

# SUPPLY CONDITIONS FOR DISTRICT COOLING SERVICE

## TABLE OF CONTENTS

1. General and Administrative Provisions
    - 1.1 Purpose of the Conditions
    - 1.2 Definitions
    - 1.3 Hierarchy of Documents
  2. General Obligations
    - 2.1 General Obligations of the Service Provider
    - 2.2 General Obligations of the Consumer
  3. District Cooling Service Specifications
    - 3.1 Supply Temperature
    - 3.2 Supply Availability
  4. Supply Capacity
  5. Technical Requirements
    - 5.1 Intake Station
    - 5.2 Service Connection Facilities
    - 5.3 Meter and Metering
  6. Billing and Payment
  7. Damages and Limitation of Liability
  8. Supply Disconnection and Reconnection
- Schedule 1 – Typical Scheme for Service Connection Facilities

## 1. General and Administrative Provisions

### 1.1 Purpose of these Conditions

1.1.1 These Conditions set forth the following with respect to the district cooling service:

- (i) The standard of performance in accordance with which the Service Provider shall supply the service.
- (ii) The rights and obligations of the Service Provider and a Consumer.
- (iii) The technical requirements and arrangement for supply connection.
- (iv) The general terms and conditions of Supply.

### 1.2 Definitions

1.2.1 In these Conditions, unless the context otherwise requires:

“°C” means units of temperature measurement in degrees Celsius.

“Act” means the District Cooling Act [Cap. 84A].

“Authority” means the Energy Market Authority of Singapore.

“Availability of Supply” with respect to any calendar year, means the ratio of the hours in that year during which the Supply is available to the Consumer, bears to the total number of hours in that year.

“Average Return Temperature” with respect to any calendar month, means the arithmetic average of the Return Temperatures for that month.

“Capacity Charge” for any calendar month, means the amount payable by the Consumer pursuant to Section 6.3 with respect to that month.

“Capacity Overrun Charge” for any calendar month, means the amount payable by the Consumer pursuant to Section 6.4 with respect to that month.

“Conditions” means these general conditions for the provision of District Cooling Service.

“Consumer Installation” means the Consumer’s chilled water reticulation system and associated equipment constructed and installed by the Consumer and connected to the secondary side of the Heat Exchangers.

“Consumer” means the person named as such in this Supply Agreement.

“Contract Capacity” means the Supply capacity that the Consumer has requested and the Service Provider has agreed to provide, as stated in the Supply Agreement as may from time to time be amended in writing by the Parties in accordance with this Agreement.

“Contract Duration” means the period commencing from the Effective Supply Date and continuing thereafter until it is terminated in accordance with the Supply Agreement.

“Default Interest Rate” means a rate equal to the prevailing prime lending rate of the Development Bank of Singapore Limited plus 2% per annum.

“District Cooling Service” means the supply of chilled water for space cooling by the Service Provider at the Premises.

**“District Cooling System”** means the whole of the facility used or operated by the Service Provider for or in connection with the provision of District Cooling Service comprising the district cooling plant(s), the distribution pipes, Heat Exchangers and other apparatus including metering equipment but excluding the Consumer Installation.

**“Effective Supply Date”** means the date on which the Supply is provided at the Premises.

**“Force Majeure Event”** means any event or circumstance the occurrence and the effect of which the Party affected thereby is unable to prevent and avoid notwithstanding the exercise of reasonable foresight, diligence and care on the part of that Party, and subject to the foregoing criteria, shall include without limitation:

- (i) act of God;
- (ii) storm, floods or other usually severe weather conditions, earthquake, natural disasters, explosions or fire;
- (iii) strikes, work stoppages, work slowdowns or other labour actions (other than those involving employees of the Party affected thereby);
- (iv) acts of war (whether declared or undeclared), invasion, acts of terrorism, riot or sabotage;
- (v) intervention by government / relevant authority; and
- (vi) change in law.

**“Heat Exchanger(s)”** means heat transfer equipment installed by or on behalf of the Service Provider for the provision of District Cooling Service to the Premises.

**“Initial Supply Period”** means the period commencing on the Effective Supply Date and ending on the fifth anniversary of the Effective Supply Date.

**“Intake Station”** means the site in which the Heat Exchangers and the Consumer’s circulation pumps shall be housed and which is designated by the Parties as the Intake Station for the purposes of the Supply Agreement.

**“kW<sub>r</sub> maximum demand”** means the maximum of kW<sub>r</sub> demand integrated over a period of 30 minutes.

**“Nominal Flow Rate”** in respect of any Heat Exchanger means the flow rate of chilled water at the secondary side of the Heat Exchanger corresponding to the Contract Capacity at a Supply Temperature of 6°C and Return Temperature of 14°C.

**“Normal Operating Conditions”** at any time means all of the following conditions:

- (i) the Consumer’s demand for District Cooling Service is within the Contract Capacity; and
- (ii) the chilled water flow rate at the secondary side of each Heat Exchanger is greater than 10%, but not more than 100%, of the Nominal Flow Rate of the Heat Exchanger.

**“Normal Usage Hours”** means the period from 7am to 7pm every day excluding Sundays and public holidays.

“**Parties**” means the Service Provider and the Consumer and “**Party**” means either of them.

“**Planned Works**” shall have the meaning ascribed in Section 3.2.3.

“**Premises**” means the premises at which the Service Provider has agreed to provide the Supply, as stated in the Supply Agreement.

“**Return Temperature**” means the temperature of the water returning from the Consumer Installation to the Heat Exchanger, as measured at the secondary inlet of the Heat Exchanger.

“**Service Connection Facilities**” means the Heat Exchangers, the connection pipes to the district cooling distribution pipes and associated valves, fittings, meters, monitoring and control devices for the provision of District Cooling Service at the Premises.

“**Service Provider**” means Singapore District Cooling Pte Ltd.

“**Supply**” means the provision of District Cooling Service at the Premises at the Contract Capacity and at the Supply Temperature of  $6^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ .

“**Supply Agreement**” means the contract between the Consumer and the Service Provider for the provision of District Cooling Service, which incorporates these Conditions.

“**Supply Temperature**” means the temperature of the chilled water supplied to the Consumer pursuant to the District Cooling Service, as measured at the secondary outlet of the Heat Exchangers.

“**Target Supply Date**” means the date the Consumer requires the Contract Capacity and the Service Provider has agreed to make such Contract Capacity available to the Consumer, as stated in the Supply Agreement.

“**Usage Charge**” for any calendar month, means the amount payable by the Consumer pursuant to Section 6.5 with respect to that month.

- 1.2.2 Words importing a singular number shall include the plural number and vice versa.
- 1.2.3 The headings in these Conditions are inserted for convenience only and shall be ignored in construing these Conditions.
- 1.2.4 References to “**person**” shall include any natural person, corporation, judicial entity, association, statutory body, partnership, limited liability company, joint venture, trust, estate, unincorporated organisation or government, state or any political subdivision, instrumentality, agency or authority, and shall be construed as a reference to such person's successors or permitted assigns.

## 2. General Obligations

### 2.1 General Obligations of Service Provider

- 2.1.1 The Service Provider shall, at its own costs, be responsible for planning, designing, constructing, installing, testing, commissioning, operating and maintaining the District Cooling System and Service Connection Facilities (but without prejudice to the Consumer's payment obligations under Section 5.2.1).
- 2.1.2 The Service Provider shall ensure that the District Cooling System is commissioned and fully operational to provide the Supply in accordance with the Supply Agreement by

the Target Supply Date and will provide the Supply to the Consumer throughout the Supply Duration in accordance with the terms of the Supply Agreement.

## 2.2 General Obligations of the Consumer

2.2.1 The Consumer shall arrange for a competent person to design and install the Consumer Installation in accordance with the technical guidance provided by the Service Provider and which shall incorporate the following minimum requirements:

- (i) a control arrangement, via a variable flow system or otherwise, to maintain the Return Temperature at or higher than 14°C;
- (ii) a filtration system for the return water to the Heat Exchanger with a minimum filtration performance of 200 microns; and
- (iii) a pressure relief device at the interfacing connection set to operate at a pressure at or below 16 barg.

2.2.2 The Consumer shall make the connection of Consumer Installation to the secondary side of the Heat Exchangers, subject to the Consumer Installation having been completed and tested by the Consumer's competent person to the reasonable satisfaction of the Service Provider.

2.2.3 The Consumer shall not under any circumstances supply District Cooling Service received from the Service Provider to any building or premises other than the Premises.

## 3. District Cooling Service Specifications

### 3.1 Supply Temperature

3.1.1 The Service Provider undertakes to regulate the Supply Temperature within  $6^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$  under Normal Operating Conditions.

3.1.2 The Consumer shall use its best efforts to ensure that the Return Temperature shall be 14°C or higher.

### 3.2 Supply Availability

3.2.1 Subject to Section 3.2.2 herein, the Supply shall be provided at all times during the Supply Duration on a 24 hourly basis.

3.2.2 The Service Provider shall use its best efforts to prevent any interruption in the provision of the Supply and to minimise the duration of any such interruption. The Service Provider shall notify the Consumer immediately by telephone if there is any unexpected significant change in the operating status of the District Cooling System or if any interruption is expected to occur.

3.2.3 Without prejudice to the generality of Section 3.2.2, the Service Provider shall, in scheduling any maintenance, repair, connection, disconnection, extension and/ or other work in the District Cooling System [**"Planned Works"**], endeavour so far as is reasonably practicable to :

- (i) consult with the Consumer as to the scheduling of the execution of the Planned Works;
- (ii) coincide the execution of the Planned Works outside the Normal Usage Hours ; and

(iii) stagger the execution of the Planned Works,

such that there shall not be any interruption in the provision of the Supply at the Premises or if an interruption cannot reasonably be avoided, the duration and extent of the interruption is minimised. The Service Provider shall in any event give the Consumer at least 14 days' prior written notice of the execution of any Planned Works, and such notice shall state the dates on, and times at which the Planned Works will be executed, and the extent to which the provision of the Supply at the Premises will be interrupted.

**3.2.4** Nothing in this Agreement shall restrict the Service Provider from taking immediate action to avoid injury to persons or significant damage to property on the occurrence of any emergency, provided that the Service Provider shall give the Consumer as much prior notice as possible.

## **4. Supply Capacity**

**4.1** The Contract Capacity shall be fixed for the duration of the Initial Supply Period. However, if the Consumer's requirements for District Cooling Service at the Premises exceed the Contract Capacity, the Consumer may by notice in writing to the Service Provider request that the Contract Capacity be increased to the amount stated in such notice and the Service Provider shall use its best efforts to accommodate the Consumer's request Provided That:

- (i) the quantum of the increase in the Contract Capacity shall not exceed 10% of the prevailing Contract Capacity without the Service Provider's consent;
- (ii) the increase in the Contract Capacity shall be subject to there being available capacity in the District Cooling System; and
- (iii) if the increase in Contract Capacity necessitates upgrading of the Service Connection Facilities, the Consumer shall pay for the costs of such upgrading work.

**4.2** In the event the Consumer's kW maximum demand exceeds the Contract Capacity, the Service Provider shall endeavour to provide additional supply capacity on a short-term basis subject to payment of Capacity Overrun Charge by the Consumer. Whenever the Service Provider is of the reasonable opinion that the Consumer's kW maximum demand, where it exceeds the Contract Capacity, will or is likely to, interfere with the efficient and reliable supply of district cooling service to other consumers, the Service Provider shall be entitled to limit the Supply to the Consumer up to the Contract Capacity. The Consumer shall immediately, upon request by the Service Provider, limit the kW maximum demand to its Contract Capacity.

## **5. Technical Requirements**

### **5.1 Intake Station**

**5.1.1** The Consumer shall at its own cost provide and construct the Intake Station in accordance with the plans and specifications agreed by the Parties. Such plans and specifications shall not be altered without the agreement in writing of the Service Provider. The Consumer shall ensure that the Intake Station shall be used for plant and equipment linked to the provision of District Cooling Service at the Premises.

**5.1.2** The Consumer shall at its own cost maintain the Intake Station inclusive of the building structure, infrastructure, mechanical and electrical services within the Intake Station and general cleanliness of the Intake Station.

## **5.2 Service Connection Facilities**

- 5.2.1** The Consumer shall pay for the cost of the Service Connection Facilities, which is the amount stated in the Supply Agreement. Notwithstanding such payment by the Consumer, the Service Connection Facilities shall be the property of the Service Provider, and the Service Provider shall be solely responsible for the operation, maintenance and repair of the Service Connection Facilities.
- 5.2.2** The Consumer shall not operate any device of the Service Connection Facilities nor carry out any work on the Service Connection Facilities.
- 5.2.3** The Service Connection Facilities and the interfacing connection of the Consumer's chilled water reticulation system shall be in accordance with the technical arrangement illustrated in Schedule 1.
- 5.2.4** The Consumer shall provide the Service Provider with reasonable quantities of electricity (for the purpose of operating the control and instrumentation panels of the Service Connection Facilities) and water (for general cleaning purposes) at the Intake Station. Save as aforesaid, the Service Provider shall be responsible for arranging for and procuring all electricity, water and any other utilities and consumables as may be required for the operation of the District Cooling System.

## **5.3 Meter and Metering**

- 5.3.1** The District Cooling Service delivered to the Consumer shall be measured by metering equipment of a type approved by the Authority. The metering equipment shall be supplied, installed, calibrated and maintained by the Service Provider.
- 5.3.2** The Service Provider shall ensure that the metering equipment shall at all times be accurate to a tolerance of  $\pm 3\%$  of the nominal flow of coolant ("permitted tolerance of error"). The accuracy of the meter(s) shall be verified upon its installation and thereafter at periodic intervals not exceeding five years (or such other periods as the Parties may agree in writing) by an independent testing laboratory approved by the Authority.
- 5.3.3** If the meter(s) shall for any reason become faulty or inaccurate beyond the permitted tolerance of error, the Service Provider shall as soon as possible procure the service, repair, re-calibration and/or replacement of such meter(s) as may be appropriate. The Consumer may at any time by written notice to the Service Provider request that the accuracy of any meter(s) be tested. The Service Provider shall forthwith upon receipt of the Consumer's request arrange for the testing and calibration of such meter(s). The costs of any testing of any meter requested by the Consumer shall be borne by the Consumer unless such testing reveals that the meter is inaccurate beyond the permitted tolerance of error in which case the costs shall be borne by the Service Provider.
- 5.3.4** Where any meter is found to be inaccurate beyond the permitted tolerance of error, the Service Provider shall make a fair and reasonable estimate of the amount of District Cooling Service provided to the Consumer during the period when the meter was faulty or inaccurate. The Service Provider shall, if appropriate, make retrospective adjustment to the bills previously rendered by the Service Provider with respect to the District Cooling Service based on the readings of such meter for the period since the meter was last inspected and tested and found to be accurate within the permitted tolerance of error.

## 6. Billing and Payment

6.1 During the Supply Duration, the Consumer shall pay the Service Provider for the District Cooling Service supplied in accordance with provisions in this Section and such tariffs as may be made by the Service Provider from time to time with the approval of the Authority.

6.2 For each billing period of one calendar month, the charges for the District Cooling Service shall be calculated based on:-

- (i) the charge referred to in Section 6.3 [**“Capacity Charge”**] commencing from the Effective Supply Date;
- (ii) the charge referred to in Section 6.4 [**“Capacity Overrun Charge”**]; and
- (iii) the charge referred to in Section 6.5 [**“Usage Charge”**].

6.3 The Capacity Charge payable by Consumer is based on the prevailing Contract Capacity subscribed by Consumer measured in units of kilowatt refrigeration [kW<sub>r</sub>]. The Capacity Charge is calculated based on the following:

$$\text{Capacity Charge} = \text{Contract Capacity subscribed by Consumer} \times \text{Contract Capacity Rate}$$

[which **“Contract Capacity Rate”** shall be published by the Service Provider].

The Capacity Charge shall be prorated for any billing period which is less than a complete month based on the actual number of days in the billing period.

6.4 Subject to Section 4.2, the Capacity Overrun Charge, which is based on the Consumer’s excess kW<sub>r</sub> maximum demand, shall be payable, if on any day in the billing period the Consumer’s actual kW<sub>r</sub> maximum demand exceeds the Contract Capacity. The Capacity Overrun Charge is calculated on a daily basis as follows:

$$\text{Capacity Overrun Charge} = 3 \times [\text{kW}_r \text{ maximum demand on the day in question} - \text{Contract Capacity}] \times \text{Contract Capacity Rate} \div 30$$

6.5 The Usage Charge payable by the Consumer is based on the metered consumption quantity in units of kilowatt-hours refrigeration [kW<sub>rh</sub>]. The Usage Charge is calculated based on the following:

$$\text{Usage Charge} = \text{Measured kW}_r\text{h} \times \text{Unit kW}_r\text{h Rate} \times \{1 + [0.03 \times (14^\circ\text{C} - \text{AVT})]\}$$

where:

Measured kW<sub>rh</sub> is the metered consumption quantity of District Cooling Service for the billing period in kW<sub>rh</sub>;

Unit kW<sub>rh</sub> Rate is the rate published by the Service Provider; and

AVT is the Average Return Temperature during the billing period, provided that if the Average Return Temperature during the billing period exceeds 14°C, AVT shall nevertheless be 14°C.

6.6 The Consumer shall pay the Service Provider for the supply of District Cooling Service no later than the due date indicated on the monthly invoice; such due date shall be no earlier than 21 calendar days after the date the invoice is served on the Consumer. Without prejudice to the right of the Service Provider under Section 8.1 to discontinue the supply of District Cooling Service, the Consumer shall pay a late payment charge at the Default Interest Rate for any delay in payment without reasonable excuse, from the date on which such payment was due



until such payment is paid in full. All such late payment charge shall be calculated on a 365 day year basis.

- 6.7** Each invoice rendered by the Service Provider shall be accompanied by copies of such supporting documents as may reasonably be required by the Consumer.
- 6.8** The Consumer shall bear and pay any goods and services tax payable under the Goods and Services Tax Act (Cap. 117A) imposed in respect of charges payable by the Consumer to the Service Provider for goods and services supplier pursuant to the Supply Agreement.
- 6.9** The Service Provider may mitigate the risk of non-payment by procuring reasonable security, in the form of cash deposits or such other legal forms of security, from the Consumer for the payment to it of all money which may become due to it for the provision of District Cooling Service. If a Consumer becomes insolvent or goes into liquidation (other than for the purpose of amalgamation or reconstruction) or enters into any arrangement with its creditors or shall have a receiver or administrator appointed over any of its assets, the Service Provider may refuse to continue Supply to the Consumer unless an adequate security has been furnished by the Consumer in relation to its obligation to the payment for the Supply.
- 6.10** The Service Provider shall give the Consumer at least 14 days' advance notice of any revision to the Service Provider's prevailing Contracted Capacity Rate or Unit kWrh Rate.

## **7. Damages and Limitation of Liability**

- 7.1** If the Effective Supply Date occurs after the Target Supply Date, the Service Provider shall, unless the delay in the occurrence of the Effective Supply Date was caused by the Consumer or a Force Majeure Event, pay the Consumer as liquidated damages a sum "LD1" per day calculated on a daily basis as follows:

$$LD1 = \text{Contract Capacity} \times \text{Contract Capacity Rate} \div 30$$

for each day from [and including] the Target Supply Date until the Effective Supply Date.

- 7.2** If the Effective Supply Date occurs after the Target Supply Date and the delay in the occurrence of the Effective Supply Date was caused by the Consumer, the Consumer shall pay the Service Provider the Capacity Charge referred to in Section 6.3 commencing from:

- (i) the Target Supply Date; or
- (ii) the date on which the Effective Supply Date would have occurred but for the delay caused by the Consumer,

whichever is the later.

- 7.3** In the event of any interruption or failure in the Supply to the Premises at any time during the Supply Duration, the Service Provider shall pay the Consumer as liquidated damages a sum "LD2" per hour calculated on an hourly basis as follows:

$$LD2 = 2 \times \text{Contract Capacity} \times \text{Contract Capacity Rate} \div (30 \times 24)$$

for each hour the average hourly Supply Temperature exceeds 6.5°C

Provided Always That:

- (i) the Service Provider shall not be obliged to pay liquidated damages pursuant to this Section 7.3 with respect to any interruption or failure in the Supply to the extent that such interruption or failure in the Supply:

- (a) is caused by interruption of electricity and/or water supplies to the District Cooling System and such interruption was not caused or contributed to by any act or omission on the part of the Service Provider;
  - (b) is caused by a Force Majeure Event; or
  - (c) occurs during a period when the Consumer Installation is not operating within Normal Operating Conditions.
- (ii) the Service Provider's liability for liquidated damages pursuant to this Section 7.3 in any period of seven consecutive days shall not exceed the total amount of S\$50,000 [Singapore Dollar Fifty Thousand].

**7.4** Any amount payable by the Service Provider to the Consumer pursuant to Section 7.3 shall be computed at the end of each calendar month and shall be set-off against any sum payable by the Consumer to the Service Provider in connection with this Agreement and the balance amount after such netting shall be paid by the Consumer to the Service Provider, or vice versa, as the case may be.

**7.5** Save as otherwise provided in this Section 7, the Service Provider shall not be liable to the Consumer or anyone relying on the supply of District Cooling Service for any claim, loss, damage or injury howsoever occurring as a result of any fluctuation, failure, reduction or interruption or defect in the supply of District Cooling Service.

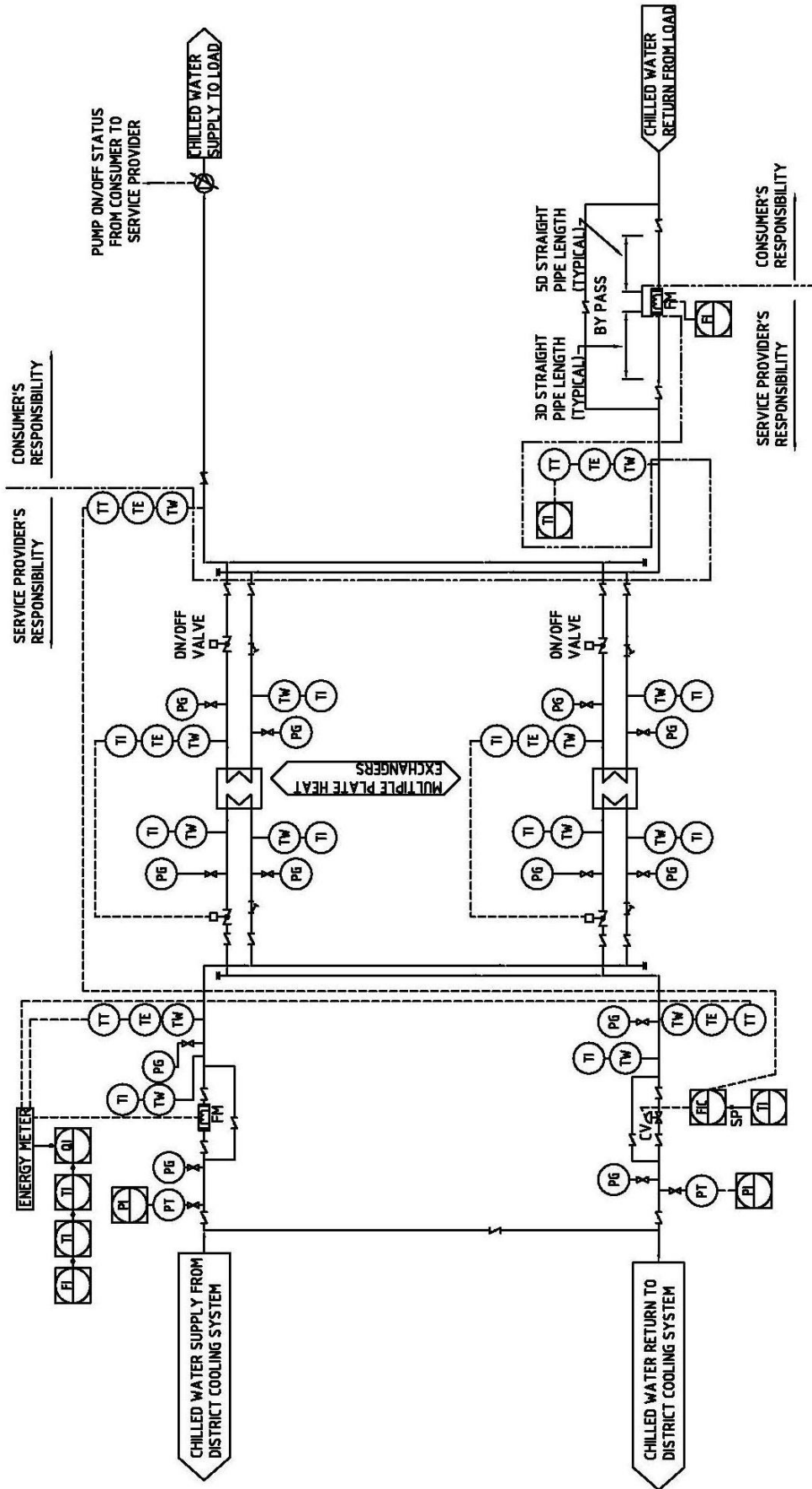
## **8. Supply Disconnection and Reconnection**

**8.1** The Service Provider shall be entitled to discontinue the Supply and for this purpose to disconnect the Consumer Installation from the Heat Exchangers on the occurrence of either of the following events:

- (i) the wilful neglect or refusal by the Consumer to pay any amount payable by the Consumer on the date such amount is due and payable and thereafter within 14 days from the date of service of the Service Provider's written notice to the Consumer requesting payment of the same containing a statement that the Service Provider may rely on this Section 8.1(i) to discontinue the Supply in the event of non-payment; or
- (ii) any default of the Consumer affecting the safety of the Consumer Installation or the efficiency and/or the safety of the District Cooling System Provided That the Consumer fails to remedy the default in question within 14 days from the date of service of the Service Provider's written notice to the Consumer requesting remedial actions of the same contained in a statement that the Service Provider may rely on this Section 8.1(ii) to discontinue the Supply in the event of non-rectification.

**8.2** The Consumer shall during any period of such disconnection or interruption, continue to be liable to pay the Capacity Charge.

**8.3** In the event of any disconnection pursuant to Section 8.1, the Service Provider shall reconnect the Consumer Installation to the Heat Exchangers and resume the Supply to the Consumer as soon as the event leading to the disconnection is remedied by the Consumer to its reasonable satisfaction. The Consumer shall pay the reasonable costs relating to or in connection with such disconnection and reconnection.



LEGEND	
PT	Pressure Transmitter
TE	Pt Resistance Bulb
FM	Chilled Water Flow Meter
CV	Control Valve
PLC	Programmable Logic Control
TG	Temperature Gauge
PG	Pressure Gauge
	Butterfly Valve
	Globe Valve
	Strainer
	Pressure Relief Valve
	Variable Speed Pump

SCHEDULE 1 -  
TYPICAL SCHEME FOR SERVICE CONNECTION FACILITIES