



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3135

Chair: R. Leduc

Date: November 10, 2003

Title: Request for an Interpretation , Rule 26-258

Submitted by: A.Z. Tsisserev, of the City of Vancouver on August 9, 2003

Proposal: Are conductors supplying primary and secondary of various types transformers which are protected in accordance with relevant Rules 26-252, 26-254 or 26-256, and that are sized in conformance with Subrules 26-258(1) and (2), required to be provided with the overcurrent protection rated or set as per Rule 14-104?

This request is intended to be answered by a categorical "YES" or "NO"

Reasons for Request: Rule 14-104 sets out a criteria for a coordination between the rating or setting of overcurrent devices and ampacity of the conductors that are protected by such overcurrent devices.

This Rule also provides for a number of exceptions to this coordination criteria in paragraphs a); b) and c).

Paragraph c) of this rule recognizes a deviation from this criteria if a protection of conductors is governed by other rules of the Code.

This, latter exception is reflected, for example, in Rule 26-210, which prescribes a maximum allowable setting or rating of the overcurrent devices protecting capacitor feeder or a branch circuit.

Note: This exception allows capacitor conductors sized at 135% of the capacitor rated current to be protected by the overcurrent device that might be set as high as 250% of the capacitor rated current.

However, this exception is not transparent in rules 26-252; 26-254 or 26-256 which regulate overcurrent protection for transformers (but not for primary or secondary conductors supplying these transformers).

Note: Only Rule 26-256(1) states that overcurrent device set **at not more** than 125% of the transformer primary rated current and installed on the dry transformer primary **"shall be considered as protecting secondary conductors rated at not less than 125% of the transformer rated secondary current."**

Thus, if the primary overcurrent device is set in excess of 125% of the transformer primary rated conductor in accordance with Rule 26-256(3), this setting may not meet the requirement of Rule 14-104 for a coordination between the overcurrent device and the ampacity of conductors (which are sized as per Rule 26-258).

In fact, the example shown on Page 570 of the CEC Hand book appears to be inaccurate as it states that primary overcurrent protection set at 80 A for a fuse or at 100 A for a breaker is sufficient to protect conductors with ampacity of 208 A (this does not even match a coordination permitted by Table 13 through the transformer ratio).

Supporting information:

The fact that two general sections of the Code (section 14 and Section 26) appear to be mandating conflicting requirements without specifying additional exceptions or notwithstanding clauses on this subject, has created concerns by the designers, installers, regulators and Code educators, as the members of these groups interpret requirements of Rule 26-258 in respect to the provisions of Rule 14-104 differently.

It is intended by this request that the answer by the Subcommittee will lead to an appropriate amendment to Rule 26-258, by introducing a notwithstanding Clause in respect to Rule 14-104, or by providing a simple clarification in Appendix B.

On a personal note I'd like to mention that late Dave Coleman would be pleased to know that this request is sent, as he was concerned that many designers and contractors do not increase conductors size on the transformer secondary when a primary protection is set at more than 125%.

Subcommittee Deliberations (1st Round):

10 of 14 members responded, 9 of which replied “No” to the question.

The member responding “Yes” interestingly pointed to Rules 14-100(d) and (f) as the rules that would pertain to the exemption statement in Rule 14-104 “as provided for by other Rules of the Code”.

Many of the members voting “No” pointed out that despite the absence of the word “conductor” in Rules 26-252, 26-254 and 26-256, the Rules included protection of the conductor between the O/C device and the transformer. Many of these members felt that the Rules could be worded more clearly.

Chair's Comments (1st Round)

The Chair declares consensus for the response of “No” to the submitter's question. In other words: “Conductors sized in accordance with 26-258 and protected by O/C devices sized in accordance with 26-252, 26-254 & 26-256 are in compliance with the exemption provided for by Rule 14-104(c).”

To address the issue of clarifying the transformer O/C protection Rules to include conductors, the chair submits the attached “Request for Change”. The S/C members will be dealing with the request once it has been assigned a subject number by CSA administration.

Subcommittee Recommendation

In response to the “request for Interpretation”, the answer is “NO”.