding the sizes listed above shall not cause voltage fluctuation outside the limits set out in Rule 221.1.

(c) Motors that do not comply with the stipulations set out above shall not be connected to the supply system without the prior written agreement of the Company.

### 2. Synchronous Motors and High Voltage Motors

Synchronous motors and high voltage motors shall only be installed by special arrangement with the Company.

## 304 Earthing

1. In every Installation the Customer is required to provide its own earthing system by which the exposed conductive parts of the Installation are connected to earth.

2. The earth electrodes of the Customer's earthing system shall be installed within Customer's own property. The material used and the construction of the earth electrodes should be such as to withstand damage due to corrosion and passage of earth fault currents. The following types of earth electrodes are acceptable:

- (a) earth rods or pipes;
- (b) earth tapes or wires;
- (c) earth plates;

- (d) metallic reinforcement of concrete, including sheet piles.
- 3. The metalwork of gas and water services shall not be used as an earth electrode.
- 4. Where the Supply is taken direct from the Company's transformer or via an underground cable having exposed conductive parts, the Company may allow the Customer to provide a bonding conductor between the Customer's main earthing terminal and the Company's transformer earth or the metallic sheath of service cable. The size of the bonding conductor, if allowed, should not be less than 70mm<sup>2</sup> copper equivalent. However, in measuring the earth fault loop impedance or testing the operation of protective devices, the said bonding conductor must be disconnected.

### 305 Installation and Testing of Customer's Installation

1. All Installations connected to, or intended to be connected to, the Company's Supply must comply with the requirements of these Supply Rules, the Meter Installation Guide, the Electricity (Wiring) Regulations and other relevant Government Ordinances and Regulations. The Company may from time to time require the Customer to produce evidence of compliance of any of the requirements.
2. It is required by law that the owner of an Installation employs a REW of a REC to inspect and test their Installations. An appropriate Work Completion Certificate shall be signed by the REW and REC, and issued to the owner by the REC upon completion of the appropriate tests and inspections.
3. It is required by law that Installation owners as mentioned in Code 20 of the COP for the Electricity (Wiring) Regulations shall have their Installations inspected, tested and certified at least either every one or five years as laid down in Regulation 20 of the Electricity (Wiring) Regulations.

### 306 Renewable Energy Power System

A written application is required to be made to the Company if the Customer wants to install a renewable energy power system and connects it to the distribution network with parallel operation or change-over design.

## APPENDICE

## A. Definitions

<b>Account:</b>	a numbered supply of electricity to an Installation by the Company.
<b>Approved loading:</b>	the maximum current demand approved by the Company in respect of a Customer's Installation.
<b>Company:</b>	CLP Power Hong Kong Limited whose registered office is at CLP Headquarters, 43 Shing Kai Road, Kai Tak, Kowloon, Hong Kong.
<b>Company's equipment:</b>	any equipment which is the property of the Company used for the purpose of generating, transmitting, distributing, supplying or measuring electricity.
<b>Customer:</b>	any individual, partnership, association, firm, public or private corporation or Governmental agency or department who or which is supplied with electricity by the Company to any Installation or is registered with the Company as the Customer in respect of any Account.
<b>Customer's main switch:</b>	a device which enables all voltage to be cut off from every circuit of the Customer's Installation.
<b>Earth electrode:</b>	a conductor or group of conductors in intimate contact with and providing an electrical connection to earth.
<b>Earth fault loop impedance:</b>	the impedance of the earth fault current loop (phase to earth loop) starting and ending at the point of earth fault.
<b>Electrical equipment: (abbr: equipment)</b>	any item for such purposes as generation, conversion, transmission, distribution, measurement or utilisation of electrical energy, such as machines, transformers, apparatus, meters, protective devices, wiring material, accessories and appliances.
<b>LV Service Cable:</b>	a low voltage underground cable which is the supply mains for distribution of electricity to building.
<b>Exposed conductive part:</b>	a conductive part of equipment which can be touched and which is not a live part but which may become live under fault conditions.
<b>Installation:</b>	a low or high voltage electrical installation that is fixed to premises but does not include any electrical equipment that is supplied with electricity after passing through a socket of the installation at which the Supply can be disconnected without the use of a tool.

<b>Meter:</b>	a measuring instrument and associated equipment belonging to the Company designed to measure, register, indicate and transmit the integral value of consumption or demand with respect to time.
<b>Meter Installation Guide:</b>	the guide issued by the Company as amended from time to time and published on its website at <a href="http://www.clp.com.hk">www.clp.com.hk</a> detailing the relevant meter installation requirements.
<b>Metering Data:</b>	any data which include, but not limited to, meter readings and load profile, collected by the meter and associated equipment.
<b>Premises:</b>	any structure, building, land, pier, seawall, wharf or structure or any part thereof.
<b>Registered Electrical Contractor: (abbr: REC)</b>	a person, business or firm who is registered under Section 33 of the Electricity Ordinance to do business as an electrical contractor to carry out electrical work.
<b>Registered Electrical Worker: (abbr: REW)</b>	a person who is registered under Section 30 of the Electricity Ordinance as an electrical worker to do electrical work.
<b>Residual Current Device: (abbr: RCD)</b>	a device or association of devices intended to cause the physical opening of the contacts when the residual current attains a given value under specified conditions.
<b>Rising Mains:</b>	the part of an Installation which is used for distribution of electricity throughout any building normally used for multiple occupation.
<b>Supply:</b>	supply of electricity.
<b>Supply Rules:</b>	the published Supply Rules of the Company as amended from time to time.
<b>Voltage, nominal:</b>	<p>voltage by which an Installation (or part of an Installation) is designated. The following ranges of nominal voltage (root mean square values for a.c.) are defined:</p> <ul style="list-style-type: none"> <li>Extra Low: normally not exceeding 50V a.c. or 120V d.c. whether between conductors or to earth.</li> <li>Low: normally exceeding Extra Low voltage but not exceeding 1000V a.c. or 1500V d.c. between conductors, or 600V a.c. or 900V d.c. between conductors and earth.</li> <li>High: exceeding Low voltage.</li> </ul>
<b>Work Completion Certificate:</b>	a certificate (Form WR1) signed by a Registered Electrical Certificate Worker and Registered Electrical Contractor to certify the Installation after it was designed, inspected and tested in case of first installation, alteration, or addition.

## B. Technical Recommendations For Protection of Sensitive and/or Essential Load

**Important notice:** Electricity supplied by the Company may be subject to voltage dip, fluctuation and interruption due to third party damage, equipment failure, unsteady or fluctuating demands, Government instructions or other lawful reasons. It is the responsibility of Customers to ensure that an Un-interruptible Power System (UPS) and/or appropriate back-up system are in place to safeguard their sensitive and/or essential load. Customers who rely on continuous Supply are advised to consider the following recommendations:

1. Customers with equipment/system requiring continuous electricity supply, are strongly recommended to install UPS and/or appropriate back-up system to ensure proper operation and minimize damage, loss or inconvenience caused directly or indirectly by voltage fluctuation, voltage dip, interruptions or Supply failures. Examples of such equipment/system include, but are not limited to:

- laboratory and medical equipment used for life saving, support or patient treatment;
- computer, control, telecom equipment, and any other equipment requiring uninterrupted power;
- emergency exit lighting and equipment;
- equipment and lighting for conference / exhibition halls and sports stadiums;
- firefighting, ventilation and other emergency equipment;
- escalators, lifts and other people-moving equipment;
- security surveillance, and access control equipment;
- equipment ensuring safe access and environment in tunnels or confined space;
- appliances/equipment critical to business operations or where voltage fluctuation, voltage dip, interruption or failure of supply may incur substantial loss or damage; and
- appliances/equipment essential to the survival of livestock or pets.

Customers should also prepare contingency measures to prevent and minimize any loss or damage in case the back-up system fails.

2. As most Supply disturbances are beyond the control of the Company, Customers can mitigate their impact in many ways, including:

- installing UPS and/or appropriate back-up system to safeguard the proper operation of sensitive and essential load;
- installing a voltage stabiliser to maintain an acceptable operating output voltage range;
- installing Electro-magnetic Field (EMF) shielding and voltage surge suppressor to reduce the impact of surge and protect sensitive equipment from interference;
- installing automatic backup system for Supply interruptions;
- preventing unnecessary Supply interruptions by properly configuring protection systems for the equipment and/or using time-delay tripping relays per manufacturer's specifications; and
- consulting equipment manufacturers or referencing international standards for voltage dip ride-through capability, such as Information Technology Industry Council (ITIC) or Semiconductor Equipment and Materials International (SEMI) curves, or International Electrotechnical



Commission (IEC) standards (IEC 61000-4-11 & IEC 61000-4-34) or European Standard EN50160, in equipment specification.

3. The capacity of UPS and back-up system should be determined based on the specific Customer requirements. Customers are advised to install monitoring system on both equipment/appliance and the UPS and/or applicable back-up system to ensure being alerted to abnormal incidents and make alternative arrangements if the voltage fluctuation, voltage dip, interruption or failure of Supply are expected to exceed system capacity or duration.
4. Customers are responsible for maintaining their UPS, back-up system and monitoring systems to ensure they remain in good working condition.

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