

Category 1 Standard

S1071 Electrical and Mechanical Services Control and Monitoring Systems

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1 Purpose

- 1.1 The purpose of this Standard is to define the requirements for equipment management utilising an Electrical and Mechanical (E&M) Services Control and Monitoring System (C&MS) and other controls used in connection with LU Electrical and Mechanical assets.

2 Scope

- 2.1 This Standard applies to all electrical and mechanical assets.
- 2.2 This standard does not apply to visual surveillance systems, telecoms operational control systems, train control systems, escalators, passenger conveyors, lifts, signs and assets covered within the Power Service Contract explicitly. However, it shall be permissible for these to be interfaced with systems detailed in this standard.
- 2.3 This standard supersedes 1-071 A1 Building Management and Control Systems. The Standard has been re-titled, re-formatted and re-numbered with technical changes.

3 Requirements

3.1 General

- 3.1.1 E&M assets shall have an C&MS that enables control functions to:
- a. Switch equipment on/off.
 - b. Adjust the parameters of equipment to maintain the required operational conditions.
 - c. Provide monitoring and metering functions.
- 3.1.2 C&MS elements and Programmable Logic Controllers (PLCs) which are remotely programmable shall incorporate access security to prevent unauthorised operation.
- 3.1.3 The number of interface devices between any equipment being monitored or controlled shall be limited to the fewest practical in accordance with RAMS requirements.
- 3.1.4 Where it is not possible to design out single points of failure, the system design shall be such that the occurrence of a single point failure is self revealing.
- 3.1.5 C&MS integration with building fire systems shall be in accordance with LU Category 1 Standard 1-081 (S1081) – Design and Installation of Fire Protection Systems and Compartmentation Measures.
- 3.1.6 In the event of failure of the C&MS it shall be clear from indications given that the fault lies with the C&MS and not with the asset being controlled or monitored. The asset shall continue to function in a safe condition without detriment to critical operations.
- 3.1.7 C&MS shall be the subject of a formal change process for the control of all system hardware and software alterations. Configuration management shall be conducted in accordance with LU Project Management Framework (PMF) and LU standard MR-S-IM-0002-A1: Requirements for Configuration Management. Obsolescence management shall be conducted in accordance with G0043: Obsolescence Management.
- 3.1.8 Controlled information shall meet the requirements of LU 1-691 (S1691) Information.