

An American National Standard

**IEEE Standard for Emergency Load
Current-Carrying Capability
(Supplement to ANSI/IEEE C37.010-1979, IEEE
Application Guide for AC High-Voltage Circuit Breakers
Rated on a Symmetrical Current Basis)**

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The emergency load current-carrying capability section should be included as part of 4.4 Continuous Current, which is to be inserted after 4.4.3.3.2 as follows:

4.4.4 Emergency Load Current-Carrying Capability

During emergency periods, operation may be required at higher load currents than permitted by the ambient compensation procedure outlined in Section 4.4.3. Under these conditions all the general considerations for ambient compensation are applicable to emergency loading, with additional considerations and limitations as outlined in this section.

The limits of total temperature for the circuit breaker will be exceeded under the specified emergency load currents, and these higher temperatures may cause a reduction in the operating life of the circuit breaker. Inspection and maintenance of the circuit breaker are required following each emergency cycle as outlined in 4.4.4.5.

4.4.4.1 Conditions for Emergency Load Current-Carrying Capability

- 1) Emergency load current-carrying capability factors can be applied to outdoor circuit breakers only, as listed in ANSI C37.06-1979, Tables 3, 4, and 4A.
These factors can be applied to circuit breakers used in gas-insulated substations until specific standards for that equipment are issued. Circuit breakers used in metal-clad switchgear shall be coordinated with overall application limitations of the total switchgear.
Load current carrying-capability under various conditions of ambient temperature and load for these circuit breakers will be covered in American National Standard Application Guide for Metal-Enclosed Power Switchgear Assemblies.
- 2) Prior to the application of the emergency load, the circuit-breaker current-carrying circuit, including external connections, shall have been well maintained and be in an essentially new condition.
- 3) Following the emergency period, the load current shall be limited to 95% of I_a , the rated continuous current as modified by ambient compensation according to 4.4.3, for a minimum of 2 h
- 3) During and following an emergency cycle and prior to maintenance, the circuit breaker shall be capable of one interruption at its rated short-circuit current.