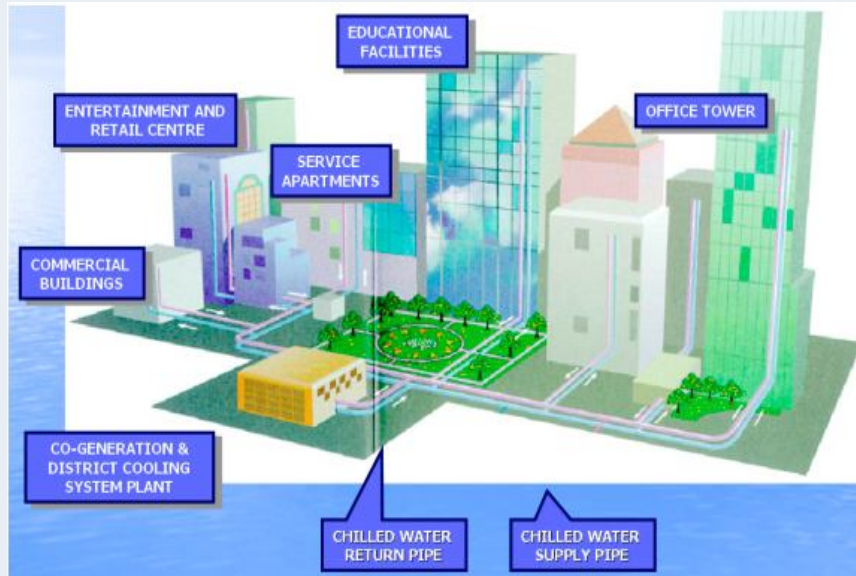


GAS DISTRICT COOLING PUTRAJAYA COMPLEX

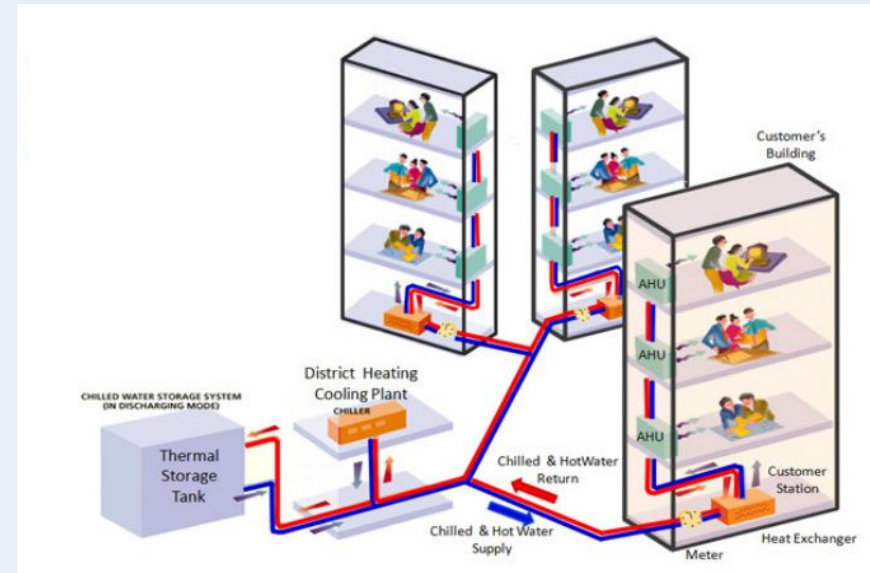
CHILLED WATER CONTROL
METHODOLOGY OF CUSTOMER AT
PRECINT 1, 2, 3 AND 4

Putrajaya Chilled Water System

Direct Connection



Heat Exchanger



Precinct 1

Parcel A
Parcel B
Parcel C
Parcel D
Parcel E

Precinct 2, 3,4

2C1, 2G1, 2G2, 2G3, 2G4, 2G5, 2G6, 2M10, 2M11.

3G1, 3G2, 3G3, 3V1.

4G1, 4G2, 4G3, 4G4, 4G7, 4G8, 4G9, 4G10, 4G11.

Putrajaya Chilled Water System

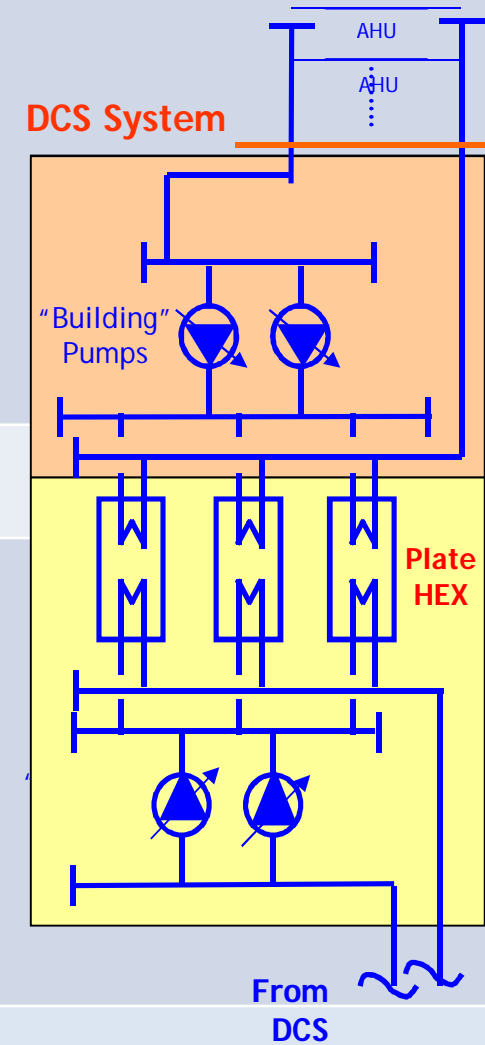
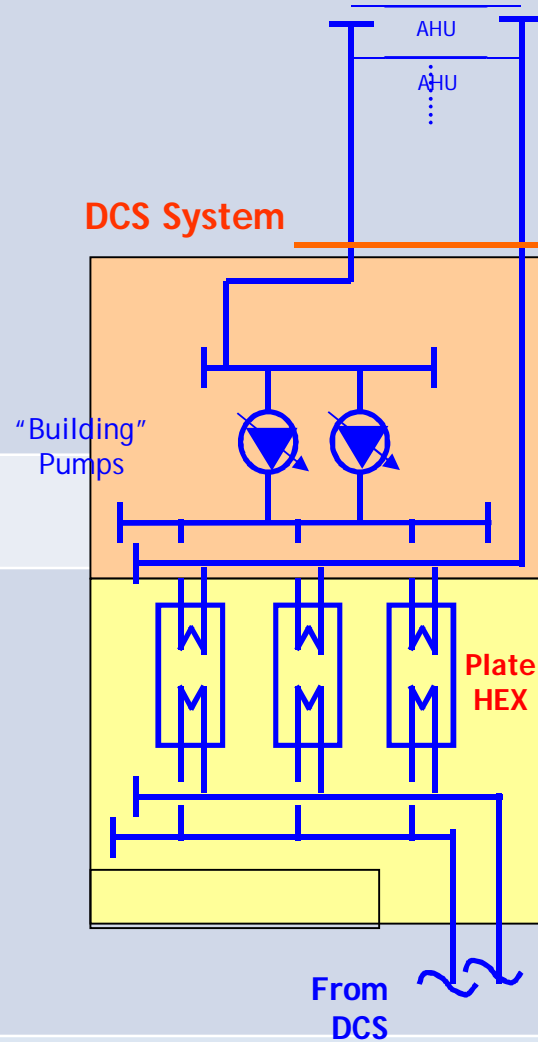
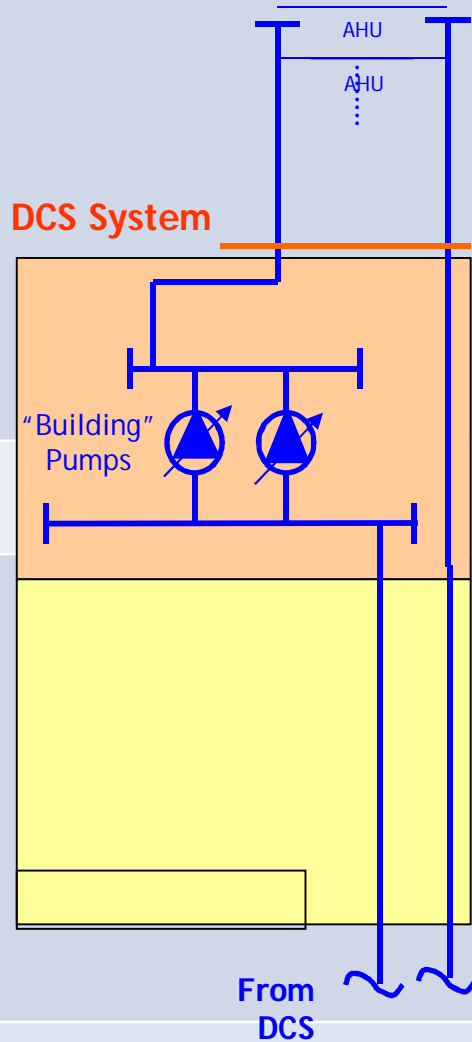
Direct Connection

Heat Exchanger

Precinct 1 – Parcel A,B,C,D

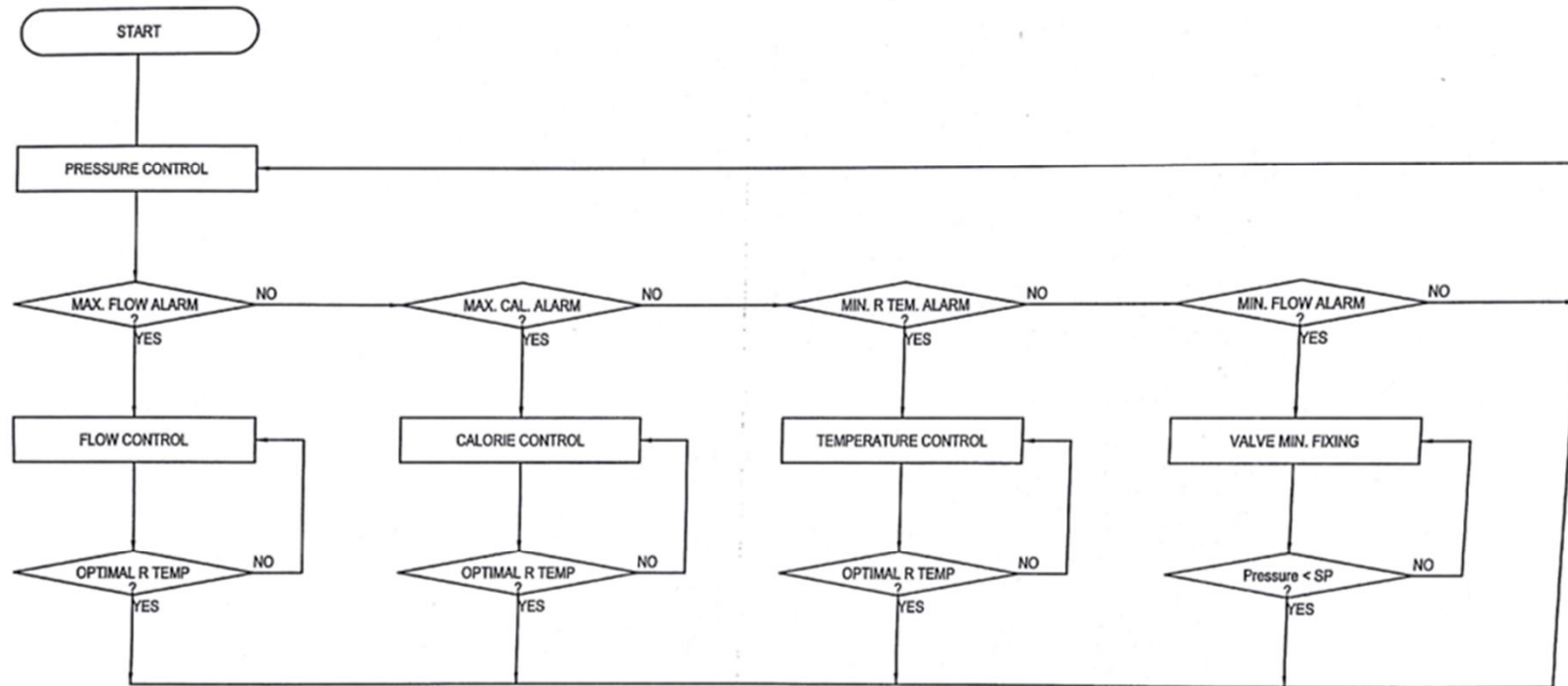
Precinct 2, 3 and 4G1, 4G2,
4G3, 4G4

4G7, 4G8, 4G9, 4G10, 4G11.



Putrajaya Chilled Water System

Precinct 1, Control Philosophy Flow Chart

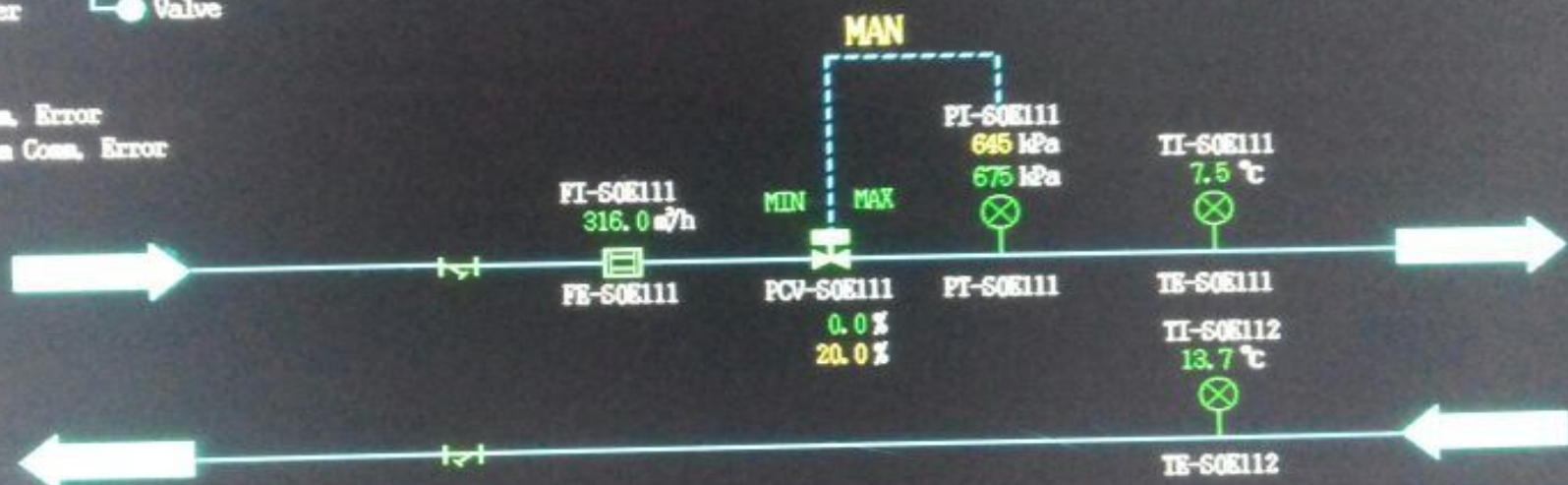


Direct Connection – Precinct 1

L E-11 METERING SYSTEM FACILITIES

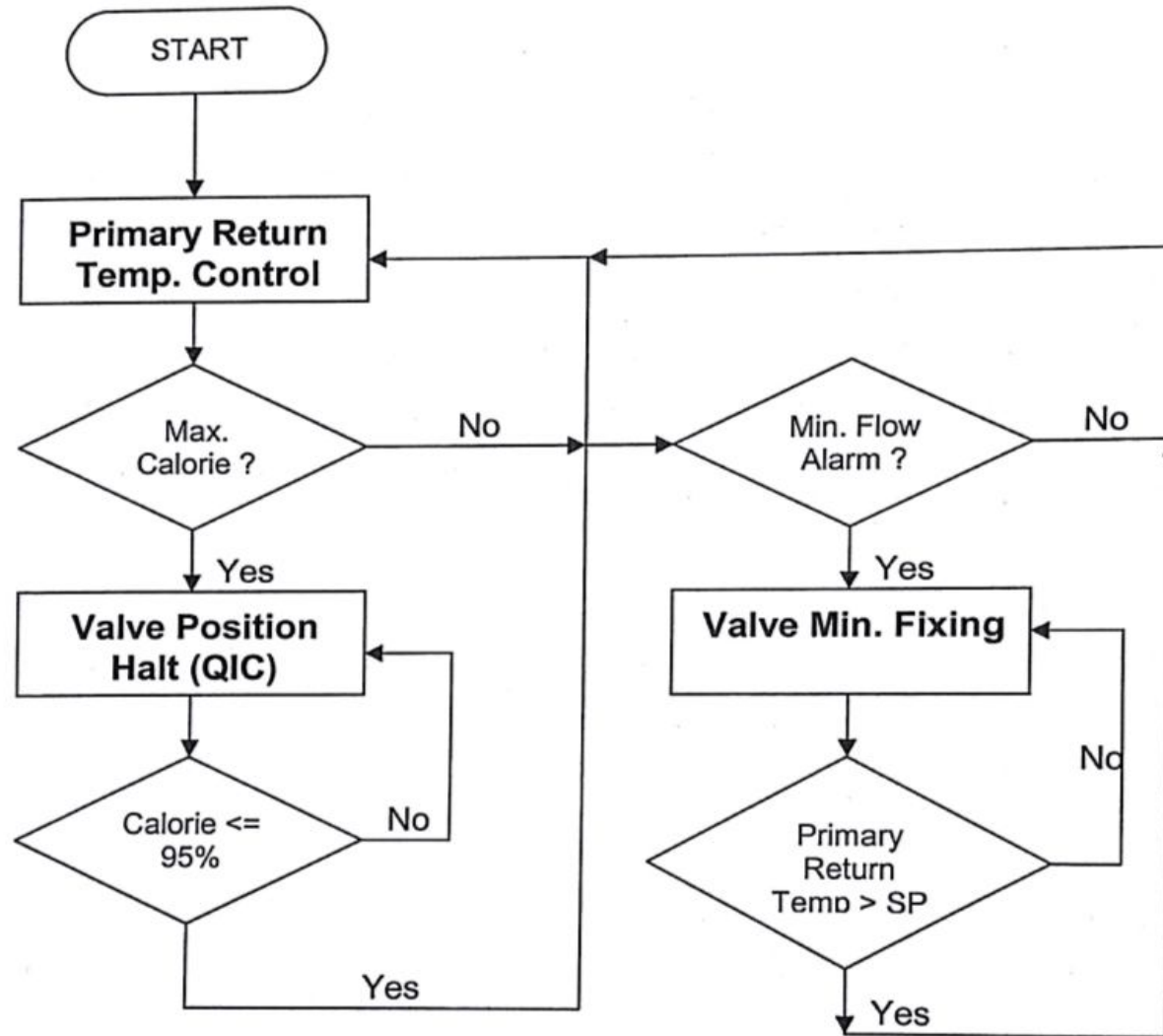
CALORIES (KJ)	604	TOTAL CALORIES ('00 RTH)	196139	TOTAL SUPPLY VOLUME (M3)	138240.2
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- Manual
- Remote
- Calorie Meter
- Power
- Door Open
- Control Comm. Error
- Router/Modem Comm. Error
- Flow Meter
- Pressure
- Valve



Putrajaya Chilled Water System

Precint 2 and 3, Control Philosophy Flow Chart






METERING STATION
STATION : 3G3
CONTRACTUAL LOAD : 1701 RT

DATE : 24/ 10/ 2013
TIME : 18:04:04

COOLING LOAD : 667 RT 8438 MJ/H
ACCUMULATIVE : 38256548 RTH 484236096 MJ

RTU



TIC MAX DEMAND ACHIEVE

- CCR-RTU COMM. ALARM
- DOOR OPEN ALARM
- CALORIE METER ALARM
- FLOW METER ALARM
- MAINS AC FAIL ALARM
- UPS OPERATE ALARM
- CALORIE METER COMM. ALARM
- REMOTE MODE

SETPOINTS :

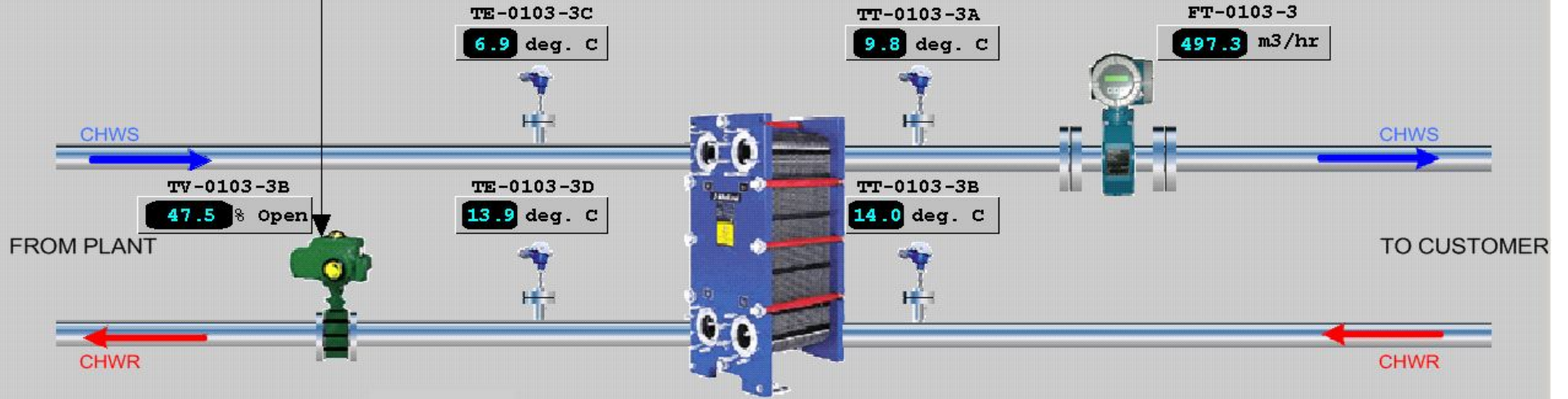
TCV MIN : 10.0 %

TCV MAX : 90.0 %

PRI. RETURN TEMP : 14.0 deg.C

AUT/MAN **AUT**

CLOSE

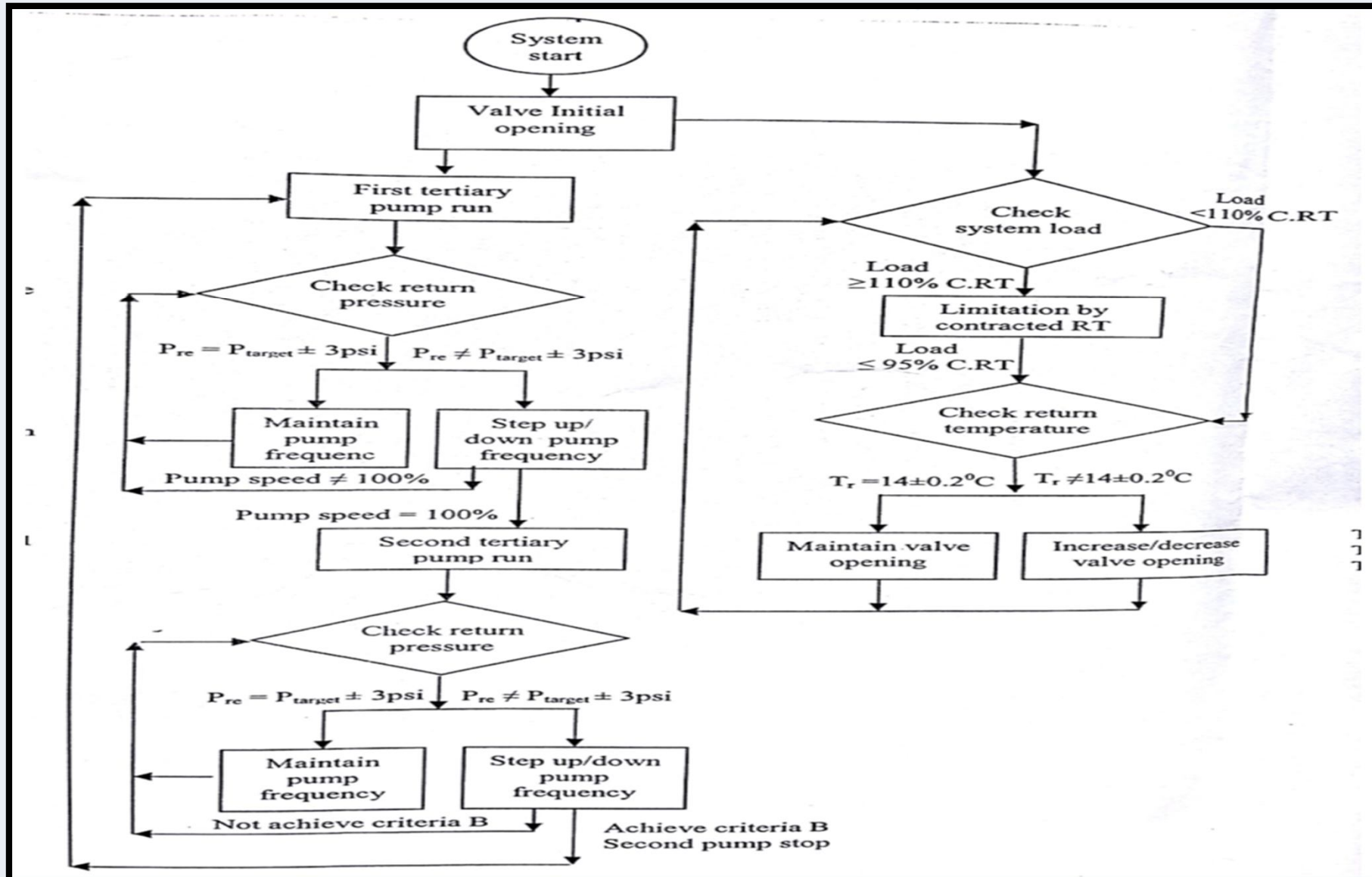


HOURLY DATA BILLING SLIP OPEN TREND CLOSE TREND



Putrajaya Chilled Water System

Precint 4G 8, 9, 10 and 11 - Control Philosophy Flow Chart





Site Plan

Open/Close Menu

Actuator S/B Location

Metering Panel Menu

Modulating Menu

4G11 METERING

4G11 Control Parameters

Accumulative : **5746856 RTH**
 Cooling Load : **683.5 RT**
 FlowRate : **262.2 m3/h**
 Max Demand : **2100 RT**

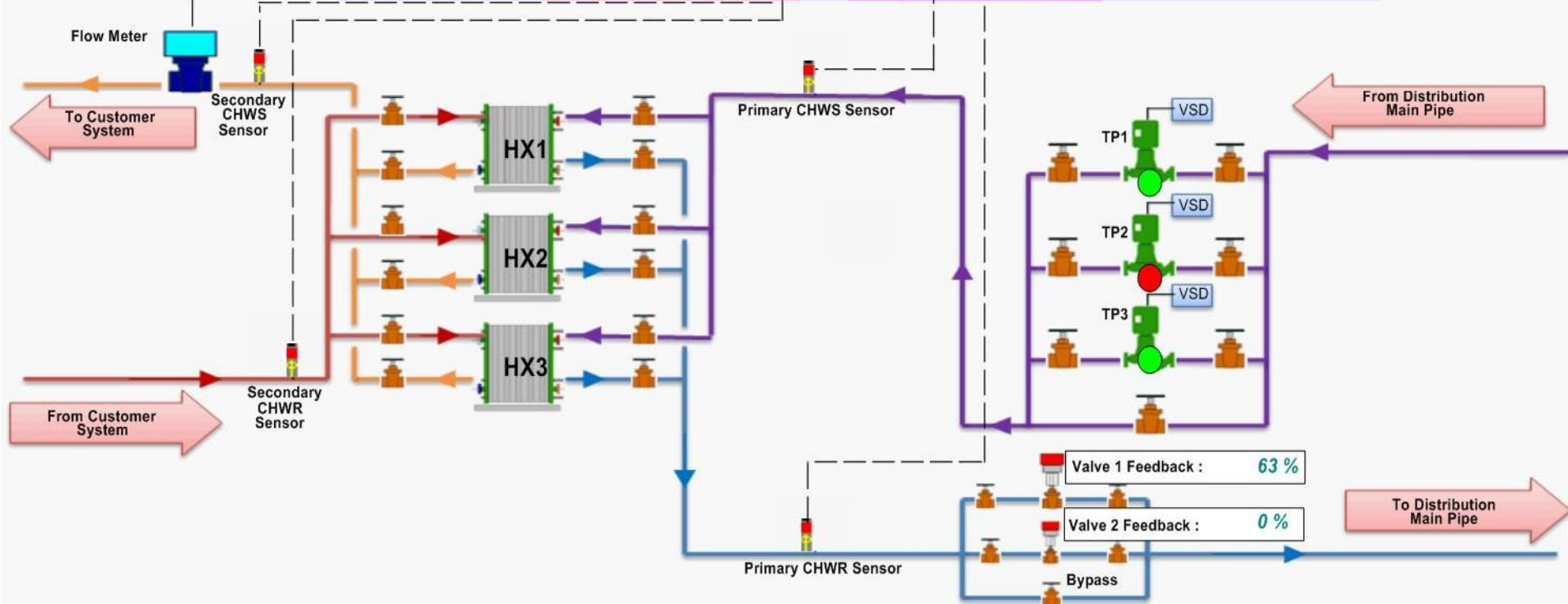
Equipment ID	Schedule	Priority	Start Stop	FailtoStart Alarm	Reset	Auto/ Manual	On/Off Status	Trip Alarm	VSD %
Tertiary Pump 1 - TP1	TIMER	1				A			52.8
Tertiary Pump 2 - TP2		2				A			0.0
Tertiary Pump 3 - TP3		3				A			105.6

CHWS °C | CHWR °C
 7.9 | 15.6

Secondary Reading

CHWS °C | CHWR °C
 7.3 | 14.6

Primary Reading



THANK YOU