

## THE RUNNING GREEN MAN: EMERGENCY EXIT SIGNAGE , THE NEW STANDARD

As Canada inches closer and closer to the International Fire Code (IFC) – *slated to come into effect from 2015*; changes are slowly being implemented in the existing National & Ontario Building Codes (NBC & OBC).

How many times have we been stuck in an underground garage while helplessly looking for signage to indicate a way of egress? I'm sure it has happened to most of us at some point of time or the other. Well don't be surprised if instead of the familiar red EXIT signs, you see the 'Green Running Man'. He's by no means a superhero comparable to the Green Hornet or Green Lantern, but he will safely lead to an exit if you follow him! In fact, he can already be spotted in many American airports, or in our very own Union Station in downtown Toronto. The new signage goes beyond lingual limitations as it is simply a pictorial depiction of a man running through an exit door.



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So what exactly does this new code state? Let's have a look:

### **National Building Code 2010**

#### **3.4.5.1. Exit Signs**

2 b) except as permitted in Sentence (3), consist of a green pictogram and a white or lightly tinted graphical symbol meeting the colour specifications referred to in ISO 3864-1,

“Graphical symbols – Safety colours and safety signs –

Part 1: Design principles for safety signs in workplaces and public areas,” and

c) conform to the dimensions indicated in ISO 7010, “Graphical symbols – Safety colours and safety signs – Safety signs used in workplaces and public areas,” for the following symbols (see Appendix A):

- i) E001 emergency exit left,
- ii) E002 emergency exit right,
- iii) E005 90-degree directional arrow, and
- iv) E006 45-degree directional arrow.

Most probably, the following questions arise:

1. *When does this code come into effect?*
2. *How does this new amendment affect property managers and their buildings?*
3. *How will this affect my bottom-line?*

1. In a perpetually price-conscious industry where stakeholders are forever looking for ways to avoid spending and investing, the quasi-good news is that this code comes into effect as of 2013 in Ontario and will be applicable to *new* construction or large

renovations. While the existing red EXIT signs will still be permitted, the OFC has always provides a certain period to adapt to new code changes (for e.g. in-suite audibility upgrades, Fire Safety Plans, CO<sup>2</sup> Detectors, etc.) - and the same can be expected in this case.

2. As Canada pushes towards globalism, and more and more immigrants of various ethnicities populate our condos & office buildings, the *Green Running Man* transcends barriers of diverse nationalities and languages and automatically elevates him to the status of an international personality capable of being understood across the world - no matter which country he appears in! It can be expected that the federal and provincial buildings will be the first buildings required to adapt.

3. To avoid the upsurge expense to change all the existing red EXIT signs in your building, a suggestion would be that when an EXIT sign becomes defunct, instead of paying to install/change/repair the soon-to-be obsolete red EXIT signs, start replacing them one by one with the new *Green Running Man* signage instead. This may lead to an imbalance in certain aesthetically mindful buildings, and occupants may not appreciate having 2 'styles' of signage converging in the same common area. In the case, the suggestion would be to do a floor by floor upgrade to make it less apparent.

Electricity-fed signage can be expected to flood the market in the coming months. Currently, a *green* (no pun intended), economical option is already available. These signs are made of photoluminescent material and require NO electricity or electrician to install them. In fact, this signage will help you **save** precious budgetary funds as the ROI is estimated to be under 1 year.

#### **National Building Code 2010**

##### **Division B 3.4.6.3.**

3 b) where illumination of the sign is not powered by an electrical circuit, be constructed in conformance with CAN/ULC-S572, "Photoluminescent and Self-Luminous Signs and Path Marking Systems."

4) Externally illuminated exit signs shall be continuously illuminated and be constructed in conformance with CAN/ULC-S572, "Photoluminescent and Self-Luminous Signs and Path Marking Systems."

Photoluminescent signage must comply with, and must be **ULC-approved** for both luminosity and duration of illumination. The *Green Running Man* must indicate either the direction of the nearest exit or the actual egress itself. Thanks to the fact that photoluminescent signs are environmentally friendly and electricity-free, conforming to the new code sooner rather than later will help save precious dollars on parts, repairs, and electricity consumption! Let's take a comparative look together:

Type of Exit Sign (Cost Per Unit)	Est. Cost to Power Per Year*	Est. Cost to Maintain Per Year**	Total Est. Costs Per Year	Est. 30 Year Life Cycle Cost
Incandescent (\$80)	\$52.95	\$60.00	\$112.96	\$3,628.38 (3 replacements)
Fluorescent (\$120)	\$34.05	\$30.75	\$67.80	\$2,378.48 (4 replacements)
LED (\$80)	\$7.03	\$15.75	\$22.78	\$957.84 (4 replacements)
<b>Photoluminescent (\$135)</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$135.00</b> <b>(No replacements)</b>
<i>* 0.115 Cost per KWH ** Replacement bulb &amp; battery cost + labor</i>				

**Challenges:**

Electric exit signs, whether they use incandescent, fluorescent or LED bulbs, have to be on at **all** times. They will always use electricity and are an on-going maintenance cost. Property managers are now looking for green energy efficient products that use ‘free energy’ for power. Looking at strategies to decommission electrically-powered emergency exit signs and replacing them with photoluminescent exit signs is a viable way to reduce electricity use and associated maintenance costs.

**Solution:**

Photoluminescent exit signs are ULC 572 compliant for 50, 75 foot and 100 foot visibility and provide a green substitution for electrically-powered signs. Their signs are charged with available ambient light so there is no electrical wiring required and no direct electricity expense. Since these exit signs do not require replacement bulbs or batteries, the maintenance costs associated with these items are eliminated. These signs have a minimum 30-year life cycle and only require the occasional cleaning to perform according to specifications. Compared to electrically-powered exit signs, photoluminescent signs reduce 30-year operating costs by over 90%! Let’s take a closer look at the **real** upgrading of a condo to photoluminescent signs:

**ROI Analysis: A 22 Storey Condominium Tower**

**Cost to Maintain 66 Electrical Exit Signs over 30 years: (LED)**

- Electricity: \$13,919
- Maintenance (replacing batteries, bulbs & signs): \$31,185
- Cost of 2 signs (15 year life) \$10,560
- Total Life Cycle Cost: **\$55,664**

**Cost to Replace and Maintain 66 Ecoglo ULC572 Green Running Man (Exit) Signs:**

- Purchase & Installation (66 x \$140 per sign): \$9,240

- Maintenance: \$ 0
  - Electricity: \$ 0
  - Total Life Cycle Cost: **\$ 9,240**
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- ✓ Total Savings: **\$ 46,424**
  - ✓ ROI: **502%**

*Note: The analysis was conducted in 2009 where the cost of electricity was 11.5 cents a KWH while estimating the average rate for an electricians to be \$45/hr.*

In conclusion, thanks to the photoluminescent *Green Running Men* signage, we do have an economical and eco-friendly alternative. Should you require more information in this regard, the author can be contacted for further assistance.

	<p><b>About the Author:</b>  <i>Arnel has been in fire protection for close to 5 years and is a Global Executive MBA graduate. He manages the Marketing &amp; Sales at ProFire Safety Services and has conducted numerous Fire Warden Training seminars across Ontario. He formerly sat on the Associates Board of Directors of ACMO, and currently sits on the committee revising building accessibility for the Ontario Ministry of Municipal Affairs &amp; Housing.</i></p>	
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