STANDARDS UPDATE NOTICE (SUN)
ISSUED: March 25, 2026

STANDARD INFORMATION

Amendment 3: See updated Effective Date in purple below.

Amendment 2: See updated Effective Date in green below.

Amendment 1: Addition of September 23, 2022 revision and updated Effective Date. See the September 23, 2022 changes starting on page 23 updated Effective date in blue below.

Standard: UL 2200
Standard ID: Stationary Engine Generator Assemblies [ANSI/CAN/UL/ULC 2200:2020 Ed.3+R:23Sep2022]
Previous Standard ID:
Stationary Engine Generator Assemblies [ANSI/CAN/UL/ULC 2200:2020 Ed.3]
Stationary Engine Generator Assemblies [UL 2200:2012 Ed.2+R:29Jul2015]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: ~~**September 29, 2023**~~ ~~**September 23, 2024**~~ ~~**March 31, 2026**~~ **May 31, 2026**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

All products must be certified to the September 23, 2022 revision prior to the effective date.

This standard contains Functional Safety Requirements.

Overview of Changes: Substantive changes and new requirements to address current technology. Specific details of new/revised requirements are found in table below.

3rd edition changes:

- Substantive changes and new requirements to address current technology

September 23, 2022 changes:

- Revisions to requirements for Medium Voltage (MV) Walk-in Enclosure Door Mechanical Interlock
- Revisions to requirements for Selective Catalytic Reduction (SCR)
- Addition of Requirements for Accessory Equipment

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.

STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		Additions to existing requirements are <u>underlined</u> and deletions are shown ~~lined out~~ below.
		The following changes reflect the release of the 3rd edition:
7	Info	**Frame and Enclosure**
7.2	Info	**Enclosures and guards**
7.2.5		***New clause added;*** Mechanical guarding shall be used where necessary on hot surfaces, radiant heat sources, fluid system piping unions, flanges, and fittings in the event of a leak to reduce or contain splashing, dripping or spraying of coolant, oil or fuel to reduce the potential risk of causing an electrical fire, fuel fire hazard or injury to persons.
7.2.6		***New clause added;*** Enclosures for medium voltage generators shall be metallic and built to the requirements of UL 50 / CSA C22.2 No. 94.1. External parts of the enclosure may be of insulating material, provided that medium-voltage parts are completely enclosed by grounded metallic partitions. These metallic partitions shall meet the thickness requirements of UL 50 / CSA C22.2 No. 94.1. Exception: These requirements do not apply to inspection windows complying with the requirements for Inspection Windows, 5.102.205, of UL 347 / CSA C22.2 No. 253.
7.2.7		***New clause added;*** Generators containing both low and medium voltage components and circuit wiring shall be provided with an enclosure surrounding all medium voltage parts in accordance with 7.2.6. Low voltage parts may be located in a separate enclosure that complies with the enclosure requirements of this standard other than 7.2.6.
7.3	Info	**Access doors and covers**
7.3.4		***New clause added;*** Doors giving access to medium-voltage compartments shall be provided with one of the following interlock systems: a) An interlock that is solely mechanical, such that the door cannot be opened unless all medium voltage components or wiring in the compartment are de-energized. The interlock shall also prevent energizing any medium voltage

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		components or wiring in the compartment until the door is closed. Electrical or electro-mechanical interlocks may be provided in addition to the required mechanical interlock, but shall not replace the requirement for a solely mechanical interlock. (The use of a captive key interlocking system is one method to provide mechanical interlocking.); or b) An electromechanical interlock system that combines electrical and mechanical interlock protection that complies with all the following: 1) The interlock system shall prevent an enclosure door from being opened unless all medium voltage components or wiring in the compartment are de-energized. The interlock shall also prevent energizing any medium voltage components or wiring in the compartment until the door is closed. NOTE: UL/ULC 6200 includes requirements for disabling generator starting which is one means to energize a medium voltage circuit. 2) The interlock system shall have at least two different protection means: i) With different actuation methodologies; and ii) Requires use of a tool to disable the protection. 3) The interlock system shall comply with the functional safety requirements in Table 7.1.
7.3.5		***New clause added;*** Covers giving access to medium-voltage compartments shall comply with all the following conditions: a) The cover shall be bolted on all sides with a minimum of two bolts per side; b) No bolts are operable by hand, without the use of a tool; c) All bolts are captive fasteners; d) The cover does not provide access to fuses; and e) The cover shall be marked in accordance with 95.1 for the unit's operating voltage.
7.6	Info	**Nonmetallic enclosures**
7.6.6		***New clause added;*** Engine and exhaust areas that are part of an enclosure that incorporate thermal insulation shall comply with the thermal insulation 20-mm (3/4-inch) flame test of 103.4.
7.6.7		***New clause added;*** Intake plenum areas that are part of an enclosure that incorporate sound insulation lining shall comply with the thermal insulation 20-mm (3/4-inch) flame test of 103.4 or have a flame spread index of 0 – 25 when tested in accordance with UL 723 / IEC 60695-2-13.

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7.6.8		***New clause added;*** For internal areas of the engine generator walk-in enclosure where users or service persons are intended to enter the space to operate or service it, polymeric materials such as polymeric enclosures, polymeric access barriers, walls of an enclosure, or insulation on the walls of an engine generator shall be rated as follows. Any single unbroken section greater than 0.93 m2 (10 square feet) or a single linear dimension greater than 1.83 m (6 feet) shall have a maximum flame spread index and smoke developed index as shown in Table 7.5 as tested in accordance with the UL 723. Exception: This requirement does not apply to the following: a) Wire and cables; and b) Materials less than 0.9 mm (0.036 inch) thick directly applied to walls, floors, or ceiling surfaces.
7.7	Info	**Viewing panes**
7.7.1		***New clause added;*** A viewing pane covering an opening in a low voltage compartment shall be secured in place so that it is not readily displaced in service and provides mechanical protection for the enclosed parts.
7.7.3		***New clause added;*** Viewing panes covering an opening in a medium voltage compartment shall: a) Be of clear safety-type glass or wire-reinforced glass or another clear material found suitable with respect to flammability and UV resistance in accordance with CSA C22.2 No. 0.17 / UL 746C; b) Comply with the tests described in Section 81, Mechanical Tests of Viewing Panes for Medium Voltage Compartments; and c) Be secured in such a manner that it cannot be removed without tools.
7.9	Info	**Openings in an engine generator or electrical panel enclosure**
7.9.2		***New clause added;*** Barriers shall be provided behind all ventilating openings into medium-voltage compartments. The barrier shall be effectively secured in place and shall prevent drawing a straight line from any point outside the enclosure to any medium voltage live part, including insulated parts such as cables (other than shielded cables). These barriers shall be metallic barriers, or shall be of a non-metallic material type and thickness sufficient to meet the impulse and dielectric voltage withstand voltages specified in this Standard.

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7.9.3		***New clause added;*** All ventilation openings in low and medium voltage compartments, including perforations, louvers, and openings protected by means of wire screening, expanded metal, or a perforated cover, shall comply with the rod entry test specified in Section 90, Rod Entry Test. The use of screening, expanded metal, or perforated covers does not eliminate the need for the barriers behind openings into medium voltage compartments as required by 7.9.2.
7.9.4		***New clause added;*** With reference to 7.9.3, the diameter of the wires of a screen shall be not less than 1.3 mm (0.050 in) if the screen openings are 320 mm2 (0.497 in2) or less in area and shall be not less than 2.06 mm (0.081 in) for larger screen openings. Perforated sheet steel and sheet steel employed for expanded metal mesh shall be not less than 1.07 mm (0.042 in) thick for mesh openings or perforations 320 mm^2 (0.497 in^2) or less in area, and shall be not less than 2.03 mm (0.080 in) thick for larger openings.
7.10	Info	**Enclosure bottom openings**
7.10.2		***New clause added;*** With reference to 7.10.1, including all exceptions, any ventilation openings into medium voltage compartments shall be provided with the barriers required by 7.9.2
7.11	Info	**Indoor enclosure top openings**
7.11.2		***New clause added;*** With reference to 7.11.1, including all exceptions, any ventilation openings into medium voltage compartments shall be provided with the barriers required by 7.9.2.
8	Info	**Protection of Users – Accessibility of Uninsulated Live Parts and Moving Parts – and User Servicing**
8.18		***New clause added;*** Insulated and uninsulated medium voltage components and wiring, including low voltage circuits that are not isolated from medium voltage circuits as defined in Section 30, shall not be accessible to the user. They shall be located behind bolted covers or interlocked doors that are not required to be opened by the user. See 7.9.2 and 7.9.3 with respect to accessibility of medium voltage parts when enclosures are ventilated.

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10		***New section added;*** **Corrosion Protection** Outdoor enclosure sheet steel having a thickness of 3.05 mm (0.12 inch) or more that may be exposed to the weather shall be made corrosion-resistant. See standard for details.
12	Info	**Switches and Control Devices**
12.11		***New clause added;*** Output circuit breakers 1000 Vac or less that are drawout-mounted type integrated to the engine generator shall comply with Sections 43, 90, 94, 96, and CSA C22.2 No. 268 / UL 1066 and shall be removable only through the use of tools.
12.12		***New clause added;*** Output circuit breakers rated over 1000 Vac shall comply with IEEE C37.09 and with NEMA C37.54 if of the drawout type.
14	info	**Output Power Disconnection Device**
14.1		The generator assembly shall be provided with the following: a) An output power disconnection device or a lockout switch that electrically isolates the generator assembly from other electrical energy sources and also prevents motoring; and b) Installation instructions that a disconnect shall be installed with the generator. NOTE: A disconnect means is required to be provided for an installed generator. The disconnect device may be a separate device that is installed with the generator or it may be integral to the generator.
14.4		***New clause added;*** The operating handle referenced in 14.2 (b) shall be operable without exposing the operator to uninsulated live low voltage parts, or to any medium voltage parts, whether insulated or uninsulated.
14.5		***New clause added;*** Medium voltage power output disconnection panels shall comply with CSA C22.2 No. 253 / UL 347, IEEE C37.20.2, or IEEE C37.20.3. If not provided, the disconnection panel shall be referenced in the site installation instructions.
14.6		***New clause added;*** To prevent generator 'motoring" rotation, engine generators that are rated for paralleling with other output sources such as utility interactive generators or generators used in parallel with other generators are required to be additionally marked in accordance with 94.18.

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15		***New section added;*** **Engine Start Disable** The generator assembly shall be provided with a prime mover start disable function or disconnection device or a lockout switch that positively prevents the startup and operation of the generator assembly either by local or remote actuation. See standard for details.
16	Info	**Disconnects Used in Service Equipment Applications**
16.2		***New clause added;*** An engine generator assembly provided with a medium voltage power output disconnect panel means intended to comply with service equipment rating requirements as defined in Article 225.36 of the National Electrical Code, NFPA 70, and/or Section 6 of the Canadian Electrical Code, Part I, shall comply with the requirements for service equipment in CSA C22.2 No. 253 / UL 347.
17	Info	**Output Connections**
17.1		***New section added;*** A unit shall have provision for connection of a wiring system in accordance with 17.1.2 – 17.1.5. See standard for details.
17.3	Info	**Openings for class 2 circuit conductors**
17.3.3		***New clause added;*** Openings for conductors of a Class 2 circuit shall be located such that the wiring will be separated from all Class 1 circuit wiring. Wiring troughs or barriers may be required to ensure that field wiring conductors for hazardous circuits and Class 1 circuits will be adequately separated from the Class 2 circuit wiring.
17.4	Info	**Receptacles**
17.4.2		***New clause added;*** Output receptacles shall be rated for the application including electrical and environmental conditions.
18	Info	***New section added;*** **Wiring Space and Wire Bending Space** There shall be space within the enclosure of the equipment for the installation of those wires and cables likely to be used in connecting the mains and branch circuits, including feed through conductors that may continue to other portions of the equipment. See standard for details.

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19	Info	**Output Circuit Grounding**
19.1	Info	**General**
19.1.8		***New clause added;*** Neutral grounding devices shall comply with IEEE C57.32 and CSA C22.2 No. 295.
19.2	Info	**Ground fault protection**
19.2.3		***New clause added;*** Ground fault protection for circuits operating at 120/240 V shall comply with CSA C22.2 No. 144.1 / UL 943.
19.2.4		***New clause added;*** Ground fault protection for circuits other than addressed in 19.2.1 shall comply with CSA C22.2 No. 144 / UL 943C.
20	Info	**Equipment Grounding**
20.17		***New clause added;*** An equipment-grounding bus bar shall be sized per specified in Column 2 of Table 19.1.
22	Info	**Internal Wiring**
22.1.3		All low voltage wiring shall be polyvinyl chloride (PVC), polytetrafluoroethylene (PTFE), fluorinated ethylene propylene (FEP), or neoprene insulated, or shall comply with the vertical wire flame test requirements in CSA C22.2 No. 75 / UL 83. Medium voltage wiring shall be type MV cable or equivalent. Exception: The requirements in 22.1.1 – 22.1.3 do not apply to wiring for Class 2 circuits.
22.1.4		***New clause added;*** Wire and cables exposed to water shall be rated for water exposure.
22.1.5		***New clause added;*** Wire and cables exposed to UV shall be rated for UV exposure.
22.2	Info	**Protection of wiring**
22.2.8		***New clause added;*** Conductors greater than 10 AWG (5.26 mm2) of an alternating-current circuit that pass through a wall or partition of metal having magnetic properties shall comply with 33.4.

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23		***New section added;*** **Current-Carrying Parts** A current-carrying part shall be of silver, copper, a copper-base alloy, stainless steel, aluminum, or other materials intended for the application. See standard for details.
24	Info	**Electrical Connections**
24.8		***New clause added;*** Electrical studs, terminals and connection shall be prevented from rotation.
27		***New section added;*** **Engine Generator Programmable Controls** Engine generator controls may be located concurrent with or separate from engine controls. See standard for details.
28		***new section added;*** **Product Risk Assessment** When required by specific portions of this Standard, a safety risk assessment based on the end product application shall be conducted to identify safety circuits performing functions that are the primary means to mitigate risk of fire, electric shock, or other hazards that could cause personal injury. See standard for details.
29		***New section added;*** **Safety Circuits** Where required by specific portions of this Standard, a safety risk assessment based on the end product application shall be conducted to identify safety circuits performing functions that are the primary means to mitigate risk of fire, electric shock, or other hazards that could cause personal injury. See standard for details.
32	Info	**Separation of Circuits**
32.2	Info	**Separation barriers**
32.2.3		***New clause added;*** Barriers used to separate medium voltage circuits from low voltage circuits shall be grounded metal or insulating material capable of complying with the impulse and dielectric test requirements in this standard.

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32.3	Info	**Field wiring**
32.3.3		***New clause added;*** The equipment shall be constructed so that all field-installed conductors of medium voltage circuits are separated from any factory or field installed low voltage conductors or components by barriers as specified in 32.2.3.
32.4	Info	**Equipment above 7,200 V**
32.4.1		***New clause added;*** For equipment operating above 7,200 V, instruments, meters, relays, secondary control devices, and their wiring shall be isolated by grounded metal barriers from the primary circuit elements, with the exception of short lengths of wire such as at instrument transformer terminals and secondary disconnecting devices.
32.5	Info	**Medium voltage circuits**
32.5.1		***New clause added;*** Circuits that are connected to medium voltage circuits or circuits that do not have the required isolation and the required spacing from adjacent medium voltage circuits shall be treated as medium voltage circuits and shall comply with the medium voltage spacings defined in Table 25.1 as well as the medium voltage tests in Section 59, Dielectric Voltage-Withstand Test, for the highest voltage in either circuit.
33	Info	**Overcurrent Protection**
33.4		***New section added;*** **AC conductor inductive heating** If the conductors of an alternating current circuit pass through a wall or partition of metal having magnetic properties, all the conductors of the circuit including the neutral shall be run through the same opening. See standard for details.
34		***New section added;*** **Air Filters** Air filters for combustion air intakes shall either comply with the backfire resistance requirements in Section 63, Intake Air Filter and Intake Backfire-Deflector Test, or they shall be provided with a backfire deflector/flame arrestor that complies with the backfire resistance requirements in Section 63. See standard for details.

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35		***New section added;*** **Capacitors** A capacitor used for electromagnetic interference elimination or power-factor correction that is oil filled shall comply with the requirements in CSA C22.2 No. 190 / UL 810. See standard for details.
38	Info	**Insulating Materials**
38.12		***New clause added;*** Insulating material for the support of an uninsulated medium voltage part shall be porcelain, glass polyester, or other material found acceptable for the support of an uninsulated live part. These materials shall withstand the most severe conditions likely to be met in service, including the impulse and dielectric requirements specified in this standard. When the equipment has been previously subjected to the complete series of conformance tests, an alternate insulating material for the above applications, may be substituted as permitted by ANSI C37.55 without performing another complete series of conformance tests on the equipment.
40	Info	**Battery Heaters and Miscellaneous Heaters**
40.2		***New clause added;*** Compartment heaters with exposed heating elements inside the engine compartment shall be placed at the highest point within the engine compartment. These heaters shall be located at least 1 m (3.28 ft) away from lubricating system components, fuel train components, and lines or hoses of other flammable fluids or gases. Heaters shall not be located in areas where flammable liquids can come in contact with the heating elements under normal or abnormal failure conditions including leaks. Exception: Heaters rated for use in T3, T4, T5, or T6 hazardous classified locations in accordance with UL 823 and CSA C22.2 No. 88 to protect against ignition of accumulated explosive gases and or liquids do not have an installation height limitation.
42		***New section added;*** **Batteries** When a separate lead-acid storage battery is intended to be placed in a compartment provided with, or as part of, the engine generator assembly, it shall be secured in position to prevent contact with conducting materials in the area and be readily accessible for servicing. See standard for details.

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44		***New section added;*** **Walk-in Generator Enclosures** Electrical enclosures, compartments or specific areas within the generator that are likely to require a service person to enter the enclosure or housing to wire, examine, adjust, or perform maintenance, shall comply with Article 110.26, Spaces About Electrical Equipment, of NFPA 70 and Rules 2-308 and 2-310 of the Canadian Electrical Code, Part I. See standard for details.
45		***New section added;*** **Illumination** Lighting shall comply with CSA C22.2 No. 250.0 / UL 1598 and be installed in accordance with the National Electrical Code, NFPA 70, Article 410, and the Canadian Electrical Code, Part 1, Section 30. See standard for details.
47		***New section added;*** **Additional Requirements for Generator Switchgear Rated Above 1,000 V** The requirements in this Section are for generator switchgear rated greater than 1,000 V and supplement the general requirements in Sections 6 – 99. See standard for details.
48		***New section added;*** **Liquid Fuel Systems** A fuel confining part having internal threads made of drawn brass or machined from brass rod shall be capable of withstanding, without cracking, the 10-day Moist Ammonia-Air Stress Cracking Test, Section 66. See standard for details.
49		***New section added;*** **Fuel Injection Systems** Where a side or updraft carburetor is used, it shall be located so that overflow of gasoline shall flow to ground or into a catch tank/reservoir, and it shall not contact electrical parts and exhaust system, or collect in an engine compartment. See standard for details.

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50		***New section added;*** **Liquid Fuel Flow Controls** No control shall be furnished on an engine generator assembly which allows, by manual operation, liquid fuel flow to the engine when it is shutdown for any reason. See standard for details.
51		***New section added;*** **Diesel Exhaust Fluid (DEF)** DEF system components shall be suitable for exposure to the DEF agent, operating conditions, and the operating environment of the intended application. See standard for details.
52		***New section added;*** **Liquefied Petroleum Gas** Where an LP-Gas fuel system is provided as part of the generator set, it shall include the complete fuel system installed at the factory. See standard for details.
53		***New section added;*** **High Pressure and Low Pressure Natural Gas** Steel pipe (black) employed as low pressure gas conduit on an engine generator system pressure equal to or less than 850 kPa (125 psi) shall comply with NFPA 54 / ANSI Z223.1 and shall comply dimensionally with the Standard for Welded and Seamless Wrought Steel Pipe, ASME B36.10M. See standard for details.
54		***New section added;*** **Bio-Gas and Well-Head Gas** Bio-gas and well-head gas flow controls shall comply with 53.4. See standard for details.
55	Info	**Multi-Fuel Systems**
55.1		***New clause added;*** Units that are rated to operate with multiple fuel types shall comply with the requirements for each of the rated fuel types and shall comply with the applicable requirements of Section 48, Fuel Systems, and NFPA 37.

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56	Info	**Exhaust Systems**
56.2		***New clause added;*** When an engine generator is rated for one or more of the following fuel types: gasoline, liquified propane (LP), and/or natural gas (NG), its exhaust system and muffler if provided shall conform with the test requirements in Section 64, Muffler Tests.
56.4		***New clause added;*** Exhaust systems and components that are intended to be run through building structures shall comply with ULC/ORD-C959 / UL 2561 or ULC-S629 / UL 103.
56.5		***New clause added;*** Exhaust systems and engine exhaust hot sections that incorporate thermal insulation blanket/barrier component materials shall comply with the thermal insulation 20-mm (3/4-inch) flame test of 103.4.
	Info	**PERFORMANCE**
57	info	**General**
57.4		***New clause added;*** In preparation for testing, the unit is to be connected to the fuel supply and electrical input and output circuits as defined in the product ratings and installation instructions.
58	Info	**Temperature Test**
58.11		***New clause added;*** Measuring the temperatures of components or conductors operating at medium voltage using thermocouples is inherently dangerous. Other methods may be employed to reduce the hazards, such as testing the medium voltage circuits and equipment with the same current but at a lower voltage or use of temperature measurement equipment not affected by the medium voltage.
59	Info	**Dielectric Voltage-Withstand Test**
59.6		***New clause added;*** The test potential for medium voltage circuits shall be the appropriate test potential from Table 69.1, or the rated dielectric voltage rating, whichever is higher.

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64		***New section added;*** **Muffler Tests** The engine is to be continuously operated until the engine is in a heated state. This state is assumed to have been reached when the exhaust manifold has been heated to approximately 315° C (600°F). See standard for details.
69		***New section added;*** **Impulse Withstand Tests** The impulse Withstand Test is a design test intended to evaluate the rated insulation level (impulse voltage withstand, or basic insulation level [BIL]) rating of a given generator field-wiring compartment assembly design. See standard for details.
70		***New section added;*** **Partial Discharge (Corona) Test** Generators with rated maximum voltages (Ur) greater than 15 kV and having reduced spacing based on the use of insulation shall be subjected to the Partial Discharge Test. See standard for details.
71	Info	**Abnormal Tests**
71.2		***New section added;*** **Overspeed test** The product prime mover shall be arranged for operation in its intended manner and is to be operated under normal conditions with little or no external electrical load. See standard for details.
71.4		***New section added;*** **AC output short circuit test** The generator is to be connected and operated as in the normal temperature test. See standard for details.
75		***New section added;*** **Battery Compartment Ventilation Test** If a measurement is needed to determine if a battery compartment complies with 42.2.5, the battery is to be subjected to the overcharge test in 75.2. See standard for details.

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78	Info	**Evaluation of Reduced Spacings on Printed-Wiring Boards**
78.1	Info	**General**
78.1.2		***New clause added;*** The requirements of this Section do not apply to medium voltage circuits on printed-wiring boards.
80	Info	**Impact Tests**
80.1.1		***New clause added;*** Plastic enclosures or plastic components required to be impact tested by the requirements or references in this Standard shall also be subjected to the cold impact in UL 746C if they are used as part of generators or generator assemblies rated for outdoor installation.
81		***New section added;*** **Mechanical Tests of Viewing Panes for Medium Voltage Compartments** Viewing panes for medium voltage compartments shall not shatter, crack, or become dislodged when subjected to the impact and pressure tests described in 81.2 and 81.3. See standard for details.
89		***New section added;*** **Fuel Valve Flow Control Test** The fuel flow control system shall identify a fault condition and take action to close the fuel valves following a failure event as defined in Table 89.1 and as required by the tests in this Section. See standard for details.
90		***New section added;*** This test shall be conducted to determine acceptability of ventilation openings in medium voltage compartments. See standard for details.
	Info	**RATINGS**
91		***New section added;*** **Details** The unit shall be marked with the following ac output ratings. See standard for details.

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	Info	**MARKINGS**
92		***New section added;*** **General** All markings shall be in the appropriate language (or symbols as noted in this Standard), as necessary for the country in which the generator assembly will be installed. Caution and warning markings shall be in English and French in Canada. See standard for details.
93	Info	**Content**
93.1		A unit shall be plainly and permanently marked where it is readily visible, after installation, with: a) The manufacturer's name, trademark, or other descriptive marking by which the organization responsible for the generator is identified; b) A distinctive catalog alpha numeric code or the equivalent; c) The electrical ratings specified in Section 91, Details; d) The serial number, date code, or other equivalent dating period code of manufacture not exceeding any three consecutive months; e) Manufacturing location (only required for products manufactured at multiple locations); f) For generator assemblies with more than one output (power) circuit, the unit shall be provided with rating markings for each output circuit (such as voltage, current, frequency, number of phases, as applicable). For units with multiple outputs where the marking location is not adjacent to the output terminals, the marking and output combinations shall be specifically identified. g) For generator assemblies rated more than 15kW where the bonding of a generator is modified in the field or can be modified by jumper in the field, additional marking shall be required to indicate whether the generator neutral is bonded to the generator frame.
93.6		***New clause added;*** Wiring terminals shall be marked to indicate the proper connections for the unit, or a wiring diagram coded to the terminal marking shall be securely attached to the equipment. Units with multiple output configurations shall include a connection diagram in the wiring compartment and manual. The unit shall be provided with an indication of the voltage configuration as it left the manufacturing location. (This indication may be provided as a check box on the ratings label or via a removable tag attached to the wiring terminals.)
93.23		***New clause added;*** In the United States, markings for units that are rated as suitable for use as service equipment shall comply with the following:

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		a) If equipment is intended for use as service equipment, it shall be marked as follows: 1) In the case of an insulated neutral, “Suitable for use as service equipment”; 2) In the case of a factory bonded neutral for other than fire pump controllers, “Suitable only for use as service equipment”; and 3) In the case of fire pump controllers, “Suitable for use as service equipment.” b) If equipment is marked “Suitable for use as service equipment,” the marking “Service disconnect” shall be provided in the form of pressure-sensitive labels in an envelope, or on a card, with instructions to apply near the disconnect handle (s) if the equipment is used as service equipment. If the equipment is intended for a particular installation in which it is known that it will be used as service equipment, the markings may be applied at the factory. For equipment incorporating multiple service disconnects, this marking shall be provided for each service disconnect. c) If equipment is marked “Suitable for use as service equipment,” instructions for installing the bonding means shall be provided. d) If equipment is marked “Suitable only for use as service equipment,” each service disconnecting device for ungrounded conductors shall be marked “Service disconnect” on or adjacent to the switch or circuit breaker handle(s). e) Equipment rated three-phase, four-wire and having a solidly grounded neutral but not provided with ground fault protection shall be marked for the use specified as follows: 1) “Suitable only for use as service equipment when supplying a continuous industrial process”; or 2) “Suitable for use as service equipment only if supplying a continuous industrial process.” f) Equipment that is marked “Suitable only for use as service equipment” or “Suitable for use as service equipment” and not provided with ground fault protection shall be marked for: 1) Supplying a fire pump; 2) An alternate source for legally required standby service; or 3) Use as the disconnecting means for a second building on the property where ground fault protection is provided on the supply side of this disconnecting means.
93.24		***New clause added;*** In Canada, markings for units that are rated as suitable for use as service equipment shall comply with the following: a) The equipment marking required by (1) and (2) shall be permanent and plainly visible on the outside of the service compartment: 1) Service equipment shall be marked “Suitable for use as service equipment.”

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		2) A compartment in a medium-voltage generator assembly that is intended for supply authority use shall be marked with the following or equivalent wording: "Compartment for supply authority use only." b) Medium-voltage generator assemblies intended for service use and constructed in accordance with Section 47, Additional Requirements for Generator Switchgear Panels Rated Above 1,000 V, shall be provided with a temporary tag, instruction sheet, or the equivalent indicating how the bond is to be removed when required by the electrical inspection authorities (e. g., "Where electrical inspection authorities require the neutral assembly to be disconnected from the enclosure").
93.25		***New clause added;*** For medium-voltage generator assemblies, the isolating means shall provide visible evidence of an isolating distance in the circuit adequate for the rated voltage. Isolating and load-break switches assemblies shall be provided with position indicators indicating the fully closed and fully open positions.
93.26		***New clause added;*** For medium-voltage generator assemblies, the isolation gap or a mechanically operated indicator shall be visible through a viewing pane or by opening a door when the isolating gap is open. The mechanical operator shall be actuated by the movement of the actual isolating switch assembly. The action of the mechanical indicator shall not be dependent on the movement of the operating handle or mechanism alone.
93.27		***New clause added;*** Units rated as "Suitable for use as Service Equipment" shall include a bonding jumper and shall be provided with a temporary tag, instruction sheet, or the equivalent indicating how the bond is to be removed when required by the electrical inspection authorities (e. g., Where electrical inspection authorities require the neutral assembly to be disconnected from the enclosure).
94	Info	**Cautionary Markings**
94.18		***New clause added;*** In accordance with 14.6, the unit shall be permanently marked with the following: "WARNING: Risk of Electric Shock and Motoring Mechanical Hazard. Disconnect generator output circuit prior to performing maintenance."
94.19		***New clause added;*** A moving part that results in injury to persons and that must be in motion during service operations not involving the moving parts and is not located or guarded as specified in 43.8 shall be marked with the following or equivalent: ISO 7010: Graphical symbol W019, W024, W030, W031 or IEC 60417: 6057. Cautionary marking labels may include symbols that also comply with ISO 7000, ISO 7010, and

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		IEC 60417. The marking shall be located near the moving part so as to make the risk known before the part is touched. A single marking for multiple numbers of parts is not prohibited from being used.
95		***New section added;*** **Conditional Markings** Where applicable, equipment shall be legibly marked as follows. See standard for details.
96	info	**Instruction Manual**
96.7		***New clause added;*** Additional equipment information for medium voltage equipment including tables, manuals, and diagrams for individual units shall be provided on or with the equipment. The following information shall be included, as applicable: a) Diagram(s) for the controller(s) to include electrical schematic and terminal identification; b) Effective current transformer ratios (to include ground fault CT ratios if required for relay settings); c) Information for protective relay setting; d) Acceptable replacement fuses; and e) Instructions detailing wiring and termination techniques to be used during installation.
98		***New section added;*** **Electronic Important Safety Instructions** The Important Safety Instructions as defined in Section 96, Instruction Manual, and Section 97, Vented Batteries, may be provided via a combination of an electronic format and written format. See standard for details.
100		***New section added;*** **Leak Test**
100.1		The fuel and lubrication oil system testing is to be conducted during operational production line tests. The unit shall be subjected to the maximum normal / rated operating pressure for a period of 15 seconds without leaking, damage, or deformity of the components or piping systems. Exception: This test is not required for lubrication system components provided as part of an engine from the engine manufacturer.

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102		***New section added;*** **Weather and Outdoor Enclosure Construction** The weather enclosure of an outdoor unit shall be protected against outdoor exposure in accordance with the requirements in 102.3 – 102.10. See standard for details.
103		***New section added;*** **Performance** See standard for details.
	Info	**GAS TURBINES**
105	Info	**General**
105.2		***New clause added;*** The factory built gas turbine assembly mechanical systems with the turbine and generator inside the same enclosure shall comply with the fuel, ventilation, and enclosure requirements of ISO 19372.
105.3		***New clause added;*** For factory built gas turbine assembly mechanical systems constructed with the turbine in one enclosure and the generator in separate enclosures, only the enclosure containing the turbine shall comply with the fuel, ventilation, and enclosure requirements of ISO 19372.
105.7		***New clause added;*** Gas turbine programmable system controls shall comply with Section 27, Engine Generator Programmable Controls.
106		***New section added;*** **Construction** High pressure lubrication oil lines [over 103 kPa (15 psi)] shall be made of metallic piping or metallic flexible hose suitable for the intended use and capable of withstanding a 510° C (950° F) melt temperature. See standard for details.
Annex A		***New annex added;*** **Grounding/bonding terms** See standard for details.

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		The following changes reflect the September 23, 2022 revision:
44	Info	**Walk-in Generator Enclosures**
44.3	Info	**Walk-in enclosures for medium voltage generators**
44.3.1		Medium voltage generators with walk-in enclosures shall comply with the requirements in Section 44 and be constructed such that all medium voltage wiring and components are enclosed by grounded metal, so that persons entering the enclosure have ~~no~~ restricted access to the medium voltage circuits.
47A		***New section added;*** **Accessory Equipment** Accessory equipment shall be constructed so that they can be added to a unit without presenting a risk of fire, electric shock, injury to persons, or electrical energy – high current levels. See standard for details.
51	Info	**Selective Catalytic Reduction (SCR)**
51.3		***New clause added;*** Overflow of Diesel Exhaust Fluid (DEF) from storage tanks or intermediate day tanks shall flow to ground or into a catch tank/reservoir and shall not contact electrical parts and exhaust system or collect in an engine compartment (for example, the exhaust manifolds).
51.4		***New clause added;*** The SCR system shall be provided with either audible or visible pressure and temperature alarms that are monitored in a supervised location. The setpoints shall be identified by the manufacturer except that the upper limit pressure alarm shall not exceed the maximum working pressure marked on the unit and the upper limit temperature alarm not exceed the maximum temperature rating of the housing materials. NOTE: A supervised location may be a remote monitoring location.
51.5		***New clause added;*** SCR system housings that are subject to exhaust pressure during normal or abnormal operation shall be capable of withstanding a pressure equal to the highest of the following that is applicable: 51) One- and one-half times maximum allowable back pressure of the engine and/or turbocharger; or 52) b) One- and one-half times the working pressure marked on the unit.

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51.6		***New clause added;*** The SCR system housing shall comply with Section 56, Exhaust Systems, and the housing materials shall be rated not less than the maximum exhaust temperature.
51.7		***New clause added;*** The SCR systems shall be provided with suitable controls such as a watchdog timer, pressure and temperature alarms, and E-stop functionality.
51.8		***New clause added;*** The SCR system shall be designed such that generator assemblies intended for use with Emergency Systems are not shut down in the event of a failure of the SCR system.
87A		***New section added;*** **Pressure Test for Selective Catalytic Reduction (SCR) Systems** To determine compliance with this test, the SCR system housing shall not leak. See standard for details.
90A		***New section added;*** **Installation Test for Accessory Equipment** Each piece of accessory equipment shall be installed in its intended manner on the unit for which it is intended by following the instructions provided. See standard for details.
95A		***New section added;*** **Accessory Equipment Markings** Each piece of accessory equipment shall be marked with the manufacturer's name, trademark, or other descriptive marking by means of which the organization responsible for the product can readily be identified and with a distinctive catalog number or equivalent identification. See standard for details.