



**TECHNICAL STANDARDS
& SAFETY AUTHORITY**
14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4

September 2007

To: TSSA Registered Natural Gas and Propane Contractors & G1, G2 and G3 Certificate Holders:

Re: Mandatory Inspection of Gas (Natural Gas and Propane) Fired Residential Natural Draft Boilers Equipped with a Draft Hood for 2006/2007 Heating Season

The Technical Standards and Safety Authority (TSSA) is concerned that some natural gas and propane burning natural draft boilers equipped with a draft hood have not been properly installed, operated or maintained. This may result in a carbon monoxide (CO) safety hazard in the home and may possibly cause injury up to and including death.

Investigated CO incidents have shown that the key contributing cause of the incidents is that many boilers are not being maintained in accordance with the boiler manufacturer's installation instructions. It is imperative that the boiler's internal flue passages are cleaned sufficiently to reduce the likelihood of CO production. Additionally, a significant contributing factor in some of the incidents has been negative pressure within the home caused by exhaust systems, wood burning fireplaces, or other appliances that can pull the boiler's flue products into the indoor air.

To address this situation, TSSA is re-issuing Director's Order FS-072-06-R3 that requires all G1, G2 and G3 certification holders, performing service, maintenance and/or emergency response work, to perform a CO check in the boiler's flue (between the heat exchanger and the draft hood) and take action when the level is above 100 PPM*. The check will be required whenever a technician enters a home with this type of boiler regardless of whether the homeowner has requested service on that boiler. The gas technician will also be expected to visually examine the boiler and take action if there are signs of spillage or poor operation. Where a gas technician is unable to take CO measurements, the boiler installation shall be considered an unacceptable condition that does not pose an immediate hazard.

Please note if there is a tag on the boiler due to this order, there will be an expiry date. No CO check is required if the tag is valid (has not expired). A CO check is only required if there is no tag or the tag has expired. We recommend that all tags be left on the boiler even if expired as record of their service history.

To assist with explaining this situation to the homeowner, attached to the Director's Order is a homeowner information sheet that outlines the requirement, the need for proper maintenance and the recommendation of installation of a CO alarm.

TSSA and the associated industries thank you in advance for your co-operation in this regard. If you require further clarification or have questions, please contact TSSA at 1-877-682-TSSA (8772), Web site: www.tssa.org.

* An Actual reading of 100 PPM (not air free sample) in the flue indicates that the CO level of the appliance exceeds the acceptable level.



Fuels Safety Program	Ref. No.: FS- 072- 06	Rev. No.: 3
DIRECTOR'S PUBLIC SAFETY ORDER	Date: September 24, 2007	Date: Date

**IN THE MATTER OF:
THE TECHNICAL STANDARDS AND SAFETY ACT, 2000,
S.O. 2000, c. 16**

- and -

**ONTARIO REGULATION 212/01 made under the
Technical Standards and Safety Act, 2000
(Gaseous Fuels)**

Subject: Existing Natural Gas and Propane Fired Natural Draft Boilers Equipped with a Draft Hood with an Input less than 300 000 BTUH installed in a Residential Building Intended for One or Two Families

Sent to: Gaseous Fuels Advisory Council, Propane Fuels Advisory Council, TSSA Fuels (Natural Gas and Propane) Registered Contractors, and TSSA G1, G2 and G3 Certificate Holders

Pursuant to subsection 31.2 of the *Technical Standards and Safety Act, 2000*, the Director hereby orders the following:

1.(1) When a certified G1, G2 or G3 gas technician enters a residential building intended for one or two single families to carry out service, maintenance and/or emergency response work within the scope of his/her certificate, the gas technician shall:

Determine if a natural draft boiler equipped with a draft hood and with an input less than 300,000 BTUH is installed in the building. Where such a boiler is installed, the gas technician shall take the following steps unless a valid boiler inspection label as identified in paragraphs (d) and (e) is affixed to the boiler.

- (a) The gas technician shall provide the homeowner/user with (Schedule "A") that outlines the technician's requirement to inspect and take corrective action where necessary and the homeowner's responsibility to properly maintain their fuel burning equipment.
- (b) The gas technician shall visually inspect the boiler for safe operation including any signs of flue gas spillage (e.g. due to down drafting) or condensation (e.g. due to excessively low return water temperature) and take corrective action as necessary.

- (c) The gas technician shall take a CO reading in the flue gas upstream of the draft hood (between the heat exchanger and the draft hood) with the boiler operating at steady state under normal operating conditions. If the CO reading exceeds 100 PPM*, the boiler shall be considered an immediate hazard and the gas technician shall:
 - (i.) Take immediate corrective action to address areas of concern including, but not limited to, cleaning boiler flue passages and cleaning the burner. If the boiler operation cannot be corrected so that the reading is below 100 PPM, immediately shut off the fuel supply to the boiler, provide notice to the user and distributor and affix a notice to the boiler as outlined in subsection 13(3) of ONTARIO REGULATION 212/01 (Gaseous Fuels), or
 - (ii.) immediately shut off the fuel supply to the boiler, provide notice to the user and distributor and affix a notice to the boiler as outlined in subsection 13(3) of ONTARIO REGULATION 212/01 (Gaseous Fuels).
- (d) If the boiler operation is corrected or found with the reading below 100 PPM, then a boiler inspection label (Schedule "B") shall be affixed to the boiler
- (e) The boiler inspection label affixed to the boiler shall expire on May 1, 2008.

1.(2) This Order is effective October 15, 2007 and expires on May 1, 2008.

Dated at Toronto this 24th day of September, 2007

ORDERED BY:

John R. Marshall
Director, Gaseous Fuels Regulation,
Technical Standards and Safety Act, 2000

* An actual reading of 100 PPM (not air free sample) in the flue indicates that the CO level of the appliance exceeds the acceptable level.

Schedule A – Owner/User Information Sheet - Director's Order FS-072-06-R3



FUELS SAFETY PROGRAM
TECHNICAL STANDARDS
& SAFETY AUTHORITY
14th Floor, Centre Tower
3300 Bloor Street West
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Canada M8X 2X4

September 2007

Mandatory Inspection of Gas (Natural Gas and Propane) Fired Natural Draft Boilers Equipped with a Draft Hood

Attention Property Owner/User:

The Technical Standards and Safety Authority (TSSA) has the mandate to maintain and improve safety for Ontario residents in the fuels and other regulated sectors. TSSA is officially designated by Ontario's Ministry of Government Services to administer and enforce the *Technical Standards and Safety Act, 2000*, which governs fuels safety in Ontario.

TSSA is concerned that some natural gas and propane burning natural draft boilers equipped with a draft hood are not properly installed or operated or maintained. This may result in a carbon monoxide (CO) safety hazard in the home that may cause personal injury up to and including death.

CO is a colourless gas produced when fuels such as natural gas and propane burn incompletely. CO itself is odourless and tasteless but it may be accompanied by an abnormal odour of incomplete fuel combustion. Symptoms of CO poisoning include nausea and vomiting, dizziness, burning eyes, difficulty breathing, confusion and loss of consciousness.

Investigated CO incidents have shown that one of the key contributing causes of the incidents is that many boilers are not being maintained in accordance with the boiler manufacturer's instructions. It is imperative that the boiler is cleaned properly and regularly to reduce the likelihood of CO production.

To address this situation, **TSSA is legally requiring that all heating contractors perform a CO safety check on the boiler and take action when an unsafe condition is identified. This check will be required when a technician enters a home with this type of boiler regardless of whether the homeowner/user has requested service on that boiler.** This check is only required once during the heating season. The gas technician is also required to visually examine the boiler and take action if there are signs of poor operation. Please note that even if you had a CO safety check during last heating season, another CO safety check is required again for this heating season.

As an equipment owner/user, TSSA and industry remind you of your responsibility to properly maintain your boiler and all other fuels burning equipment. Annual maintenance, as a minimum, by a qualified contractor is the best method to fulfil this requirement. Additionally, CO alarms are excellent warning mechanisms and are strongly recommended as a second line of defence.

This **mandatory** inspection should not be costly; however, if there are safety issues, the boiler will need to be serviced and depending on what type of service is necessary, the cost will vary. To best ensure your and your family's continued safety, we ask that you allow the technician's inspection/evaluation and that you have your boiler maintained on a regular basis.

If you do not allow the inspection, your boiler will be identified as requiring an inspection within a specified time. If that time elapses and the inspection is not completed, your fuel supply to the boiler will be shut-off.

TSSA and the associated industries thank you in advance for your co-operation in this regard. If you require further clarification or have questions, please ask the gas technician performing the inspection, your fuel supplier or TSSA at 1-877-682-8772 Web site: www.tssa.org.




Technical
Standards and
Safety Authority

Web site: www.tssa.org

Schedule B
Director's Order FS-072-06-R3
Gas Fired Residential Natural Draft Boilers
Equipped with a Draft Hood

**Please note that this Label shall be of similar
construction as a Pressure Test Tag.**


GAS FIRED RESIDENTIAL NATURAL DRAFT BOILERS EQUIPPED WITH A DRAFT HOOD TSSA Director's Orders FS-072-06-R3
ADDRESS OF INSTALLATION
CONTRACTOR'S NAME
CONTRACTOR'S PHONE #
REGISTRATION #
BOILER INSPECTION INFORMATION Expires May 1, 2008
BOILER MANUFACTURER
MODEL #
SERIAL #
DATE OF INSPECTION
CARBON MONOXIDE (CO) IN FLUE AS FOUND
CARBON MONOXIDE (CO) IN FLUE AS LEFT
THE PROVISIONS IN DIRECTOR'S ORDER FS-072-06-R3 HAVE BEEN SATISFIED <input type="checkbox"/>
GAS TECHNICIAN NAME
CERTIFICATE NUMBER AND CLASSIFICATION
DO NOT REMOVE Attach this label to gas supply piping as close as possible to boiler.