



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3093

Chair: P. Desilets

Date: January 22, 2004

Title: GFCI Protection of Light Switches, Rule 30-322(3)

Submitted by: Glenn Brunt of F.C. O'Neill, Scriven & Assoc's Limited, 5450 Cornwallis St., Halifax, NS, B3K 1A9 on September 25, 2002.

Proposal: Amend Rule 30-322(3) by adding an exception to read as follows:

“, unless protected by a Class A ground fault circuit interrupter.”

Reasons for Request: In some instances it is not possible to locate the switch “not within reach” unless it is located outside of the room, which then presents other problems.

Supporting Information: Rule 68-066(6) allows light fixtures in pools if protected by GFCI. Rule 24-106(3) does not restrict the location to out of reach if protected by GFCI.

Chair's Comments: The Chair remembers being involved in various discussions with a number of Subcommittee members and with Part I members over the years. I wish the Subcommittee would consider the following in their deliberations:

1. A bathroom installation where handicapped people may go; in the case of a ground fault, the lights would go out.
2. Acceptance of this proposal may mandate a separate branch circuit for bathrooms; in this case, Section 26 may be impacted.

The Chair does not support this proposal. The Chair wished that the submitter, Mr. Glenn Brunt, a highly respected member of the Atlantic Consulting Engineering community had substantiated a bit more the installation scenarios behind this request.

Chair's Comments (Second Round): This subject went through a first round with a consensus (7 out of 8 members) for rejection except for one member who extensively commented. The nature of the comments were in the first instance revolving about the ‘out of reach’ requirements.

The Chair finds the first comment (comment #1) about ‘out of reach’ and the handicapped to be non-germane because handicapped people are not limited to use

bathrooms only if this bathroom is specifically designed to the specifications of the NBC for their condition. The point the Chair wanted to bring across was the fact that some people may be put in a dangerous situation, or at least a very uncomfortable one, if a ground fault happens and the lights go out. Let us think of simple testing of the GFCI device if this commands power to the lights: some may not be able to reset the device without bringing a portable source of light.

The Chair finds the second comment (comment #2) about 'out of reach' to be non-germane because there is no specific set distance stated in the Code, simply that the switch must be out of reach from a person in a shower stall or a bathtub. The Chair finds that the 'out of reach' requirement should be easy to meet with the examples given of a nursing home or a dormitory: reference to the NBC for such locations would be quite useful in this case.

The second instance of comments (comment # 3) was about using a motion detector in lieu of a wall switch. This comment is acknowledged as valid: if the 'out of reach' requirement cannot be met, a motion detector commanding the lights can be used.

The third instance of comments (comment # 4 and 5) reiterates the requirements stated in Rule 26-710-(g) about receptacles installed at less than one meter from a bathtub or shower stall and how a light switch can be tapped for power from the load side of the GFCI. These comments are acknowledged as valid by the Chair but fail to bring a safety issue into perspective; in other words the comments are not convincing to the Chair.

Rationale from the Chair for the lack of persuasiveness of the last comments is that a light switch commands a lighting load and cannot be used for temporary connection through a plug, such as in a receptacle. The device has no exposed metallic components and there are no openings to access live parts when installed in accordance with the requirements of the Code; if a metallic wallplate is mounted, a bonding connection is present. From this perspective, the Chair fails to identify a valid safety concern mandating GFCI-protection of light switches installed in bathrooms.

In conclusion, the Chair maintains his recommendation to the Subcommittee to reject the subject in view of the above.

Subcommittee Deliberations: The Chair has received 6 positive votes, 1 with comments and 1 negative vote from the 8 members in conclusion to the 2nd round.

The Chair took a very long time to conclude the 2nd round, way longer than what is the accepted practice, for the following reasons: the comments attached with the positive vote, the rationales for the negative vote of the 2nd round and the negative vote of the 1st round (all negative votes were made by the same subcommittee member) taken in conjunction by the Chair, brought a wider perspective to this subject and a strong consensus could not be established. Therefore the Chair decided to meet the submitter at his earliest opportunity to explore all the underlying reasons behind the proposal. This meeting took place in early December.

The Chair wanted to verify with the submitter if installing the switch outside of the room was an accepted alternative. It is not. (For the record, a traditional Atlantic Canada practice is to install bathroom wall switches outside of the room to meet out-of-reach requirements.)

The Chair suggests the following wording, hopefully capturing all of the essence of the submitter's request; the Chair was largely inspired by the words of the members commenting.

Subcommittee Recommendation: Proposal would be to revise Rule 30-322-(3) as follows:

30-322-(3)

Switches controlling lampholders or luminaires covered by Subrule (1) and (2) shall:

- a) Be located inside the room; and
- b) Be located no less than 1m from the bathtub or shower stall; or
- c) If the condition in b) is not practicable, be located no less than 500mm from the bathtub or shower stall; and
- d) Be protected by a ground fault circuit interrupter of the class A type.

And modify Appendix B note to read:

In the application of b) and c) of this subrule, the distance shall be measured horizontally between the switch and the bathtub or shower stall without piercing a wall, partition or similar obstacle.

For the record, the submitter was addressing a condition now covered by subrules a), c) and d) of this revised proposal which came as an issue during the design of shower cabinets for a university student residence.