



CSA C282:19
National Standard of Canada



Emergency electrical power supply for buildings



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***Emergency electrical power supply
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Contents

Technical Committee on Emergency Electrical Power Supply for Buildings	4
Preface	7
1 Scope	9
2 Reference publications	10
3 Definitions	11
4 General requirements	14
5 Emergency electrical power supply system	15
6 Emergency electrical power supply plant	16
6.1 General	16
6.1.1 Engine generator set	16
6.1.2 Cooling systems	16
6.2 Location	17
6.3 Voltage	17
6.4 Power supply performance	17
6.5 Layout and working space	19
6.5.1 Clearances	19
6.5.2 Multiple generator sets	19
6.5.3 Security	19
6.6 Vibration	19
6.7 Ventilation	20
6.8 Temperature	20
6.9 More than one emergency electrical power supply	20
6.9.1 General	21
6.9.2 Multiple buildings	21
6.10 Acceptance of the emergency electrical power supply installation	21
6.11 Emergency lighting	21
6.12 Control sequence	21
6.13 Noise control	22
6.14 Pre-transfer elevator control sequence	23
6.15 Load testing provisions	23
7 Generator set	23
7.1 Horsepower and frequency	23
7.1.1 Brake horsepower	23
7.1.2 Standard reference conditions	24
7.1.3 Derating	24
7.1.4 Generator set power rating	24
7.2 Exhaust	24
7.3 Fuel supply	25
7.3.1 Minimum quantity	25

7.3.2	Health care facilities	25
7.3.3	Off-site fuel supply	26
7.3.4	Combined on-site and off-site fuel supply	26
7.3.5	Fuel quality	26
7.3.6	Fuel temperature	26
7.3.7	Off-site natural gas	26
7.3.8	On-site fuel storage	26
7.3.9	Fire protection of fuel supply components	28
7.3.10	Exclusive use of fuel	28
7.3.11	Protection of fuel supply lines	28
7.4	Control panel	28
7.5	Cranking cycle	29
7.6	Power for starting	30
7.6.1	Storage batteries	30
7.6.2	Compressed air	30
8	Generators, exciters, and voltage regulators	31
8.1	General	31
8.2	Generator performance	31
8.3	Generator construction	31
8.4	Exciters	31
8.5	Automatic voltage regulators	31
8.6	Voltage buildup	32
8.7	Overcurrent devices	32
8.8	Generator controls	33
9	Transfer switches	33
9.1	General	33
9.2	Phase rotation	34
9.3	Electrical characteristics	34
9.4	Automatic transfer requirements	34
9.5	Manual bypass switch	35
10	Initial installation performance tests	35
10.1	General	35
10.2	Operational test	35
10.3	Maximum site design load test	36
10.3.1	Load test	36
10.3.2	Load type and power factor	37
10.3.3	Test initiation	37
10.3.4	Test records	37
10.3.5	Generator set management controls	37
10.3.6	Load management controls	37
10.3.7	Health care facilities	37
10.4	Cycle crank test	38
10.5	Safety shutdown and alarms	38
10.6	Ventilation	38
10.7	Operator training	38
10.8	Oil analysis	38

11	Operation and maintenance program	39
11.1	General	39
11.1.1	Operation and maintenance	39
11.1.2	Inspection, testing, and maintenance log	39
11.2	Instructions and tools	39
11.2.1	Manual of operating and maintenance instructions	39
11.2.2	Tools	39
11.3	Annual test	40
11.4	Periodic operational tests	40
11.4.1	All facilities	40
11.4.2	Health care facilities	40
11.5	Maintenance	40
11.5.1	General	40
11.5.2	Frequency of procedures	40
11.5.3	Records	40
11.5.4	Safety	41
11.5.5	Visual inspection of fuel (clear and bright test)	41

Annex A (informative)	— Recommendations on emergency electrical power for life-support equipment	49
Annex B (informative)	— Commentary	50
Annex C (informative)	— High-speed transfer of loads	63
Annex D (informative)	— Use of emergency electrical power supply equipment for purposes beyond emergency situations	64
Annex E (informative)	— Use of standby electrical power supply equipment for powering non-life safety loads	66
Annex F (informative)	— Guidelines for selection of generator set battery charger	67

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 [7.3.10](#) 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) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

CSA C282:19

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.