Canadian Standards Association
Mississauga, Ontario
**To the Part I Committee**

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Subject No. 2960 Chair: R. Leduc Date: February 9, 2004

Title: GFCIs in Kitchens, Rule 26-700(14)

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**Submitted by:** EEMAC's Policy Advisory Committee (EPAC) on September 25, 2000

**Proposal:** Add Subrule 26-700-(14) as follows:

> 26-700-(14) Receptacles located in kitchens and installed within 1 m of a kitchen along the wall behind counter work surfaces shall be protected by a ground fault circuit interrupter of the Class A type.
>
> Appendix B Note on Rules:
>
> 26-700-(14) Distance of 1 m is measured from edge of kitchen sink.

**Reasons for Request:**
Subrule 26-700-(14) is added to mandate the installation of ground fault circuit interrupter protection around kitchen sinks. This Subrule is applicable to both ways presently found in the Code to install receptacles in a kitchen.

Distance of 1 m has been specified in order to emulate other Sections of this Code in their analysis of the potential of electrical shock around a plumbing fixture and to provide for installation of ground fault circuit protection at a minimum cost.

It will be possible to comply with this Subrule by installing ground fault circuit protection on the receptacles immediately adjacent to a kitchen sink by installing two 20 A, T-slot receptacle GFCI's, two single-pole 20 A GFCI breaker or one double-pole 20 A GFCI breaker when using the prescriptions of Rule 26-706; or, by installing one double-pole 15 A GFCI breaker on one of the multi-wire branch circuit required by Subrule 26-704-(3), when using the prescriptions of 26-702-(7)-(c). Additional cost to the homeowner is evaluated within a range of $30 to $60.

For the record, with the addition of this Subrule, no receptacles mandated to be installed in the proximity of plumbing fixtures will be without ground fault circuit interrupter protection within our Code.

**Chair's Comments:** Although this proposal certainly provides for an added level of safety for persons working with electric appliances near kitchen sinks, I'd be interested in your comments as to whether this added protection is perceived as being necessary.

For information, this topic was dealt with in Subject 2808 and rejected at that time due to concerns around leakage to ground of some appliances with 3-pin plugs. Perhaps someone has new information in this regard.
I look forward to your comments on the proposal.

**(Chair's note:** ***To save some trees, pages 2 to 10 are omitted. With the mandate from Part I to develop appropriate Rules introducing GFCI protection in kitchens, much of the deliberations in the preceding pages are not pertinent to the new direction on this subject. If you would like a copy of the omitted pages, please contact the Project Manager.*****)**

**Chair's Comments (for a 3rd Round of SC deliberations)**

Dear Subcommittee members,

At the last meeting of the Technical Committee for the Canadian Electrical Code, Part I, held in St. Andrews, NB on June 15, 16, & 17, the Subcommittee recommendation for subject 2960 to "reject the proposal and close the subject" was defeated. Subsequently, a motion to accept the original proposal of subject 2960 was also defeated.

From this, it was made clear to the Part I Committee that the concept of having GFCI protection in kitchens was preferred over having no GFCI protection. Furthermore, it was also clear that the original proposal of Subject 2960 was not adequate.

As a result, the Section 26 Subcommittee has been directed by the Part I Technical Committee to take ownership of Subject 2960 with the intention to develop appropriate rules introducing GFCI protection in kitchens.

To begin this task, I propose we become familiar with the requirements in the NEC, and then for the 3rd round ballot, respond to a series of questions that will allow the SC to set the parameters for moving this subject forward in the CEC.

The NEC rules for GFCI protection in kitchens is as follows:

**210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.**

**(A) Dwelling Units.** All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in (1) through (8) shall have ground-fault circuit-interrupter protection for personnel.

(1) Bathrooms
(2) Garages…
(3) Outdoors…
(4) Crawl spaces
(5) Unfinished basements…
(6) Kitchens – where the receptacles are installed to serve the countertop surfaces.
(7) Wet bar sinks…
(8) Boathouses…

**(B) Other Than Dwelling Units.** All 125-volt, single-phase, 15- and 20-ampere receptacles installed in the locations specified in (1), (2), and (3) shall have ground-fault circuit-interrupter protection for personnel.

(1) Bathrooms
(2) Rooftops
(3) Kitchens

As you can see, the NEC requires that all kitchens (residential and commercial) be GFCI protected. The subtle difference is that in "dwelling units" only the receptacles serving the countertop surfaces are required to be protected while for other that dwelling units (e.g. commercial) all 125-volt, single-phase, 15- and 20-ampere receptacles require GFCI protection. You will also notice that the NEC does not specify a receptacle configuration, therefore 125-volt, single-phase, 15- and 20-ampere twist-lock receptacles would also require protection.

**Subcommittee 3rd round Ballot**
Please respond to the following questions and provide appropriate comments:

(1) Dwelling Units. You will recall that the original proposal was to have only those receptacles within 1 metre form the sink GFCI protected. The NEC requires that all countertop receptacles in dwelling units be protected.
   (a) Should all 125-volt, single-phase, 15- and 20-ampere receptacles serving kitchen countertop surfaces be GFCI protected?
   Why or Why not?
   (b) Should only those 125-volt, single-phase, 15- and 20-ampere receptacles installed within 1 metre of the kitchen sink be GFCI protected?
   Why or Why not?

(2) Other than Dwelling Units.
   (a) Should 125-volt, single-phase, 15- and 20-ampere receptacles installed in kitchens of other than dwelling units be GFCI protected?
   Why or why not?
   (b) If protection is required, should the rule apply to all configuration types of 125-volt, single-phase, 15- and 20-ampere receptacles?
   Why or why not?

(3) Please provide any other comments you may have.

*(**Note**: In view of the direction given by the Part I Technical Committee, the Chair will rule as" non-germane" any comments suggesting that GFCIs are not required in kitchens)*

**Subcommittee Deliberations (4th Round)**
The following tables summarize the member responses to the foregoing questions:

**Compilation of responses to 3rd Round Questions**

**Question 1. (a)**
Should all 125-volt, single-phase, 15- and 20-ampere receptacles serving kitchen countertop surfaces be GFCI protected?

| Member | Response | | Comments |
|---|---|---|---|
| | Yes | No | |
| 1 (Chair) | N/c | n/c | Chair abstains. |
| 2 | | | No response |
| 3 | | Ξ | I don't think the hazard is there. In review of the US Electrocution Statistics, it indicates a drop in deaths when the GFCIs were mandated within 6' from the sink. It's hard to tell for all counter top receptacles. |
| 4 | | Ξ | CE Code is a minimum requirement for safety. We must only require the receptacles 1,5 meter [see answer (1)(b)] from the sink to be protected. That is the real safety concern. Other receptacles will probably be at least 1,8 m from the sink and, as a minimum, don't have to be protected. The only remaining question here is the «split receptacle» issue for those 2 receptacles. If we remove the «split» requirement, this will bring us back to 30[1] years ago. This can become a safety hazard because of the decrease in maximum power available at each duplex receptacle (already, the 20 A T-Slot alternative is permitted). |
| 5 | | Ξ | NO, at this time but Yes this is the ultimate goal, but in order to get the process moving lets start with the 1 meter rule. |
| 6 | T | | Yes. All kitchen counter receptacles 125V rated 15 and 20 amperes should be GFCI protected. The one meter proposal is not acceptable as appliances have cords on them 1m long. The question may be that are they required on a counter without a sink? |
| 7 | | Ξ | 1 m is deemed to be sufficient as the proposed Rule deals only with areas around kitchen sinks |

| Member | Response | | Comments |
|---|---|---|---|
| | Yes | No | |
| | | | (no bathtubs or shower stalls are involved) and receptacles that intended to be protected, are installed "**along the wall behind counter surfaces**". |
| 8 | | | No response |
| 9 | | Ξ | I have tested several sinks in new houses and have found that the plastic water lines in the houses tested did not provide a very effective connection to ground. Several other things in the kitchen such as the range, refrigerator, other appliances and heating vents that are deliberately grounded provide a much better path to ground than the sink and water.<br><br>My concern in this regard is that the protection provided by Part II Standards is designed to protect when appliances are <u>used as intended</u>.<br><br>An appliance that accidentally falls into the sink while energized or is inadvertently placed there when plugged in may become a serious shock hazard in that:<br>• Protection from water reaching the internal parts was probably not required by the standard and therefore not built into the appliance,<br>• The breaker involved would probably not trip due to the high impedance of the grounding path provided by the water lines and<br>• In attempting to retrieve the appliance from the now energized sink/water someone might contact one of the other grounded items in the vicinity. |
| 10 | | Ξ | We should first ascertain what hazard we are trying to prevent. If it is prevention of a shock hazard due the possibility of an appliance coming in contact with the kitchen sink or water while the sink is in use, then we should base our distance from the sink for GFCI protection on the maximum cord length. If we are trying to prevent a shock hazard from someone coming in contact with an appliance and the kitchen sink then we need to base the distance on appliance cord length plus maximum outstretched arms length. Either way, all receptacles serving the kitchen countertop surfaces should not be required to be GFCI protected. |
| 11 | T | | Yes, all receptacle circuits serving kitchen countertop surfaces should be GFCI protected. Logic suggests that such protection in kitchens is a prudent improvement in Canadian electrical safety. It has been in place in the USA's NEC for many years. CPSC data correlates well with a decrease in electrocutions since the GFCI-in-Kitchens introduction. There should be no distinction between and amongst kitchen locations. The risk is the same for all persons working in any kitchen location. |
| 12 | | Ξ | From a philosophical viewpoint, I would say that yes, all kitchen countertop receptacles should be GFCI protected. From the hazard mitigation standpoint the hazard is related to water in the sink lowering the touch resistance, which in turn increases the shock current. The 20 A upper current limit is practical as any appliance that has a very large current draw will be a commercial type of appliance. From a practical standpoint if you get far enough away from the sink that wet contact is not possible, so it is desirable to limit the distance of when a GFCI is required as per item b below. |
| 13 | | Ξ | GFCIs should be required in all kitchens on all non-locking 15 A and 20 A receptacles within 3 m of the sink. |

**Question 1. (b)**
Should only those 125-volt, single-phase, 15- and 20-ampere receptacles installed within 1 metre of the kitchen sink be GFCI protected? Why or Why not?

| Member | Response | Comments |
|---|---|---|

| | Yes | No | |
|---|---|---|---|
| 1 (chair) | n/c | n/c | Chair abstains |
| 2 | | | No response |
| 3 | T | | Yes, there appears to be enough evidence to suggest the requirement would have an impact. |
| 4 | T | | Yes, but I think that the distance should be 1,5 m rather than 1 m. We must not forget other Code requirements like the maximum 1,8 m between receptacles for this location and stay in accordance with Part II requirements (the more the distance, the safer the installation).. |
| 5 | T | | Yes, this way in single dwelling units you require a receptacle within 900 mm and therefore it will be GFCI protected kitchens. Most cords are 1.5 meter or less so the next receptacle shall not be used near sink, unless with extension cord, but we cannot control this, they could just as well use the living room receptacle. |
| 6 | | Ξ | See Member 6 comments to 1.a) above |
| 7 | T | | See Member 7 comments to 1.a) above |
| 8 | | | No response |
| 9 | T | | My vote would therefore be to ground fault protect only those kitchen counter receptacles located closer to the sink than the standard length of kitchen appliance cords – 1 meter???? |
| 10 | T | | Yes as a minimum, but based on my answer for part (a) the distance may need to be extended to 3.0m. |
| 11 | | Ξ | All kitchen receptacle circuits should be GFCI protected, regardless of distance from the sink(s). Electrocution from other than sink-related incidents is just as valid a rationale for GFCI protection for all kitchen receptacle circuits. |
| 12 | | Ξ | I do not believe that the 1m distance is sufficient to address the hazard of either immersed appliances, or a person touching the appliance with one hand and having the other hand immersed. If we are to do a creditable job of lowering the hazard, then this dimension should be greater than 1m. Perhaps we can use 26-700 (11) as a guide and make the dimension 3m. After all, don't we want to be consistent? That Rule addresses the hazard associated with wet contact from washbasins and bathtubs. We are also dealing with wet contact, so if we have a limit on distance, then it should be 3m. |
| 13 | | Ξ | See Member 13 comments to 1.a) above |

**Question 2. (a)**
Should 125-volt, single-phase, 15- and 20-ampere receptacles installed in kitchens of other than dwelling units be GFCI protected? Why or why not?

| Member | Response | | Comments |
|---|---|---|---|
| | Yes | No | |
| 1 (Chair) | n/c | N/c | Chair abstains |
| 2 | | | No response |
| 3 | T | | Yes, whether it's a residential kitchen or other type, same hazards apply. |
| 4 | | Ξ | No, I don't think that the safety hazard is a big concern there. However, this could be interesting to enquire about the potential safety issue. This could be another proposal. As far as I know, we are trying to resolve this actual subject and if we enlarge the seen of this one, we will never complete it. I think that we should, first of all, require (as the first step) that requirement in dwelling units only. This could be a good compromise. As far as I can understand, the Part 1 Committee do not agree with a broader use of these devices for now. Then, why not going step by step and requiring them only where people live and cook. Never forget that the Code is a minimum requirement and it is always possible to increase the safety level from where we are but major changes meet disapproval, very often. |
| 5 | T | | Yes, In Ontario the MOL is requiring these receptacles to be on GFCI , they treat this as wet areas |

| Member | Response | | Comments |
|---|---|---|---|
| | Yes | No | |
| 6 | T | | A kitchen is a kitchen and electricity is not cognizant of the occupancy of a building. I suggest any kitchen counter receptacle rated 125V 15 and 20 ampere. |
| 7 | T | | To allow for equal protection of receptacles installed in all types of kitchens (with no limitation only to kitchens in dwelling units and single dwellings as specified in Rule 26-710).<br>Note: In order to avoid any confusion in respect to the term "kitchen", I'm proposing a definition of a kitchen. This definition would be recommended to the S/C for Section 0 as a part of our overall recommendation.<br>This definition is intended to be placed in Section 0 similarly to definitions of "bathroom" and "washroom" and will read as follows:<br>"**kitchen is a place or a room containing cooking facilities including a kitchen sink**". |
| 8 | | | No response |
| 9 | T | | Non-dwelling units with kitchens should, in my opinion, be treated the same as the concerns are the same. |
| 10 | T | | Yes, the hazard should be the same regardless whether it is a residential or commercial kitchen. |
| 11 | T | | Danger of electrocution is a risk in all kitchen environments, not only those in residential environments. Therefore, all kitchen facilities should have receptacle circuit, GFCI protection. |
| 12 | T | | I would be in favour of extending GFCI protection to all kitchens, as the hazards will the same in a home or a restaurant. Again, I believe that the upper limit can be set at 20A. Larger equipment will be more specialized, and very infrequent. As well, there will be additional items to consider, such as the cost of providing a three-phase GFCI for a 70A commercial deep fat fryer. We should not implement a new Rule without knowing the exact cost of implementation. |
| 13 | T | | See Member 13 comments to 1.a) above |

**Question 2. (b)**
If protection is required, should the rule apply to all configuration types of 125-volt, single-phase, 15- and 20-ampere receptacles?
Why or why not?

| Member | Response | | Comments |
|---|---|---|---|
| | Yes | No | |
| 1 | n/a | n/a | Chair abstains |
| 2 | | | No response |
| 3 | T | | |
| 4 | | | Not applicable. See Member 4 comments to 2. a) above. |
| 5 | | [illegible] | Should include the 125 volt 15 & 20 A , everything else is specialty equipment, and not really portable, and the bonding is more robust.<br>*(Chair's note: I assume from the response that the response alludes to only the Diagram 1 15A and 20A configurations)* |
| 6 | T | | As we may well be looking at commercial sites, we need to address all 15 and 20 ampere counter top receptacles regardless of configuration. Configuration does not provide shock protection. |
| 7 | | | Preference not indicated! |
| 8 | | | No response |
| 9 | | | Preference not indicated! |

| Member | Response | | Comments |
|---|---|---|---|
| | Yes | No | |
| 10 | | Ξ | It should only be applicable to receptacle configurations 5-15R and 5-20RA. This could insure protection for all appliances that may only have a two-prong cord cap. Devices requiring a twist lock device normally are more heavy duty and may be less portable. These appliances usually have a bond wire as part of the cord set therefore reducing the contact hazard. |
| 11 | T | | All configurations of receptacle circuits should be GFCI protected. The risk of electrocution does not change dependant upon the receptacle configuration. |
| 12 | T | | Yes, I believe that all configurations of receptacles should be covered, whether they are Diagram D1 or D2. The hazard will be the same irrespective of the plug configuration of the appliance. |
| 13 | | Ξ | See Member 13 comments to 1.a) above |

**Question 3.** Other comments?

| Member | Comments |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | After checking all technical points with majors GFCI manufacturers (breakers and receptacles), I now realise that there is no substantial problem with this added requirement except that it would increase the safety around kitchen sink. Moreover, CE Code proposes different ways to satisfy the requirements (Split receptacle with breakers, 20 A T-Slot receptacles…). The only real technical problem would be the leakage current that some specific appliances would have; but, in an open market as we are now, I think that it is now almost impossible to find that kind of appliances that has nuisance tripping leakage current in North America. The manufacturers now always have their appliances approved at least for Canada and U.S.A. market. So, if this problem would exist, it would be known in the U.S.A. where GFCIs in kitchen are already required for more than 15 years and manufacturers would already have corrected the problem. If it's not the case for a particular manufacturer, the quicker this subject be solved, the longer we will have to advise about the new requirements before 2006 Code is enforced.<br><br>Thus, I think that **it's now the time to move forward** by requiring this protection around any dwelling unit kitchen sink. As I mentioned earlier, this would be the **first step** and will conclude that subject. Another subject could be brought if we need to, to enlarge this requirement in other kitchens than dwelling units.<br><br>I would like to propose the following changes (see next page proposal) to the CE Code to resolve the situation as I wrote above:<br>**Proposal:**<br>Amend Subrule 26-712 (e) as follows (added text is <u>underlined</u>):<br><br>**26-712 Receptacles in Dwelling Units (see Appendices B and G)**<br>This Rule applies to receptacles in dwelling units (including single dwellings) as follows:<br>•<br>(e) The receptacles specified in Paragraph (d) shall not be located :<br>(i) On the area of the wall directly behind the kitchen sink ; or<br>(ii) On the area of the counter directly in front of the kitchen sink, where receptacles are installed on a side of a counter work surface as permitted by Rule 26-710; <u>or</u><br>(iii) <u>Within 1,5 m of a kitchen sink without being protected by a ground fault circuit interrupter of</u> |

| Member | Comments |
|---|---|
| | the class A type. |
| 5 | See revised proposal attached (ON Code amendment – GFCI receptacles in kitchen.doc) |
| 6 | I think we have to address bar sinks in residences as well. In many cases these may be on concrete floors providing a greater risk.<br><br>We also need to delete the requirement for split plugs in dwelling units as GFCI's are not available in either the receptacle of breaker type for them. Double pole GFCI's I am told will not work with a split plug. This should be confirmed first of all before we go ahead.<br>Even if we leave split plugs in we should put the 5-20RA and the splits in the same rule with the splits second.<br><br>There are some other issues we should deal with on the 5-20 RA's but that should be a separate subject.<br><br>What I feel is we should simply require so many circuits per length of counter with a limit of 2 or 3 outlets per circuit and get rid of the adjacent rule. However, this is not for now just a heads up on my thinking.<br><br>The NEC methodology is good and it is something we should consider in the code perhaps in Appendix B listing all the locations the code requires GFCI's. |
| 7 | See attached e-mail from Ark (2690-3 Ark.htm) |
| 8 | |
| 9 | See Member 9 comments to 1. a) and b) above. |
| 10 | As a minimum, I would like to see the original proposal go forward and not have it turned down because of added requirements. |
| 11 | |
| 12 | See attached (Backgrounder-Kitchen GFCIs.doc) |

**Chair's Comments (4th Round)**
This subject continues to generate diverse discussion. However, I believe we have good information for reaching consensus on a recommendation for Part I. In reviewing the responses to the brief questionnaire, I will summarize each question and propose a path forward.

(1) Questions 1. a) and b) are designed to ascertain which receptacles in dwelling units should be GFCI protected. The two questions are essentially the same, posed in a different fashion. The responses to both these questions suggest that members are opposed to a blanket requirement for all kitchen receptacles to be GFCI protected but there are varying views as to the minimum distance where receptacles would require GFCI protection.

(2) Questions 2. a) is posed to determine whether the GFCI requirement should extend to include kitchens in other than dwelling units (commercial/institutional kitchens). Responses to these two questions indicate a preference to include all types of kitchens, residential and non-residential.

(3) Question 2. b) is posed to get an idea as to which types of receptacle configurations should be included. Here the direction is not clear; there is no clear consensus from the responses given.

(4) Question 3. is to allow members to provide additional comments. This provides all members with a taste for the diverse opinions this subject generates.

The following principles seem to be emerging:

- There is need for increased personal protection near wet or damp locations.

- Increased protection is generally intended for general-purpose receptacles intended for portable appliances

.

Based on the responses to the questions and all of the supplementary information provided, the Chair will formulate a couple of options c/w rationale for further discussion to bring us closer to consensus for a recommendation to Part I.

**<u>Option #1 for SC consideration</u>**

**1. Add a new Subrule (xx) in Rule 26-700 as follows:**

(xx) Receptacles having CSA configuration 5-15R or 5-20RA installed in kitchens serving kitchen counter spaces and located within 1 m of the kitchen sink shall be protected by a ground fault circuit interrupter of the Class A type except where:

(a) The receptacle is intended for a stationary appliance designated for the location; and

(b) The receptacle is located behind the stationary appliance such that it is inaccessible for use with general-purpose portable appliances.

***Rationale:*** *Placing the requirement in Rule 26-700 makes it applicable to all kitchens whether residential, commercial or institutional. Members have indicted their support for this approach in their responses to Question 2a).*

*Since there does not seem to be a clear indication from the deliberations as to whether the receptacles should apply to all configurations, the Chair suggests that we deal with those receptacles we use regularly for general-purpose portable appliances. As indicated in some of the discussion, special use receptacles are not common especially in the residential application and in most cases are designated for stationary appliances that pose less risk of coming into contact with the water. This also aligns with the direction discussions on Subject 3122 are going.*

*Subcommittee deliberations clearly indicate that kitchen receptacles located some distance from the sink may not need to be GFCI protected but there is no clear indication from the deliberations on how far receptacles must be from the kitchen sink before requiring GFCI protection. The Chair proposes adopting the 1 m limitation as originally proposed. This distances seems to make sense in that Rule 26-712(d)(iii) requires receptacles so that "no point along the wall line is more than 900 mm from a receptacle…" This essentially assures that the receptacles located on each side of the sink will be GFCI protected and that the next nearest receptacle (if maximum distances are used) measured along the wall line will essentially be up to 2.7 m from the sink.*

**2. Add an Appendix B note for 26-700(xx) as follows:**

26-700(xx) *For the purpose of this Subrule, a kitchen sink is intended to include any water basin connected to a plumbing drainpipe. It does not include portable washbasins.*

*The GFCI requirement is not intended to apply to specific-use receptacles located behind such appliances as fridges, ranges, built-in microwaves and similar appliances provide those receptacles by virtue of their location are rendered essentially inaccessible for use by other portable kitchen appliances.*

***Rationale:*** *This Appendix B note is added to provide explanatory information on what the rule intends by the term "kitchen sink" and to provide examples of those circumstances where the GFCI protection need not be applied.*

**<u>Option #2 for SC consideration</u>**

**1. Amend Subrule (11) in Rule 26-700 by replacing existing Subrule with the following:**

(11) Receptacles having CSA configuration 5-15R or 5-20RA installed within 3 m of sinks (water basins c/w drainpipe), bathtubs or shower stalls shall be protected by a ground fault circuit interrupter of the Class A type except where:

(a) The receptacle is intended for a stationary appliance designated for the location; and

(b) The receptacle is located behind the stationary appliance such that it is inaccessible for use with general-purpose portable appliances.

***Rationale:*** *Placing the requirement in Rule 26-700 makes it applicable to all kitchens whether residential, commercial or institutional. Members have indicted their support for this approach in their responses to Question 2a).*

*Since there does not seem to be a clear indication from the deliberations as to whether the receptacles should apply to all configurations, the Chair suggests that we deal with those receptacles we use regularly for general-purpose portable appliances. As indicated in some of the discussion, special use receptacles are not common especially in the residential application and in most cases are designated for stationary appliances that pose less risk of coming into contact with the water. This also aligns with the direction discussions on Subject 3122 are going.*

*Subcommittee deliberations clearly indicate that kitchen receptacles located some distance from the sink may not need to be GFCI protected but there is no clear indication from the deliberations on how far receptacles must be from the kitchen sink before requiring to be GFCI protected. The Chair proposes adopting the same approach used for other similar installations where wet conditions may exist… the 3 m rule.*

*The Chair's suggested proposal goes farther than kitchen situations to be more all encompassing. It also addresses and adopts the direction that Subject 3122 is going. As proposed, the rule would now also apply to bar sinks and slop sinks. They all fit within the outlined principles but are we going too far? For consistency, the Chair suggests this to be an appropriate approach.*

**2. Revise the Appendix B note for 26-700(11) as follows:**

26-700(11) *The term 'sink' is intended to include kitchen sinks, bar sinks, utility room sinks, wash (or water) basins, etc. connected to a plumbing drain pipe. It does not include portable washbasins.*

*It is not intended that the* 3 m *dimension be extended through a wall opening that is fitted with a door. Where a room combines a water basin or shower/bathing facilities with an area serving another purpose such as an ensuite bathroom in a bedroom, requirements for receptacles located in such rooms or areas should be considered similarly to the requirements for receptacles located in bathrooms and washrooms.*

*GFCI protection is not intended to apply to receptacles supplying specific-use appliances located behind such appliances as washers, dryers, fridges, ranges, built-in microwaves and other similar appliances provided those receptacles by virtue of their location are rendered essentially inaccessible for use by other portable appliances.*

***Rationale:*** *This Appendix B note is added to provide explanatory information on what the rule intends by the term "sink" and to provide examples of those circumstances where the GFCI protection need not be applied.*

The Chair requests SC members to respond to the following questions:

1. Agree with Option #1
2. Agree with Option #2
3. Disagree fro the reasons stated.

**Subcommittee Deliberations (5th Round)**

With the Chair abstaining, all 12 members responded to the latest round (Steve Douglas responding for Steve Wegner).

8 members agreed with Option #1 that basically sets a requirement for GFCI receptacles located within 1 m of kitchen sinks. Some of their comments are summarized as follows:

- Should include all receptacle configurations within 1 m of the kitchen sink

- Should have broader application than just "kitchen" sinks
- What about the convenience receptacle found on some ranges??? It could fall within the 1 m limit.
- Option #2 seems a little extreme given the lack of statistics

3 members agreed with Option #2 that basically covers receptacles located near all sinks, tubs or showers but sets a 3 m limit. Some of their comments are summarized as follows:

- Consistent with how we deal with bathrooms and washrooms. Eliminates the need to have to define "kitchens".
- The 3 m limit seems a bit excessive… perhaps 1.5m or 2m would be more appropriate.
- Option 2 is the ultimate safety goal

1 member disagreed with the following comment:

- I tend to agree with the intent of Option#2 to cover all sinks, i.e. bar sinks, kitchen sinks, utility room sinks, etc. but I have a hard time with the 3 m distance. A 3 m radius around the sink could encompass receptacles that are not associated with the immediate hazard area. Take for instance a hospital patient or examination room. These rooms always have sinks and the 3 m radius would likely require receptacles dedicated for patient services to be on a GFCI. I would like to propose the following modification to option #2 that would also cover the intent of option #1:
  (XX) Receptacles having CSA configuration 5-15R or 5-20RA installed within 1 m of sinks (water basins c/w drainpipe), shall be protected by a ground fault circuit interrupter of the Class A type except...

**Chair's Comments:**
It appears we are coming close to achieving consensus. Because of sensitivities around this subject, the Chair would like to achieve unanimity if possible.

Regarding the member's concern that we are not including all receptacle configuration types, I refer to the page 17 where emerging principles seem to lean towards… "increased protection is generally intended for general-purpose receptacles intended for portable appliances". For this reason the subject should continue to focus on 5-15R and 5-20RA configurations. Perhaps consideration to include all configuration types should be dealt with under a new subject.

Regarding the member's concern with convenience receptacles on ranges, may I suggest that this is a Part II issue. Part I only deals with installation requirements. Once the principle of GFCI protection near sinks is confirmed by Part I, Part II will be compelled to review their standards to line up with the Part I safety principles.

From the rest of the comments the Chair senses that the members are struggling with the distance requirement. Members choosing Option 1 tend to agree with a more liberal distance of 1 m, but in doing so, had to forsake applying the safety principle to all sinks. Consequently, members choosing Option 2 did so to embrace the safety principle for all sinks, etc. but were reluctant with the 3 m distance.

In order to achieve consensus, the Chair proposes a compromise to go with Option #2 but with only a 1.5 m limitation rather than 3 m *(please note that this is virtually identical to Option 2)d. of Subject 3148)*.The proposed Subcommittee recommendation would read as follows:

**1. Amend Subrule (11) in Rule 26-700 by replacing existing Subrule with the following:**

(11) Receptacles having CSA configuration 5-15R or 5-20RA installed within **<u>1.5</u>** m of sinks (water basins c/w drainpipe), bathtubs or shower stalls shall be protected by a ground fault circuit interrupter of the Class A type except where the receptacle is:
(a) Intended for a stationary appliance designated for the location; and

(b) Located behind the stationary appliance such that it is inaccessible for use with general-purpose portable appliances.

**2. Revise the Appendix B note for 26-700(11) as follows:**

26-700(11) *The term 'sink' is intended to include kitchen sinks, bar sinks, laundry sinks, utility room sinks, wash (or water) basins, etc. connected to a plumbing drain pipe. It is not intended to include portable washbasins.*

*It is not intended that the 1.5 m dimension be extended through a wall opening that is fitted with a door. Where a room combines a water basin or shower/bathing facilities with an area serving another purpose such as an ensuite bathroom in a bedroom, requirements for receptacles located in such rooms or areas should be considered similarly to the requirements for receptacles located in bathrooms and washrooms.*

*GFCI protection is not intended to apply to receptacles supplying specific-use appliances located behind such appliances as washers, dryers, fridges, ranges, built-in microwaves and other similar appliances provided those receptacles by virtue of their location are rendered essentially inaccessible for use by other portable appliances.*

The Chair requests SC members to respond to the online survey question as follows:

1. Agree with the proposed Subcommittee recommendation:
2. Agree with the proposed Subcommittee recommendation with comments:
3. Disagree with the proposed Subcommittee recommendation for the reasons stated:

**Subcommittee Deliberations (6th Round)**

10 out of 14 members responded to the last round of deliberations, all agreeing with the proposed Subcommittee recommendation above. 4 members had comments, all of which expressed concerns with the reduced distance of 1.5 m. The concerns are listed below:

1. I reluctantly support full wording of the S/C recommendation and would like to offer the following comments:
   1) I fully support the approach taken by the S/C - to accomplish a universal safety objective by stating a need to provide a GFCI protection for every receptacle located near a sink, bathtub or shower regardless, what type of room it is.
   2) Although I greatly appreciate Chair's patience with this subject (and with all 5 rounds of deliberations), however, I don't understand why the already existent requirement to provide this protection for receptacles located within 3 m from the listed plumbing appliances with water, has been reduced to 1.5 m without any tangible substantiation.
   This reduction will be also inconsistent with relevant existing provisions of Section 24 (newly adopted proposal for Rule 24-106) and Section 68 (Rules 68-064; 68-068).
   I think that this approach constitutes not a "compromise", but a "sacrifice".
   Nevertheless, let our mutual wisdom be the judge.

2. For the record, the approach is different from that taken in the NEC. The NEC requires GFCI Protection for Kitchens — where the receptacles are installed to serve the countertop surfaces. There is no limitation for distance from the sink.
   For wet bar sinks — where the receptacles are installed to serve the countertop surfaces and are located within 1.8 m of the outside edge of the wet bar sink. This dimension is of course related to the 6 ft. equivalent.
   I would prefer to see the greater distance, but recognize that this is a good start and certainly better than 1 M.

3. Agree with the SC recommendation although my preference would be 3m rather than the 1.5m.
   My argument is simply this that any appliance connected to a receptacle located 1.8m from the sink is still capable of being in reach of a person touching the sink. I just checked three appliances and all them have cords close to 1m in length. I add in the appliance dimension then I easily have 1m. These appliances are a toaster oven; a toaster and a kettle.
   If we are doing this to reduce the risk of electric shock to a person washing dishes etc in the sink, then we have not achieved it. We have reduced the probability, but only by a slim margin.
   This was my original argument and I remain unchanged. However I will not see the subject lost because of this I would rather get this than nothing. I can request a change at a later date if the 3m is ignored or rejected.

4. I reluctantly agree and support this approach however, having said that I don't fully understand why we are changing the requirements for proximity of receptacles to water and sources of water. Section 68 deals with receptacles and power sources within 3 meters of pools and spas and we have been successful with our approach to receptacles in the kitchen, half baths, combination laundry rooms and bathrooms and bathrooms. If as a group we can agree that this will increase the level of safety in the home then I support it as well.

**Chair's Comments (6th Round)**
Despite the concerns with the distance, I believe the subcommittee has reached consensus. If I recall, some of the earlier discussions on this area of concern, suggested that the higher risk was where a portable appliance is used near water, thus increased risk of accidental immersion, therefore those receptacles near the sink only need be GFCI protected *(see also discussion on subjects 3122 and 3148)*.

*(Note: This SC recommendation, if passed, has the effect of nullifying items 1 & 2 of the SC recommendation for Subject 3122.)*

I would like to take this opportunity to express my sincere gratitude to the Section 26 Subcommittee members for their determination and fine contribution to this most difficult subject.

**Subcommittee Recommendation**
**1. Amend Subrule (11) in Rule 26-700 by replacing existing Subrule with the following:**

(11) Receptacles having CSA configuration 5-15R or 5-20RA installed within **1.5** m of sinks (water basins c/w drainpipe), bathtubs or shower stalls shall be protected by a ground fault circuit interrupter of the Class A type except where the receptacle is:
   (a) Intended for a stationary appliance designated for the location; and
   (b) Located behind the stationary appliance such that it is inaccessible for use with general-purpose portable appliances.

**2. Revise the Appendix B note for 26-700(11) as follows:**

26-700(11) *The term 'sink' is intended to include kitchen sinks, bar sinks, laundry sinks, utility room sinks, wash (or water) basins, etc. connected to a plumbing drain pipe. It is not intended to include portable washbasins.*

*It is not intended that the 1.5 m dimension be extended through a wall opening that is fitted with a door. Where a room combines a water basin or shower/bathing facilities with an area serving another purpose such as an ensuite bathroom in a bedroom, requirements for receptacles located in such rooms or areas should be considered similarly to the requirements for receptacles located in bathrooms and washrooms.*

*GFCI protection is not intended to apply to receptacles supplying specific-use appliances located behind such appliances as washers, dryers, fridges, ranges, built-in microwaves and other similar appliances provided those receptacles by virtue of their location are rendered essentially inaccessible*

*for use by other portable appliances.*