



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3115

Chair: G. Lobay

Date: March 17, 2005

Title: Objective Based Electrical Code, Section 0

Submitted by: A.Z. Tsisserev, City of Vancouver.

Proposal: Request for an Amendment to Section 0 (Object)

Request (specifically worded):

1) In the title of the "Object" section of Section 0, add "See Appendix B", in brackets, after the title as follows: **Object (see Appendix B)**

2) Add text to the existing second paragraph under the "Object" heading as follows (underlined text is what is proposed to be added):

Compliance with the requirements of this Code and proper maintenance will ensure an essentially safe installation. Safe installations may be also ensured by compliance with the objective-based fundamental safety principles of International Electrotechnical Commission Standard IEC 60364-1. Compliance with these objective-based installation criteria by industrial and similar users may be achieved through the implementation of specific quality management programs or equivalent programs acceptable to the authorities adopting and enforcing this Code.

3) Add new Note on Rule for Section 0 (Object) in Appendix B to read as follows:

The safety provisions of this Code are not intended to limit installation methods not specifically described by these rules. The safety objectives of this Code may be met by utilizing alternate installation methods based on the fundamental safety principles of International standard IEC 60364-1, provided there is sufficient evidence to demonstrate that the proposed installation methods accomplish the level of safety required by this Code.

Such alternate methods are intended only for industrial and similar installations where objective-based installation criteria are addressed under the provisions of quality management programs or equivalent programs developed between such users (industrial plants, independent power producers, etc.) and the authorities adopting and enforcing this Code.

Chapter 13 of the IEC 60364-1 offers the following fundamental safety principles:

[Section 0 Chair's Note: Because of the copyright issues involved, we are not sure at this point whether we will be able to reproduce in Appendix B the material from IEC 60364-1

as shown below or just make a reference to it. It would be our preference to include the full text as shown, since it would form the core of the objective-based electrical safety system.]

13 Fundamental principles

NOTE Where countries not yet having national regulations for electrical installations deem it necessary to establish legal requirements for this purpose, it is recommended that such requirements be limited to fundamental principles which are not subject to frequent modification on account of technical development. The contents of clause 13 may be used as a basis for such legislation.

131 Protection for safety

131.1 General

The requirements stated in this subclause are intended to ensure the safety of persons, livestock and property against dangers and damage which may arise in the reasonable use of electrical installations.

NOTE In electrical installations, two major types of risk exist:

- shock currents;
- excessive temperatures likely to cause burns, fires and other injurious effects.

131.2 Protection against electric shock

131.2.1 Protection against direct contact

Persons and livestock shall be protected against dangers that may arise from contact with live parts of the installation.

This protection can be achieved by one of the following methods:

- preventing a current from passing through the body of any person or any livestock;
- limiting the current which can pass through a body to a value lower than the shock current.

131.2.2 Protection against indirect contact

Persons and livestock shall be protected against dangers that may arise from contact with exposed-conductive-parts in case of a fault.

This protection can be achieved by one of the following methods:

- preventing a fault current from passing through the body of any person or any livestock;
- limiting the fault current which can pass through a body to a value lower than the shock current;
- automatic disconnection of the supply in a determined time on the occurrence of a fault likely to cause a current to flow through a body in contact with exposed-conductive-parts, where the value of that current is equal to or greater than the shock current.

NOTE In connection with the protection against indirect contact, the application of the method of equipotential bonding is one of the important principles for safety.

131.3 Protection against thermal effects

The electrical installation shall be so arranged that there is no risk of ignition of flammable materials due to high temperature or electric arc. In addition, during normal operation of the electrical equipment, there shall be no risk of persons or livestock suffering burns.

131.4 Protection against overcurrent

Persons or livestock shall be protected against injury and property shall be protected against damage due to excessive temperatures or electromechanical stresses caused by any overcurrents likely to arise in live conductors.

This protection can be achieved by one of the following methods:

- automatic disconnection on the occurrence of an overcurrent before this overcurrent attains a dangerous value taking into account its duration;
- limiting the maximum overcurrent to a safe value and duration.

131.5 Protection against fault currents

Conductors, other than live conductors, and any other parts intended to carry a fault current shall be capable of carrying that current without attaining an excessive temperature.

NOTE 1 Particular attention should be given to earth fault currents and leakage current.

NOTE 2 For live conductors, compliance with 131.4 assures their protection against overcurrents caused by faults.

131.6 Protection against overvoltage

131.6.1 Persons or livestock shall be protected against injury and property shall be protected against any harmful effects as a consequence of a fault between live parts of circuits supplied at different voltages.

131.6.2 Persons or livestock shall be protected against injury and property shall be protected against damage as a consequence of any excessive voltages likely to arise due to other causes (e.g. atmospheric phenomena or switching overvoltages).

132 Design

132.1 General

For the design of the electrical installation, the following factors shall be taken into account to provide:

- the protection of persons, livestock and property in accordance with clause 131;
- the proper functioning of the electrical installation for the use intended;

The information required as a basis for design is listed in 132.2 to 132.5. The requirements with which the design should comply are stated in 132.6 to 132.12.

132.2 Characteristics of available supply or supplies

132.2.1 Nature of current: a.c. and/or d.c.

132.2.2 Nature and number of conductors:

- For a.c.: phase conductor(s);
neutral conductor;
protective conductor.
- For d.c.: conductors equivalent to those listed above.

132.2.3 Values and tolerances:

- voltage and voltage tolerances;
- frequency and frequency tolerances;
- maximum current allowable;
- prospective short-circuit current.

132.2.4 Protective measures inherent in the supply, e.g. earthed (grounded) neutral or mid-wire

132.2.5 Particular requirements of the supply undertaking

132.3 Nature of demand

The number and type of circuits required for lighting, heating, power, control, signalling, telecommunication, etc. are to be determined by:

- location of points of power demand;
- loads to be expected on the various circuits;
- daily and yearly variation of demand;
- any special conditions;
- requirements for control, signalling, telecommunication, etc.

132.4 Emergency supply or supplies

- s Source of supply (nature, characteristics).
- Circuits to be supplied by the emergency source.

132.5 Environmental conditions

See IEC 60364-5-51 and IEC 60721.

132.6 Cross-section of conductors

The cross-section of conductors shall be determined according to:

- a) their admissible maximum temperature;
- b) the admissible voltage drop;
- c) the electromechanical stresses likely to occur due to short-circuits;
- d) other mechanical stresses to which the conductors can be exposed;
- e) the maximum impedance with respect to the functioning of the short-circuit protection.

NOTE The above-listed items concern primarily the safety of electrical installations. Cross-sectional areas greater than those required for safety may be desirable for economic operation.

132.7 Type of wiring and methods of installation

The choice of the type of wiring and the methods of installation depend on:

- the nature of the locations;
- the nature of the walls or other parts of the building supporting the wiring;
- accessibility of wiring to persons and livestock;
- voltage;
- the electromechanical stresses likely to occur due to short-circuits;
- other stresses to which the wiring can be exposed during the erection of the electrical installation or in service.

132.8 Protective equipment

The characteristics of protective equipment shall be determined with respect to their function which may be, e.g., protection against the effects of:

- overcurrent (overload, short-circuit);
- earth-fault current;
- overvoltage;
- undervoltage and no-voltage.

The protective devices shall operate at values of current, voltage and time which are suitably related to the characteristics of the circuits and to the possibilities of danger.

132.9 Emergency control

Where, in case of danger, there is necessity for immediate interruption of supply, an interrupting device shall be installed in such a way that it can be easily recognized and effectively and rapidly operated.

132.10 Disconnecting devices

Disconnecting devices shall be provided so as to permit disconnection of the electrical installation, circuits or individual items of apparatus as required for maintenance, testing, fault detection or repair.

132.11 Prevention of mutual influence

The electrical installation shall be arranged in such a way that no mutual detrimental influence will occur between the electrical installation and non-electrical installations of the building.

132.12 Accessibility of electrical equipment

The electrical equipment shall be arranged so as to afford as may be necessary:

- sufficient space for the initial installation and later replacement of individual items of electrical equipment;
- accessibility for operation, testing, inspection, maintenance and repair.

133 Selection of electrical equipment

133.1 General

Every item of electrical equipment used in electrical installations shall comply with such IEC standards as are appropriate.

133.2 Characteristics

Every item of electrical equipment selected shall have suitable characteristics appropriate to the values and conditions on which the design of the electrical installation (see clause 132) is based and shall, in particular, fulfil the following requirements.

133.2.1 Voltage

Electrical equipment shall be suitable with respect to the maximum steady voltage (r.m.s. value for a.c.) likely to be applied, as well as overvoltages likely to occur.

NOTE For certain equipment, it may be necessary to take account of the lowest voltage likely to occur.

133.2.2 Current

All electrical equipment shall be selected with respect to the maximum steady current (r.m.s. value for a.c.) which it has to carry in normal service, and with respect to the current likely to be carried in abnormal conditions and the period (e.g. operating time of protective devices, if any) during which it may be expected to flow.

133.2.3 Frequency

If frequency has an influence on the characteristics of electrical equipment, the rated frequency of the equipment shall correspond to the frequency likely to occur in the circuit.

133.2.4 Power

All electrical equipment, which is selected on the basis of its power characteristics, shall be suitable for the duty demanded of the equipment, taking into account the load factor and the normal service conditions.

133.3 Conditions of installation

All electrical equipment shall be selected so as to withstand safely the stresses and the environmental conditions (see 132.5) characteristic of its location and to which it may be exposed. If, however, an item of equipment does not have by design the properties corresponding to its location, it may be used on condition that adequate additional protection is provided as part of the completed electrical installation.

133.4 Prevention of harmful effects

All electrical equipment shall be selected so that it will not cause harmful effects on other equipment or impair the supply during normal service including switching operations. In this context, the factors which can have an influence include

- power factor;
- inrush current;
- asymmetrical load;
- harmonics.

134 Erection and initial verification of electrical installations

134.1 Erection

134.1.1 For the erection of the electrical installation, good workmanship by suitably qualified personnel and the use of proper materials shall be provided for.

134.1.2 The characteristics of the electrical equipment, as determined in accordance with clause 133, shall not be impaired in the process of erection.

134.1.3 Conductors shall be identified in accordance with IEC 60446.

134.1.4 Connections between conductors and between conductors and other electrical equipment shall be made in such a way that safe and reliable contact is ensured.

134.1.5 All electrical equipment shall be installed in such a manner that the designed cooling conditions are not impaired.

134.1.6 All electrical equipment likely to cause high temperatures or electric arcs shall be placed or guarded so as to eliminate the risk of ignition of flammable materials. Where the temperature of any exposed parts of electrical equipment is likely to cause injury to persons, those parts shall be so located or guarded as to prevent accidental contact therewith.

134.2 Initial verification

Electrical installations shall be tested and inspected before being placed in service and after any important modification to verify proper execution of the work in accordance with this standard.

Reason for request:

- 1) At their last meeting, the Part I Executive Committee set up a Task Force to introduce objective criteria into Part I;
- 2) At their first meeting, SCORES adopted the following motion:
“SCORES endorses the development of objective based safety criteria and recommends implementation within the framework of the Canadian Electrical Code”
- 3) The Advisory Committee on the OBIEC (Objective Based Industrial Electrical Code) has recently approached the CSA with the request to develop such a document.

As such, the proposed amendment will expand the Object of the Code, by clarifying that the object to achieve safe installations may be done by utilizing alternate installation methods not specifically prescribed by the Code, as long as these methods are based on the fundamental safety principles of IEC 60364-1. Application of these principles is limited only to those users who are capable of demonstrating compliance with the Code to the relevant regulatory authorities.

The proposed wording will:

- S represent another sequential step in adopting IEC-based electrical safety standards for use in Canada;
- S provide the necessary clarification that the use of alternate installation methods is intended under very specific conditions for very specific users;
- S become a starting point for developing objectives for each section of the Code or even for developing a standalone document (Code or Guide) that will elaborate on objective safety principles of electrical installation.

The reference to Chapter 13 of IEC 60364-1 will enable Code users to further clarify the safety objectives of electrical installations for the purpose of applying for special permission under Rule 2-030.

And finally, reference to Chapter 13 of IEC 60364-1 will make our Code more compatible with the IEC 60364

Supporting information:**Objective Based Electrical Code
SCORES Task Force Report**

At the first meeting of SCORES (SSC for CE Code Parts I and II), there was a discussion regarding the proposal to develop an objective-based Industrial Electrical Code. There appeared to be general agreement on the goal of developing objective-based requirements for safe electrical installations. There was also agreement that such a code, if developed, should not be limited to industrial users. In addition it was felt that such objective based requirements could, and should, be developed within the framework of the Canadian Electrical Code. SCORES members felt it was important that the intent of their decision be clearly understood by those affected. As a result SCORES formed a task force (TF) to develop suitable wording and come back to SCORES with a motion/ statement to clearly outline the purpose.

The ultimate goal of a Prescriptive Based Electrical Code and an Objective Based Electrical Code is safe electrical installations.

The intent of an Objective Based Electrical Code is to allow, the use of any comprehensive alternative to the current prescriptive requirements of the CE Code, when such alternative meets the safety objectives of the CE Code. However regulatory implementation cannot be ignored.

With all of the above in mind, the TF proposes the following motion to reflect the intent:

"SCORES endorses the development of objective based safety criteria and recommends implementation within the framework of the Canadian Electrical Code."

In this context:

"Development" entails writing, obtaining consensus and approval of the requirements by stakeholders

"Implementation" means "publication of the objective criteria after these criteria have been developed.

Supplementary Information

An objective based code establishes safety objectives in the form of technical criteria as an alternative to providing a prescriptive solution. For example:

- ! Fundamental principle: Protection against indirect contact - Persons shall be protected against dangers that may arise from contact with exposed conductive parts in case of a fault.
- ! Objective: limit the fault current which can pass through the body to a value lower than shock current
- ! Performance: The fault current shall be limited to 5 mA
- ! Prescriptive: A class A GFCI shall be installed in specific locations.

Such objective based criteria are expected to be of value to a number of groups who may benefit from an alternate approach to the prescriptive requirements of the CE Code. These include not only industrial users but also the deregulated electrical power and communication industry, large institutions (health care facilities, universities, research facilities, etc.) These safety objectives could thus be used in installation applications not currently included in the CE Code Part I.

Regulatory bodies need to be a part of the consensus based process of development and implementation so as to ensure that the development of the objective based criteria is consistent with the same level of safety as the Canadian Electrical Code, Part I and, for areas not covered by Part I with recognized safety principles such as Chapter 13 of IEC 60364-1, and to ensure the criteria can be adopted by provincial/territorial or municipal authorities having jurisdiction (AHJs) and subsequently enforced in conjunction with the prescriptive requirements.

The use of these objective-based criteria is intended to be limited to those users who can demonstrate, to the authorities adopting and enforcing an objective based Code, their ability to develop an acceptable alternate approach (without conforming to all applicable prescriptive requirements) that meets the safety objectives. Regulators and users might have to establish appropriate mechanisms for evaluating and recognizing a user's ability to develop and implement alternative approaches (i.e., quality management systems or equivalent standards agreements).

Use of electrical equipment that does not necessarily conform to Part II standards might also be considered under provisions of Equivalent Standards Agreements or Quality Management Programs set up between the authorities having jurisdiction (AHJ's) and the parties interested in using the alternative approach.

The publication format should take into consideration the concerns of electrical contractors regarding possible confusion and misapplication by installers, and difficulties at the tendering level, if the designers misuse the OBEIC. Designs using alternate methods to the existing CE

Code, Part I, would need to be in sufficient detail that the installer/electrical contractor is clear on what is required.

Conclusion

The TF feels that the development of objective based safety criteria and implementation within the framework of the Canadian Electrical Code is a very practical plan that complements the prescriptive requirements of the CE Code, Part I.

The TF also believes that this will sufficiently address the concerns expressed by the proponents of an industrial code about prescriptive requirements limiting engineering design. Such objective criteria will also benefit a wider range of qualified users who have the ability to design alternative approaches to the existing prescriptive code requirements.

Section 0 Chair's Comments:

This proposal came about because large industrial users feel they need to have more flexibility than the CE Code Part I allows. The Code tends to provide very specific rules for each and every electrical situation, and industrial users encounter situations where what they would have liked to have done is not covered by the Code. Although the Code allows for special permission, industrial users need a solution which is more comprehensive, that doesn't require an application for special permission every time an innovative solution to a specific issue is required or is preferable. The situation is becoming increasingly important because prescriptive standards like the CE Code Part I by their very nature tend to lag behind the technological advances that industrial users would like to employ.

Compliance with objective-based requirements could be demonstrated by means of a plan developed by the engineering department of a large industrial concern in consultation with the AHJ (authority having jurisdiction). The plan would show how that department would demonstrate compliance with the principles of IEC 60364-1. It would be up to the AHJ to decide whether there was in fact compliance with those principles. This is not unlike the implementation of a quality management system as described by the ISO 9000 series of standards.

Clearly this proposal would introduces a major change, in that the CE Code Part I would no longer be the only solution for the safety of electrical installation in Canada; it would become one of those solutions.

It is important to note that there would be no change to the way in which the CE Code Part I operates. We also expect the Code would continue to be used widely because there are many more Code users than the large industrial concerns who have the internal resources (eg, engineering departments) to explore the objective-based alternatives this proposal would allow.

Summary of Subcommittee Deliberations:

There was a full voter turnout and everyone voted to approve this Subject. There were some editorial comments as follows from one member:

Editorial Comment:

I suggest we revise the 2nd sentence as follows "Safe installations will also be ensured..." I think that "may" is not the best choice here as in respect to the use of CEC Part I prescriptive rules it is stated that they will ensure a safe installation. We must be definitive in stating that compliance with IEC 60364-1 will provide a safe installation.

Section 0 Chair's Response

Agree. This change puts the wording in line with the preceding sentence and gets rid of ambiguous language.

Editorial Comment:

In the middle of the para. 2nd sentence, 3rd line, place an article before the verbiage "International Electrotechnical.."

Section 0 Chair's Response

Disagree. It is correct as written.

Editorial Comment:

Proposed New NOTE to Appendix 'B'

The first sentence of the note contains two (2) negatives which makes it hard to read for the non-English user like myself. I suggest the following:- The safety provisions of this Code are not intended to limit installation methods to those specifically described by the prescriptive rules.

Section 0 Chair's Response

Agree, but I would not use the word "prescriptive" because it implies that perhaps some of the rules aren't prescriptive; it [prescriptive] also is not used in the original proposal so it shouldn't be introduced here as an editorial change. It now would read: The safety provisions of this Code are not intended to limit installation methods to those specifically described by the rules in this Code.

Editorial Comment:

The last sentence for the note in Appendix 'B' is rather subjective "providing there is sufficient evidence to demonstrate". Really I am not sure if we need this last part at all. In the object we have referred to a system being in place acceptable to the AHJ. We cover this in detail in the 2nd para in the note. Therefore the statement about sufficient evidence etc. is out of place.

I propose we cut the para off at "IEC 60364-1".

Section 0 Chair's Response

Agree. The wording is redundant.

Editorial Comment:

2nd para Appendix 'B' note. As an AHJ may not totally restrict this to large industrial users and we do state 'similar installations' I would like to open this up a little by rewording as follows. " Such alternate methods are primarily intended for industrial...."

Section 0 Chair's Response

Disagree. "Primarily" strays from the original intent, and "and similar" serves the same purpose to allow other than just the industrial users to take advantage of this approach to doing things.

Chair's Comments:

I'm pleased that there was a full voter turnout for this important Subject. The copyright issues have been checked, and it will be possible to reproduce Chapter 13 of IEC 60364-1 in the CE Code as has been proposed.

Subcommittee Recommendation:

Approve the Subject with the accepted editorial changes as indicated above. I checked with the submitter, and he is OK with the changes. The submitter also has requested changing the two instances of "quality management programs" to "safety management systems" to eliminate any potential misinterpretation with existing ISO quality management programs. With these editorial changes the proposal now reads as follows:

1) In the title of the “Object” section of Section 0, add “See Appendix B”, in brackets, after the title as follows: **Object (see Appendix B)**

2) Add text to the existing second paragraph under the “Object” heading as follows (underlined text is what is proposed to be added):

Compliance with the requirements of this Code and proper maintenance will ensure an essentially safe installation. Safe installations will also be ensured by compliance with the objective-based fundamental safety principles of International Electrotechnical Commission Standard IEC 60364-1. Compliance with these objective-based installation criteria by industrial and similar users may be achieved through the implementation of specific safety management systems or equivalent programs acceptable to the authorities adopting and enforcing this Code.

3) Add new Note on Rule for Section 0 (Object) in Appendix B to read as follows:

The safety provisions of this Code are not intended to limit installation methods to those specifically described by the rules in this Code. The safety objectives of this Code may be met by utilizing alternate installation methods based on the fundamental safety principles of International standard IEC 60364-1.

Such alternate methods are intended only for industrial and similar installations where objective- based installation criteria are addressed under the provisions of safety management systems or equivalent programs developed between such users (industrial plants, independent power producers, etc.) and the authorities adopting and enforcing this Code.

Chapter 13 of the IEC 60364-1 offers the following fundamental safety principles:
[The text is not repeated here, it is the same as shown in the original proposal.]

Date original proposal submitted: March 15, 2003

Section 0 Chair’s Update:

This very important Subject has taken some twists and turns, so at the risk of being somewhat repetitious, this update provides a review of the Subject from its inception.

The subcommittee recommendation on Round 1, which was to approve the Subject, was submitted to Part I for a letter ballot.

The letter ballot came back with a number of negatives [please refer to the Round 2 deliberations where the negatives are listed], triggering the addition of this subject to the agenda of the June 2004 Part I committee meeting, for discussion and a vote. The meeting was held, and the minutes of the meeting [please refer to Round 2 deliberations where the June 2004 Part I minutes for this subject are reproduced] indicated sufficient affirmative votes for the Subject to be carried, but at least one of the votes was for Regulatory Authority Committee (RAC) purposes.

Appendix C was changed recently to handle the above situation such that if RAC disagrees with a Subject even though it was approved by the Part I Committee, a revised proposal from RAC is to be sent back to the Subcommittee for further consideration. This will then be reviewed and modified as necessary by the Subcommittee, and the proposal once again goes out for Part I letter ballot. The new Rule is in Memorandum of Revisions No. 2 and it goes like this:

C8.2.1.3 If the Regulatory Authority Committee disagrees with the proposed amendment accepted by the Committee on Part I, the Regulatory Authority Committee shall submit a revised amendment carrying the same intent in terms of safety and technical

requirements to the Section Subcommittee for further consideration.

C8.2.1.4 A revised amendment from the Section Subcommittee shall be proposed to the Committee on Part I by letter ballot or be a recorded vote at a meeting.

The Section 0 Subcommittee reviewed the proposal received from RAC. Their amendments to our Round 1 proposal are indicated by underline and strikeout text.

Round 2 Proposal (as provided by RAC)

1) In the title of the "Object" section of Section 0, add "See Appendix B", in brackets, after the title as follows: **Object (see Appendix B)**

2) Add text to the existing second paragraph under the "Object" heading as follows:

Compliance with the requirements of this Code and proper maintenance will ensure an essentially safe installation. Safe installations will also be ensured by compliance with the ~~objective-based~~ fundamental safety principles of International Electrotechnical Commission Standard IEC 60364-1. Compliance with these objective-based fundamental safety principles ~~installation criteria by industrial and similar users~~ may be achieved through ~~the implementation of specific safety management systems or equivalent programs~~ means acceptable to the authorities adopting and enforcing this Code.

3) Add new Note on Rule for Section 0 (Object) in Appendix B to read as follows:

~~The safety provisions of this Code are not intended to limit installation methods to those specifically described by the rules in this Code. The safety objectives of this Code may be met by utilizing alternate installation methods based on the fundamental safety principles of International standard IEC 60364-1.~~

~~Such alternate methods are intended only for industrial and similar installations where objective-based installation criteria are addressed under the provisions of safety management systems or equivalent programs developed between such users (industrial plants, independent power producers, etc.) and the authorities adopting and enforcing this Code.~~

Chapter 13 of the IEC 60364-1 offers the following fundamental safety principles:
[The text is not repeated here, it is the same as shown in the original proposal.]

Section 0 Chair's Comments on Round 2 (RAC Proposal):

What RAC has done is make the statements going into the Object of the Code less specific than the Round 1 version. They have removed guidance and we are essentially left with a statement to the effect that the fundamental safety principles of IEC 60364-1 may be achieved by means acceptable to the authority having jurisdiction.

They have deleted all of the Appendix B note which attempts to explain what is meant by the Object of the Code as it relates to the IEC fundamental safety principles.

I feel that by deleting the note, a key concept has been lost - that of permitting alternative means to those provided by the CE Code Part I.

The effect of removing this guidance from the Code will mean that now, more than ever, users of the Code will have to depend on the regulatory authorities for interpretation as to what the Code intends in the last sentence of this new Object as provided by RAC.

Section 0 members will have to decide whether this more generic approach would still be able to achieve the original intent of this Subject, which was to allow installation methods

not necessarily prescribed by CE Code Part I but still meeting the fundamental safety principles of IEC 60364-1.

The Section 0 Chair isn't making a proposal since it would be important to see what Section 0 members think of the RAC approach.

The RAC proposal was posted on the Section 0 area of the SDOW, and in accordance with C8.2.1.3, members were asked to vote on it. The Section 0 Chair was rather surprised at the result. There was only one ballot posted, and it was in favour, but expressed reservations that the effect would be to diminish the effect of the original Round 1 wording.

The Section 0 Chair decided to do a revote on the same RAC proposal, exhorting Section 0 members to take advantage of another great opportunity to express their opinions about the RAC proposal.

This time there were 4 responses, 2 in favour and 2 not in favour. This was still not a great turnout, since there are 9 permanent members of Section 0. Comments are summarized as follows:

- ! RAC proposal diminishes the clarity of the original proposal;
- ! perhaps regulators should be invited to participate in S/C deliberations;
- ! as far as I [SC member] can remember, only one regulator was against the SC recommendation, perhaps it could be resolved with that member;
- ! I am voting against the RAC changes which I believe are out of the scope of the RAC Committee;
- ! I find the changes under discussion to be unnecessary.

Based on the above, the Section 0 Chair declares that there is no support for the RAC proposal. In accordance with C8.2.1.3, Section 0 has given consideration to the proposal from RAC in terms of its safety and technical requirements, and the outcome of the Section 0 deliberations is that there is no consensus to support any of the changes RAC has proposed. Therefore we are back to the Round 2 proposal, which already has been voted on and approved by the Part I Committee, and is therefore ready for inclusion in the next edition of the Code.

In accordance with C8.2.1.4, "A revised amendment from the Section Subcommittee shall be proposed ..." but in this case, no revision was necessary, as the changes proposed by RAC were not supported by Section 0.

This Subject, 3115, was already approved at the June 2004 meeting. The Part I committee is now being asked to reaffirm this Subject in accordance with C8.2.1.4 in spite of the fact that the proposal has not been revised since it was approved.

Subcommittee Recommendation

The Subcommittee recommendation is to reaffirm the proposal (which was already approved at the June 2004 Part I meeting) without any of the amendments proposed by RAC.