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From: NA
Sent: Friday, May 08, 2009 2:36 PM
To: Director; Engineer
Cc: Admin
Subject: Revision to Master Specifications
Attachments: ACMV-S2 Technical Requirements.pdf; FFAI-S2 Technical Requirements.pdf; PSI-S2 Technical Requirements.pdf; EI-S2 Technical Requirements.pdf; LI-S2 Technical Requirements.pdf

Our Ref: OM-SC/009

Hi all,

Please note that the Master Specifications for Computer Based Control System - Point Schedule (Schedule of Technical Requirements) for the following services have been revised as attached.

Airconditioning & Mechanical Ventilation Installation
Fire Fighting & Alarm Installation
Plumbing & Sanitary Installation
Electrical Installation
Lift & Escalator Installation

Regards
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17/04/09

S2.7 Computer-Based Control System - Point Schedule

The remote indications and controls points called for in the following schedule shall be monitored and controlled on a Computer-based Control System. The Computer-based Control System shall be supplied and installed by the Air Conditioning & Ventilation Sub-Contractor who shall be responsible for the supply, installation and termination of all signal cables from the Computer-based Control System to the respective control panels/switchboards/distribution boards/contractor panels of the equipment to be provided under the various Sub-Contracts/ Contract. However, the Sub-Contractor/Contractor concerned shall supply and install all necessary relays, auxiliary switches/contacts, terminal boards, wirings, etc. connected to a central terminal point (or board) suitably located in a separate compartment of the respective control panels/switchboards whereupon connections will be by the Air Conditioning & Ventilation Sub-Contractor from this central terminal point to the Computer-based Control System.

The notations on functional points are as follows:

	Notation	Description
(a)	DI	Digital input from field device into computer based controller
(b)	DO	Digital output from computer based controlled to field device
(c)	AI	Analogue input from field device into computer based controller
(d)	AO	Analogue output from computer based controller to field device
(e)	PI	Pulse input from field device into computer based controller
(f)	HL	High level interface between field device/equipment/system with computer based controller

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SUB-CONTROL PANEL

S/N	INPUT/OUTPUT VARIABLES (FOR EACH PANEL)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Incoming Power Supply Status	3					
2	Power Meter						X
	- Current for all 3 phases			3			
	- Voltage between all 3 phases			3			
	- kVA			1			
	- kW			1			
	- kWH			1			
	- kW Average Demand			1			
	- kW Maximum Demand			1			
	- Power Factor			1			

DOMESTIC WATER BOOSTER PUMP

S/N	INPUT/OUTPUT VARIABLES (FOR EACH PUMP)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	On/Off Status	1					
2	Trip Alarm	1					
3	Auto Mode Status	1					

DOMESTIC WATER/NEWATER TRANSFER PUMP

S/N	INPUT/OUTPUT VARIABLES (FOR EACH PUMP)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Start/Stop Control		1				
2	On/Off Status	1					
3	Trip Alarm	1					
4	Auto Mode Status	1					

DOMESTIC WATER TANK

S/N	INPUT/OUTPUT VARIABLES (FOR EACH TANK COMPARTMENT)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Low Water Level Alarm	1					
2	High Water Level Alarm	1					
3	Overflow Alarm	1					

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SUMP PUMP & PIT

S/N	INPUT/OUTPUT VARIABLES (FOR EACH PUMP)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	On/Off Status	1					
2	Trip Alarm	1					
3	Auto Mode Status	1					
4	Sump High Water Level	1					

EJECTOR PUMP & TANK

S/N	INPUT/OUTPUT VARIABLES (FOR EACH PUMP)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	On/Off Status	1					
2	Trip Alarm	1					
3	Auto Mode Status	1					
4	Tank High Water Level	1					

PRIVATE WATER SUB-METER

S/N	INPUT/OUTPUT VARIABLES (FOR EACH METER)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Cooling Tower Make-up Water Tank Incoming					1	
2	Domestic Water Tank Incoming					1	
3	Domestic Water Pump Feed					1	
4	Domestic Water Gravity Feed					1	
5	Domestic Water Direct Feed					1	
6	Garden/Landscape Tap Branch					1	
7	Swimming Pool Balancing Tank Incoming					1	
8	Refer to schematic drawing for ??? no.					???	

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