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CSA C282:19
National Standard of Canada

Emergency electrical power supply for buildings

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Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users to judge its suitability for their particular purpose.

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Contents

Preface

This is the seventh edition of CSA C282, *Emergency electrical power supply for buildings*. It supersedes the previous editions published in 2015, 2009, 2005, 2000, 1989, and 1977.

The main changes from the previous edition are as follows:

a) clarified requirements for the components of the emergency electrical power supply system (Clause 5.1);
b) clarified the sizing of maximum site design load (Clause 6.1.1.2);
c) clarified requirements for load testing to prevent potential for overloading the system (Clause 6.15.2);
d) revised to accepted fuel type for Class C health care facilities (Clause 7.3.3);
e) revised to accepted diesel fuel type (Clause 7.3.5);
f) revised fuel storage requirements to harmonize with CSA B139 Code (Clauses 7.3.8 and 7.3.9);
g) clarified requirements for dedicated fuel line for propane generators to align with natural gas requirements (Clause 7.3.8.5);
h) added requirements for on-site fuel storage for propane (Clauses 7.3.8.5 and 7.3.8.6);
i) clarified requirements for exclusive use of fuel (revised Clause 7.3.11 and new Clause 7.3.12);
j) clarified control panel requirements (Clauses 7.4.1 and B.20);
k) clarified requirements for overcurrent devices and disconnecting means revised (Clause 8.7);
l) updated requirements for generator controls, including multiple generator systems (Clause 8.8);
m) revised requirements for transfer switches in multiple building applications (Clause 9.1.2);
n) added requirements for parallel systems during operational tests (Clauses 10.2.3 and B.24);
o) clarified requirements for full load test for health care facilities (Clause 10.3.1.2);
p) added requirements for generator set management controls in paralleled systems (Clauses 10.3.5 and B.25);
q) added requirements for load management controls in paralleled systems (Clauses 10.3.6 and B.26)
r) revised testing requirements for transfer switches in health care facilities (Clauses 11.4.2 and Table 3);
s) revised provisions for safety indicators and shutdowns (Table 1);
t) revised battery testing requirements (Tables 2 and 3);
u) revised load requirements for annual inspection to align with NFPA 70B;
v) added infrared thermal imaging requirements for annual test (Table 5);
w) added of explanation of problems associated with cold weather operation (Clause B.8);
x) added of explanation of problems associated with diesel fuels (Clause B.13);
y) additional information on restriction on the amount of fuel that can be stored in a generator room to comply with the CSA B139 Code (Clause B.15); and
z) clarified requirements for coordination of circuit breakers (Clause B.21).

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Technical Committee on Emergency Electrical Power Supply for Buildings, under the jurisdiction of the Strategic Steering Committee on Fuels and Appliances and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Notes:

1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
3) *This Standard was developed by consensus, which is defined by* CSA Policy governing standardization — Code of good practice for standardization *as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
4) *To submit a request for interpretation of this Standard, please send the following information to* ***inquiries@csagroup.org*** *and include "Request for interpretation" in the subject line:*
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   b) *provide an explanation of circumstances surrounding the actual field condition; and*
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   c) *wording of the proposed change; and*
   d) *rationale for the change.*

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Emergency electrical power supply for buildings

1 Scope

1.1

This Standard applies to the design, installation, operation, maintenance, and testing of emergency generators and associated equipment for providing an emergency electrical power supply to electrical loads

a) in buildings and facilities when the normal power supply fails and an emergency electrical power supply is required by the *National Building Code of Canada (NBCC)*; and
b) of essential electrical systems, where emergency generators are intended for use in health care facilities (HCFs) in accordance with Clause 6 of CSA Z32.

Notes:

1) *For guidelines on emergency electrical power supply for life-support equipment, see Annex A.*
2) *In this Standard, the term "building" also includes facilities.*
3) *Normative provisions of this Standard are not limited to the installations where an emergency generator is used as the NBCC required emergency power supply source to the "life safety equipment".*
4) *For guidelines on the use of emergency electrical power supply equipment for purposes beyond the provisions of Clause 1.1, see Annex D.*
5) *It is intended by the scope of this Standard that equipment other than "life safety equipment" could be connected to the emergency generator (see Clause 6.4.1).*
6) *For electrical power supply systems designed and installed to operate for purposes other than those specified in Clauses 1.1, the electrical power supply system should meet the requirements of this Standard, where practical, and in conjunction with the guidelines of Annex E.*

1.2

This Standard does not cover

a) any emergency electrical power supply provided from storage batteries or other sources of uninterrupted power supply (UPS); and
b) design and construction of unit equipment for emergency lighting that complies with CSA C22.2 No. 141.

1.3

In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

