

STANDARDS AUSTRALIA

Amendment No. 1
to
AS 4428.5—1998
Fire detection, warning, control and intercom systems—Control and indicating equipment
Part 5: Power supply units

REVISED TEXT

The 1998 edition of AS 4428.5 is amended as follows; the amendments should be inserted in the appropriate places.

SUMMARY: This Amendment applies to the Preface, Clauses 1.2, 1.7, 2.4, 2.5, 2.7.2 and 2.7.4 and Table 5.1.

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Page 2 Preface

Add the following after the last paragraph:

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard.

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Page 4 Clause 1.2, new paragraph

After the Note to (d) *insert* the following:

Where this Standard is subsidiary to another CIE Standard, the other Standard may add to, or remove, the requirements specified in this Standard.

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Page 5 Clause 1.7

Delete Clause 1.7.

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Page 6 Clause 2.4

Delete existing Clause 2.4 and *replace* with the following:

2.4 POWER SUPPLY UNIT SUPERVISION

The power supply unit (PSU) shall have facilities for recognizing and signalling the following within 90 min of their occurrence:

- (a) Loss of main power source.
 - (b) Loss of stand-by power source.
 - (c) Any PSU output voltage outside its specified range.
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Page 6 Clause 2.5

Delete the existing Clause 2.5 and *replace* with the following:

2.5 BATTERY CHARGER

Where a battery is utilized as the stand-by power source, facilities shall be provided to charge the battery within the battery manufacturer's specified parameters. The battery charger shall provide the following:

- (a) Facilities for recognizing and signalling if the charger output voltage is more than 2% outside the charging voltage range specified by the battery manufacturer.
- (b) Facilities to initiate an automatic battery test at intervals not exceeding 7 days. The duration of the test shall be 60 ± 30 min, unless terminated prematurely. During the test, the current drawn from the battery shall be not less than that drawn from the battery during stand-by power operation in the quiescent state.

The test shall be terminated immediately upon the battery reaching the battery charge low state (refer to Item (d)).

The automatic test or any manual test shall not cause the power supply voltage(s) to go outside the voltage range of the connected equipment for normal operation.

- (c) A battery test inhibit signal input for terminating and inhibiting the battery test. An open circuit on this input shall not inhibit the battery test.

NOTES:

- 1 It is intended that the battery test inhibit facility be activated by a connected CIE due to the occurrence of a condition that significantly increases the current drawn from the battery above the design quiescent load, e.g., a fire alarm condition.
- 2 This facility may also be used to terminate the test by the momentary operation of a manual control.

- (d) Facilities for recognizing and signalling a 'battery charge low' state, as a result of a battery test and during stand-by power operation. The 'battery charge low' state signal shall be latched until manually reset or a subsequent battery test pass.

A 'battery charge low' state is defined as a charge of less than $50 \pm 10\%$ of the battery's nominal capacity at the 20 h discharge rate. The nominal capacity used for this purpose shall be reduced in accordance with the battery manufacturer's data if the minimum operating voltage of the connected CIE is higher than the battery's 20 h rate cut-off voltage.

NOTE: An acceptable method of determining the battery's state of charge is to measure the battery voltage at the charger output terminals, with a current drawn from the battery that is not less than the current drawn under stand-by power operation in the quiescent state. The 'battery charge low' voltage threshold should be between those voltages given for the 8 h and 12 h discharge times on the battery manufacturer's 20 h discharge rate curve because 8 h to 12 h is $50 \pm 10\%$ of 20 h.

Page 7 Clause 2.7.2

After the Note, *add* the following:

Where a single PSU is designed to provide power for multiple CIE, such as FIRE and EWS/EIS, separate over-current protection and isolation switches shall be provided for each of the outputs.

NOTE: EWS and EIS are considered as one system for the purposes of this requirement.
