

Date of Authorization

September 30, 2004

BMEC Authorization

04-09-301

BMEC Application

A2004-10

AUTHORIZATION REPORT - LUNApplast™ Photoluminescent Exit Signs**1. Applicant**

Luna Technologies International Inc.
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2. Manufacturing Facilities

Luna Technologies International Inc.
61A Fawcett Road
Coquitlam, British Columbia
V3K 6V2

3. Description

The LUNApplast™ Photoluminescent Exit Sign (“Luna Sign”) is a directional exit sign.

The Luna Sign consists of a photoluminescent background and opaque letters spelling the word “EXIT” or “SORTIE”. Opaque directional indicators are optional and are included at one or both sides of the “EXIT” and “SORTIE” legend.

The LUNA 5000 Series consists of a single photoluminescent panel consisting of a rigid poly vinyl chloride (PVC) sheet, blended with strontium oxide photoluminescent pigment that emits light continuously through the absorption of at least 54 lux (5 foot-candles) of ambient illumination.

The Luna 5000 series denotes mounting options. The wall mounted bracket, 5000W Luna Sign consists of a photoluminescent placard, silk screened with the word “EXIT” or “SORTIE”; the flag mounted bracket, 5000F1 and 5000F2 Luna Sign consists of one or two photoluminescent placards, silk screened with the word “EXIT” or “SORTIE”, for a single sided or double side application; the ceiling mounted bracket, 5000C1 and 5000C2 Luna Sign consists of photoluminescent placards silk screened with the word “EXIT” or “SORTIE” for a single sided or double side applications.

All authorized Luna Signs have red letters and a photoluminescent background.

4. Authorization Requested

The Applicant sought a Building Materials Evaluation Commission ("BMEC") authorization for the Luna Signs as a means of egress identification under Subsections 3.4.5. "Exit Signs" or 9.9.10. "Signage" with conditions and limitations, equivalent to the requirements of Building Code, as amended.

5. Assessment

Reports and assessments provided by the applicant show that if the Luna Signs are designed, performance tested and installed in accordance with the manufacturer's instructions and limitations, all other requirements of the Building Code, and the specific terms and conditions stated in this authorization, that the level of performance required by the Building Code will be provided.

The following is a list of the documents submitted, and reviewed, but is not limited to:

1. Manufacturer's Information "Introducing the LUNApplast™ UL-924 Sign".
2. LUNApplast™ Exit Sign Label.
3. LUNApplast™ Installation Instructions, revised September 10, 2004.
4. Underwriter Laboratories Inc. "Procedures and Report Materials", dated 2004/04/05.
5. Underwriter Laboratories Inc. "Online Certification Directory" FWBX.E226940, dated 7/20/2004.
6. Material Safety Data Sheet "PVC Based Photoluminescent Vinyl Foam", Dated August 2001.
7. Underwriter Laboratories Inc. "Follow up Services Test Results for Exit Signs" March 11, 2004.
8. Underwriter Laboratories Inc. "Follow Up Procedure" revised 2003/01/30.
9. Excerpts from NFPA 101 "Life Safety Code" , 2000 Edition.
10. Energy Star Approval, April 20, 2004.
11. City of Vancouver Approval, May 21, 2004.
12. Transport Canada Approval "Safety and Security", June 29, 1998.
13. State of Indiana Approval, September 12, 2002.

14. National Research Council Summary of Report No. PO-1796, June 24, 1998
15. Report "A Field Study on Photoluminescent Signage Used to Guide Building Occupants to Exit in Complete Darkness", Proulx, Creak and Kyle.
16. SAE Paper "ISS Emergency Egress "A System for Crewmember Pathway Indication", 2001-01-2184.

6. Authorization

The Luna Signs are authorized for use as a means of egress identification under Subsections 3.4.5. "Exit Signs" or 9.9.10. "Signage", all other requirements pertaining to the installation are subject to the requirements of the Building Code, and subject to the following terms and conditions:

A. Specific Terms & Conditions

1. This Authorization is valid only for the Luna Signs model numbers described in Table 6.A.1. "Exit Signs",

Table 6.A.1.
Exit Signs

Model Number	Description	Single / Double Sided
5000W	wall mounted with red letters and a photoluminescent background	single sided
5000F1	flag mounted with red letters and a photoluminescent background	single sided
5000F2	flag mounted with red letters and a photoluminescent background	double sided (2 placards)
5000C1	ceiling mounted with red letters and a photoluminescent background	single sided
5000C2	ceiling mounted with red letters and a photoluminescent background	double sided (2 placards)
Column 1	Column 2	Column 3

2. The Luna SORTIE Sign, shall only be installed adjacent to an approved Luna Sign, as it is described in Table 6.A.1. "Exit Signs" of this Authorization.
3. Except as permitted by Specific Term and Condition 6.A.4., the Luna Signs are not required to be provided with an emergency power supply as described in Sentence 3.2.7.4.(1) of the Building Code.
4. Approved models of the Luna Signs may be installed in a building under the scope of Subsection 3.2.6. "Additional Requirements for High Buildings" of the Building Code if they are illuminated directly by a lighting fixture providing 54 lux (5 ft candles) of unfiltered fluorescent illumination and having a power source conforming to Subclause 3.2.7.4.(1)(b)(i) of the Building Code.
5. Except as provided by Specific Term and Condition 6.A.4., approved models of the Luna Signs may be substituted for exits signs as described in Subsections 3.4.5. "Exit Signs" or 9.9.10. "Signage" of the Building Code.
6. The Luna Signs require a minimum of 54 lux (5 ft candles) of constant and continuous external unfiltered fluorescent, lighting to illuminate the face(s) of the signs at all times.
7. The Luna Signs shall be located so that the listed legible viewing distance of the sign is not greater than 22.3 m (75 ft).
8. The Luna Signs shall have the following markings:
 - a. Luna,
 - b. a UL/ULC listing label,
 - c. Model number,
 - d. Legible viewing distance, and
 - e. "CAUTION: a minimum 5 foot-candle of external un-filtered fluorescent illumination must be present on the sign face at all times of building occupancy."
9. The Luna Signs shall be installed as per the manufacturer's instructions.
10. The Luna Signs are authorized for indoor applications only.
11. The Luna Signs shall not be exposed to direct sunlight.
12. The Luna Signs shall not be exposed to temperatures outside the range of 10⁰ to 40⁰ C (50⁰ to 104⁰ F).

13. The Luna Signs shall be cleaned with a damp cloth or as otherwise recommended by the manufacturer.

B. General Conditions

1. The use of the Luna Signs as described in Specific Terms and Conditions 1. must comply with the *Building Code Act, 1992* as amended or re-enacted from time to time (BCA) and except as specifically authorized herein, with the Building Code.
2. A copy of this Authorization shall accompany each application for a building permit and shall be maintained on the site of the construction with the building permit.
3. The Applicant named in Part 1 hereof shall promptly notify the BMEC of:
 - (a) the failure of the Applicant, or of the material, system or building design that is the subject matter of this Authorization, to comply with any of the terms and conditions set out in A. above; or
 - (b) the occurrence of any of the events described in Conditions 6.B.4.(a) and (b) (ii) below.
4. The BMEC may amend or revoke this Authorization where it determines that:
 - (a) any change has been made to:
 - I. the material, system or building design that is the subject matter of this Authorization;
 - ii. the address of the applicant specified in Part 1 of this Authorization; or,
 - iii. the ownership of the applicant specified in Part 1 of this Authorization.
 - (b) the use of the material, system or building design authorized herein;
 - i. does not comply with the BCA or any relevant legislation as they may be amended or re-enacted from time to time; or
 - ii. provides an unsatisfactory level of performance, in situ.

- (c) the Applicant, or the material, system or building design that is the subject matter of this Authorization, has failed to comply with any of the terms and conditions set out in this Authorization; or
 - (d) any Building Code provision relevant to this authorization has been amended or remade.
5. Where the BMEC receives additional information concerning the material, system or building design authorized herein, the BMEC may review this Authorization and the BMEC may after the review amend or revoke this Authorization as in the opinion of the BMEC may be necessary.

Dated at Toronto this 30th day of September 2004.

BUILDING MATERIALS EVALUATION COMMISSION

Rashmi Nathwani, Chair