

Division VI - Private Generation and Supply, Technical Requirements

(Electricity By-laws)

Application
to private
owner

151.- (1) Subject to by-law 103 (2), this Part shall apply to every private owner.

(2) Division I, II, III, IV and VIII shall, mutatis mutandis, apply to a private owner and to his electrical installation as they apply to a consumer and a consumer's installation.

Consumer
and private
owner

152.- (1) A private owner shall erect and maintain a switchboard for each generator to control supply therefrom and shall fit to each switchboard, as a minimum requirement-

- (a) the appropriate supply contract controls and protective apparatus specified in Part 1 of the Eight Schedule hereto; and
- (b) where two or more private generators are to be operated, in parallel –
 - (i) if it is two-wire system, a reverse-current trip in series with the live conductor of each generator;
 - (ii) if it is a three-wire system, a reverse-current trip in series with each out conductor of each generator; and
 - (iii) if they are compounded generators, an equalizer connection by means of-

(A) a single-pole switch from each generator to an equalizer bus-bar so arranged that each switch is interlocked so that it shall be closed before the main switch is closed and opened after the main switch is opened ;

(B) a multi-pole linked-switch arranged and interlocked to perform the same sequence of operations as described for single-pole switches, with operating coil of a circuit-breaker connected to a pole other than that to which the equaliser connection is made;

(C) where a direct-current generator is connected in parallel with a secondary battery –

(aa) a reverse-current trip, which may be of the cut-out type, connected between the generator and the battery;

- (bb) safe means for isolating the battery from the generator;
- (cc) protection of the battery by means of a fuse or circuit-break against excessive charge or discharge currents;
- (dd) an ammeter to measure the current supplied by the generator;
- (ee) an ammeter with a mid-point zero or so, switched so as to measure separately the charge and discharge currents of the battery; and
- (ff) a voltmeter arranged to measure separately the voltage of the generator and of the battery;

- (C) where compounded generators are operated in parallel, an ammeter connected to the pole other than to which the equalizer connection is made;
- (D) where a direct-current generator operates a three-wire system, an arrangement to prevent the balance being disconnected whilst the outer conductors are live;
- (E) the appropriate instrument specified in Part II of the Eighth Schedule hereto; or
- (F) where an altering-current generator is operated-
 - (i) a speed indicator for the prime-mover or a frequency indicator; or
 - (ii) if two or more generators are to be operated in parallel, a synchronizing device.

(2) Where an instrument fitted to the switchboard in accordance with paragraph (1) is required to make more than one measurement, provision for this shall be made by a suitable switch or plug.

(3) If the generator of a private owner is arranged for automatic starting or for remote control, the prime-mover shall have local overriding control for stopping the prime-mover and for preventing automatic starting –

(a) fixed nearby; and

(b) labelled with clear operating instructions.

Liquid and
gaseous fuel

153. A private owner shall-

(a) where liquid or gaseous fuel for the generating plant is piped from outside the plant room, provide a quick-acting valve to cut off the supply of fuel with the valve-

(i) fixed near the door to the plant room in a conspicuous position; and

(ii) labelled with clear operating instructions;
and

(b) arrange to trap or drain and disperse safely any leaking or surplus fuel and ensure that none is permitted to enter any sewer.

Plant rooms

154.- (1) A private owner shall ensure that any room in which his generating plant is to be erected and maintained-

- (a) is of such size that the plant can be easily and adequately serviced and maintained;
- (b) is adequately ventilated; and
- (c) is provided with the exhaust pipes or ducts necessary to discharge exhaust fumes from the rooms to the outside air and clear of any window, door or fresh-air intake of any building.

(2) A plant room described in paragraph (1) shall have adequate artificial lighting, in addition to any natural lighting and discharge-lighting shall not be used in a position where it may cause rotating machines to appear to be stationary.

Protection of
batteries

155. A private owner whose generator is connected with a secondary battery installation shall erect and maintain a switch board for that installation and shall fit to the switchboard, as a minimum requirement-

- (a) safe means –
 - (i) for isolating the battery from the load or from the charging circuit or simultaneously from both; and

- (ii) where the charging circuit is arranged to share the load, for isolating the charging circuit from the battery and from the load;
- (b) a suitable fuse or circuit-breaker with overhead trip to protect-
 - (i) the battery from excess charge and discharge currents; and
 - (ii) the charge circuit from excess charge currents;
- (c) where the circuit is not a rectifier circuit which prevents a reversal of current, a reverse-current trip, which may be of the cut-out type;
- (d) an ammeter with a mid-point zero or so, switched so as to measure separately the charge and discharge currents;
- (e) a voltmeter with an “off” position to prevent continuous discharge and to indicate-
 - (i) battery terminal voltage; and
 - (ii) where the charging circuit has no cut-out, the voltage of the charging circuit separately from the battery terminal voltage;

- (f) where the charging circuit shares the load with the battery, an ammeter to measure the current output of the charging circuit.

Installation
of batteries

156.- (1) A battery in a battery installation connected with the generator of a private owner shall-

- (a) have insulated supports for each cell of glass or vitreous porcelain which is part of the container;
- (b) have insulated battery stands;
- (c) have connected bolts-
 - (i) of a non-corrosive type; or
 - (ii) coated with petroleum jelly;
- (d) have spray arrestors on open cells;
- (e) if not portable, contain no celluloid in its construction; and
- (f) if portable, and with celluloid in its construction, have suitable safeguards at the charging location to prevent ignition of the celluloid and the spread of fire.

(2) A room containing a battery installation connected with the generator of a private owner shall-

- (a) be adequately ventilated to the outside air;
and
- (b) where sulphuric acid is used as an electrolyte, ensure its construction is-
 - (i) of non-corrosive material; or
 - (ii) painted with acid-resisting paint.

Labeling

157. All machinery, switch gear and instruments associated with the generation and supply of electricity of a private owner shall be indelibly labelled so as to indicate their functions and ratings.

Connecting private plant

158. A plant of a private owner shall not be interconnected, either directly or indirectly, with the electrical works lines or cables of a licensee or other person unless-

- (a) there is an agreement in writing for such interconnection between the private owner and the owner of the said works, lines or cables; and
- (b) adequate safeguards are installed to prevent accidental or uncontrolled interconnection.

Private owner to comply with relevant by-laws

159.- Every private owner shall ensure that technical standards prescribed by these regulations are complied with wherever applicable and shall where appropriate have the same obligations as a licensee or consumer as the case may be.

