



Canadian Standards Association
Mississauga, Ontario
To the Part I Committee

Subject No. 3122

Chair: R Leduc

Date: December 24, 2003

Title: Types of Receptacle Configurations, Rules 26-700(11) & (12) and 26-710(h)

Submitted by: R. Leduc of Alberta Municipal Affairs on June 6, 2003.

Proposal: Request (Specifically Worded):

1. Revise Rule 26-700(11) to read as follows:
 - (11) Receptacles located in bathrooms or washrooms having CSA configuration 5-15R and 5-20RA and installed within 3 m of washbasins, bathtubs or shower stalls shall be protected by a ground fault circuit interrupter of the Class A type.
2. Add a new Subrule 26-700(12):
 - (12) Notwithstanding Subrule (11), in a room that has a washbasin, bathtub or shower facility combined with laundry facilities, the receptacle installed for a washing machine shall not be required to be protected by a ground fault circuit interrupter of the Class A type provide the receptacle is located behind the washing machine at not more than 600 mm from the floor; or
3. Delete Rule 26-710(h)

Reason for Request:

Currently, Subrule (11) of Rule 26-700 does not distinguish which configuration type needs to be protected by a GFCI. If we take the example of a combined bathroom / laundry facility, we would require the dryer receptacle to be GFCI protected.

Having the exemption for washing machine receptacles located in Rule 26-710 does not address situations where the combined bathroom / laundry facility exists in other than residential occupancies such as schools or sports facilities and in those non-residential situations would require a GFCI regardless.

Subcommittee Deliberations (1st Round)

12 of 14 members responded, 11 agreed with the proposal (one with comments) and 1 disagreed.

The agreeing member offers comments to clarify and improve readability. The member that disagreed offers the following comments:

- The GFCI requirement is based on safety around places where «water» can increase the risk.
- The relaxation is in regard to receptacle installed behind an apparatus (washing machine) provided that the installation is done in conformance with the requirements mentioned.
- An exposed receptacle, whatever it is (even the dryer receptacle), represents a risk, unless it is almost impossible to reach it.
- So, if the problem is that there is inconsistency in the Code, then let's correct it. Let's just propose to add a relaxation such as:

«Add Subrule 26-744 (9) to read as follows:

(9) Notwithstanding Subrule 26-700 (11), the receptacles required by Subrules (2) and (4) shall not be required to be GFCI protected when installed in accordance to the present Rule.»

The last proposal can certainly be improved such as merging it with Subrule (8) or any other way, but if any kind of receptacle is installed near washbasin or else, and for any reason, is not behind an apparatus, then it will require a GFCI protection as required by Subrule 26-700 (11).

Chair's Comments (1st Round)

The member that disagrees with the proposal makes a valid point. He believes that the safety concerns are the same regardless of which type of receptacle it is. He claims that 26-700(11) as currently written deliberately intends to include receptacles of all configurations to be GFCI protected when installed within 3 m of a sink. However, he concedes that when the use of any of these receptacles is limited by virtue of its location behind an appliance (such as a washer or dryer), we could relax the GFCI requirement.

The reality is that a washer, a dryer, or any other special use receptacle located in a washroom is a rare occurrence. However, when such situations arise, we need to consider the associated risks.

1. Current GFCI rules appear to imply risks of shock associated with the use of portable appliances near or over a washbasin full of water. The Rules also suggest that 5-15R and 5-20RA receptacles present an increased risk in this regard. If someone using an appliance near the basin should drop the appliance into the water, there is a significant risk of shock should the person unwittingly reach for the appliance. The same principle is inferred when we use appliances outdoors where the ground may be wet

Receptacles used to supply special purpose appliances such as a dryer are only intended for that appliance. The risk associated with someone using the receptacle otherwise, say to plug in a 30A portable appliance into the dryer receptacle and use that appliance in such a manner that would pose a risk of having the appliance contact the water in the washbasin, appears to be minimal.

2. If on the other hand, we believe there is significant risk for an appliance to develop a fault that might energize the metallic shell of the appliance and someone contacting it and the water in the basin at the same time, then I would suggest that the disagreeing member is quite correct. For this scenario to develop, 3 conditions would need to occur at the same time:
 - (i) An ungrounded conductor in the appliances would have to make contact with the metallic shell of the appliance,
 - (ii) The integrity of the bonding circuit would have to fail, and

- (iii) A person would have to make contact with that energized appliance and some other grounded appliance or the water in the basin.

Before proceeding with the proposal, I would like to hear the Subcommittee members' views on the following "yes or no" question and comment accordingly:

- **Is the risk associated with special use receptacles located in rooms equipped with washbasins, bathtubs or shower stalls significant enough to require they be protected by a GFCI of the Class A type?**

The results of this poll may assist this Subcommittee in resolving Subject 2960.

Subcommittee Deliberations (2nd Round)

In response to the question to determine whether special-use receptacles should require GFCI protection, 9 members responded on the SDOW (Standards Development Online Workspace) and one member by e-mail for a total of 10 out of a possible 14 (15 including the chair). All but one responded "No" to the question.

The member voting "Yes" to the question made the following comment:

- Is Electricity in there ? What is the difference in safety between usual receptacle compared to all other types ?

Other members voting "No" had the following comments:

- The issue is people protection from portable appliances or by fixed appliances located in close proximity to the bathing or showering or washing locations. As the fixed appliance issue is covered already, I am not aware of any personal appliances with special use attachment cord caps which may be used in these locations.
- Special use receptacles normally are only required for fixed in place pieces of equipment. The risk is not the same unless that piece of equipment could be within a point of contact by someone in a shower stall or bathtub. This could be remedied by requiring that fixed in place electrical equipment installed within 1.5 m of a shower stall or bathtub be protected by a GFCI.
- The issue of personnel protection is with standard 15/20 amp type of appliances

Chair's Comments (on 2nd Round)

From the discussions, there is consensus that special use receptacles located in bathrooms/washrooms should not be required to be GFCI protected. The concern is with receptacles that will be used for portable (hand-held) appliances by the occupant. I therefore declare consensus agreeing with the submitter's proposal.

The Subcommittee deliberations on Subject 3148 will likely alter the wording of this proposal. Nevertheless, the chair proposes going forward with the Subcommittee recommendation for this subject to give it due process.

Subcommittee Recommendation

To accept the submitter's original proposal as follows:

1. Revise Rule 26-700(11) to read as follows:
(11) Receptacles located in bathrooms or washrooms having CSA configuration 5-

15R and 5-20RA and installed within 3 m of washbasins, bathtubs or shower stalls shall be protected by a ground fault circuit interrupter of the Class A type.

2. Add a new Subrule 26-700(12):

(12) Notwithstanding Subrule (11), in a room that has a washbasin, bathtub or shower facility combined with laundry facilities, the receptacle installed for a washing machine shall not be required to be protected by a ground fault circuit interrupter of the Class A type provided the receptacle is located behind the washing machine at not more than 600 mm from the floor; or

3. Delete Rule 26-710(h)