



ONTARIO PORK

### **Unvented Gas Heater Information**

Livestock ventilation systems with propane and natural gas appliances have to meet the Natural Gas and Propane Installation Code CSA-B149.1. The Technical Standards and Safety Authority (TSSA) is a private company delegated by the province of Ontario to enforce this Code.

The TSSA will enforce new regulations which come into effect January 1, 2016 for existing operations with unvented gas heaters. The current revision of the CSA standard is *Natural gas and propane installation code B149. 1-10 (reaffirmed 2015)*.

**Recently, the TSSA issued a Gaseous Fuels Code Adoption document and a Fuel Safety Program Advisory (FS-212-14) that states that for facilities with unvented gas heaters only Professional Engineers will be able to verify that the:**

- 1) Minimum ventilation rate of the barn (mechanical or natural ventilation) when the heaters are operating is not less than 300 CFM / 100,000 BTUH (0.003 CFM/BTUH) of heaters input [clause 7.36.1(c)].**
- 2) Maximum input of the heating appliances does not exceed 20 BTUH/FT<sup>3</sup> of the space in which the appliance is located [clause 7.36.1(d)].**

**Once verified, evidence of the two calculations (stamped and signed by the professional engineer) must be prominently displayed in the entrance area of each barn.**

For the entire Gaseous Fuels Code Adoption Document (FS-212-14) please find the supplemental information at the bottom of this document.

#### **Questions and Answers:**

Q. How do I comply with the new regulations?

A. Contact a Professional Engineer to perform the verification calculations for your facility.

Q. Is there a list of Professional Engineers to contact?

A. Below is a list of engineering firms that can provide the certification (this may not be a complete list.)

<p><b><u>Armco Solutions</u></b>  20 Highland Rd.  Fergus, ON N1M 2C4  Mark Armstrong  (226) 979-8928  Cell: (226) 979-8928  Phone: (519) 625-8000  Toll: (800) 960-4002</p>	<p><b><u>R.J. Burnside &amp; Associates Limited</u></b>  Orangeville, Collingwood  15 Townline  Orangeville, ON L9W 3R4  <a href="mailto:jill.landry@rjburnside.com">jill.landry@rjburnside.com</a>  Phone: (519) 941-5331  Fax: (519) 941-8120  www.rjburnside.com</p>
<p><b><u>Faromor Ltd.</u></b>  P.O. Box 279  Shakespeare, ON  Canada, NOB 2P0  2079, Line 34, R.R.#1  Shakespeare, ON  Phone: (519) 625-8000  Toll: (800) 960-4002</p>	<p><b>Harry Huffman, P. Eng.</b>  Agricultural Engineer  86 Southfield Cres.  London, ON.  N6K 2B7  Office Tel (519)474-4958  Office Fax (519)474-4959  Mobile (519)902-4958  Email <a href="mailto:harryhuffman@rogers.com">harryhuffman@rogers.com</a></p>
<p><b><u>Virtual Engineers - VE Collective Inc.</u></b>  3760 14th Avenue  Markham, ON L3R 3T7  <a href="mailto:rawarner@virtual-engineers.com">rawarner@virtual-engineers.com</a>  Phone: (905) 707-0704  Fax: 1 (905) 475-1605</p>	<p><b>Callidus Engineering</b>  1385 North Routledge Park  Unit 9  London, ON N6H 5N5  <b>Erica:</b> 519 472 7640 x 228 fax. 519 471 9239  <a href="mailto:erica@callidus.ca">erica@callidus.ca</a>  <b>Derek:</b> 519 472 7640 x 230 <a href="mailto:derek@callidus.ca">derek@callidus.ca</a>  <a href="http://www.callidus.ca">www.callidus.ca</a></p>

Q. Can I just vent my heater?

A. Yes, however, not all heating appliances can be vented so please check with your ventilation designer to determine if your appliance can be vented.

Q. What is the cost of hiring a Professional Engineer to certify the unvented gas heater?

A. It depends on the size of facility (i.e. # of heaters, # of rooms etc), location of facility, and the fee schedule for the engineering firm. When contacting an engineer be sure to ask for their fee schedule.

**Also ensure that the engineer is using the current version of the codes and the fuel safety program advisory as indicated above.**

You may be able to reduce costs by gathering the information that the engineer will require to perform their calculations prior to the engineer's arrival. This may reduce the time/cost required by the engineer to be on site.

The calculations summary must show at minimum the following information:

- a) Barn address
- b) Barn ID
- c) Barn description
- d) Barn dimensions in feet
- e) Barn volume in cubic feet
- f) Description of heaters

- g) Heaters input in BTUH (total input of all heaters)
- h) Description of ventilation equipment
- i) Minimum ventilation rate in CFM

Ontario Pork has also developed a spreadsheet that can be used by producers to collect some of the required information listed above. If you have a computer and would like a copy of the spreadsheet please contact the Ontario Pork office at the information below.

Ontario Pork has recently been involved in working to find alternatives and solutions that can be used in addition to the current regulations. Ideas like ventilation interlocking, audible and visual alarms, and allowing others to perform the ventilation calculations have all been explored. Ontario Pork will continue to work on this file to assist producers in compliance with the regulation, as well as herd and staff safety.

### Supplemental Information:

Gaseous Fuels Code Adoption Document (FS-212-14), state that:

#### 7.36 Unvented heaters installed in livestock or poultry facilities

##### 7.36.1

Where an unvented heater is installed in a livestock or poultry facility, it shall

- (a) Be exempt from clauses 7.22.1, 7.22.2 and 8.24.5;
- (b) Be protected against physical damage;
- (c) Be provided with mechanical or natural ventilation when the heaters are operating at a volume sufficient to maintain a minimum of 300cfm/100,000Btuh;
- (d) Be located in a space where the maximum input of the appliance does not exceed 20Btuh/ft<sup>3</sup> (0.2kW/m<sup>3</sup> of the space in which the appliance is located);
- (e) Be provided with combustion and ventilation air compatible with item (c);
- (f) Not be installed in a pedestrian exit passageway or stairway within 8ft (2.5m) measured horizontally from an exit door; and
- (g) Be provided with clearance from combustible material as certified and indicated on the appliance;

**Items (c) and (d) shall be verified by calculation, completed by the ventilation designer (who must be licensed as a Professional Engineer in Ontario) and the calculation prominently displayed in the entrance area to each barn.**

For more information please contact Dean Gurney at 519-767-4600 ext 1612 or [dean.gurney@ontariopork.on.ca](mailto:dean.gurney@ontariopork.on.ca)