MCC 01 Panel Drawings Review

16 November 2009

PROJECT:

Four Seasons Hotel
Park Lane

THE COMMTECH GROUP

1 BMS MCC 01 panel drawings review

The drawings issued by the BMS contractor (Ashdown Controls) for MCC 01 have been reviewed with consideration to the issued BMS specification, Rev B, and also with regard to general good practice. The following items should be noted as well as the points highlighted our BMS design review previously issued, and also discussed in the site meeting of 12 November 2009 (please refer to minutes).

Note that the specification section for the relevant plant controlled from MCC 01, mentions that the pump alarms can be reset from the panel facia mounted keypad – we are not aware of this installation.

1.1 General Comments

1. Cubicle terminals for connection cables to control section should be numbered.
2. Terminals to be used for all interlocking circuits, such as pump running status interlocks, which are wired between cubicle pairs.
3. The specification clearly states the requirement for independent Low and High pressure detectors being connected to the BMS, to provide alarms that are to be hard wire interlocked with all elements of the LTHW system. The description for the pump operation however, only states 'LTHW press unit healthy' being interlocked – please clarify this requirement in order for the correct MCC design. We would also not normally expect a pressurisation unit fault being hardwire interlocked to shut a system down, in case it is only generated by a pump trip or similar.
4. Verify method and / or requirement of shutting down inverter in a safety circuit trip condition, if operating locally in 'Hand' mode, ie. possible use of separate safety signal interlock to inverter.

1.2 Specific Items

1. Does each boiler controller have a separate local means of isolation from the mains power connection emanating from the MCC, to the group of 3 boilers.
2. The same cable reference has been used for the switched side of MCBs 3, 5 and one of the marked MCB4's.
3. The two MCBs feeding transformer Tx2 and the gas valve circuit utilise the same reference number.
4. Sheet 25 – identify Fire / Safety circuit cable reference.
5. Consolidate the correct number of gas valves to now be controlled from this panel. Ida to confirm UPS back-up requirements, regarding hold open time.
6. Specification calls for gas detection unit fault/healthy status to be interlocked with the local gas valve operation and safety interlock to plant. Also no BMS monitoring of gas detection unit fault or healthy status is shown – sheet 45.
7. The specification only requires a fire alarm interlock with the 'Master Gas Valve'. The drawings indicate a BMS enable signal be part of this circuit, which would inhibit all gas should the controller fail – is this necessary?
8. The 'Main gas valve fire alarm' indicates duplicate alarm monitoring (typing error – probably should be boiler house gas valve) – sheet 43
9. The number of fire alarm interfaces required, to be co-ordinated with fire alarm design – specifically with regard to the gas valve control arrangement.