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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

S2.9 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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HIGH TENSION SWITCHBOARD

S/N	INPUT/OUTPUT VARIABLES (FOR EACH SWITCHBOARD)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Incoming Circuit Breaker On/Off Status (each)	1					
2	Incoming Circuit Breaker Trip Alarm (each)	1					
3	Bus Coupler Status (each)	1					
4	Outgoing Circuit Breaker On/Off Status (each)	1					
5	Outgoing Circuit Breaker Trip Alarm (each)	1					

TRANSFORMER

S/N	INPUT/OUTPUT VARIABLES (FOR EACH TRANSFORMER)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Trip Alarm	1					
2	General Alarm	1					

LOW TENSION SWITCHBOARD

S/N	INPUT/OUTPUT VARIABLES (FOR EACH SWITCHBOARD)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Incoming Circuit Breaker On/Off Status (each)	1					
2	Circuit Breaker Trip Alarm (each)	1					
3	Bus Coupler Status (each)	1					
4	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			

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ELECTRICAL DISTRIBUTION BOARD

S/N	INPUT/OUTPUT VARIABLES (FOR EACH DB)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	Lighting Control		3				3
2	On/Off Status	3					

FUEL 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	Local/BAS Mode Status	1					

FUEL TANK (MAIN STORAGE & SERVICE)

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

GENERATOR SET

S/N	INPUT/OUTPUT VARIABLES (FOR EACH GENSET)	TYPE AND NUMBER OF POINTS					
		DI	DO	AI	AO	PI	HL
1	On/Off Status	1					
2	Trip Alarm	1					
3	Battery Charger On/Off Status	1					
4	Battery Charger Fault Alarm	1					
5	Battery Low Level Alarm	1					
6	Local/BAS Mode Status	1					

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