CPSC MEETING LOG
DIRECTORATE FOR ENGINEERING SCIENCES

SUBJECT: Meeting Log for the Z21/CSA Joint Technical Subcommittee on Standards for Vented Gas-fired Warm Air Heaters

LOCATION: Cleveland Marriott Downtown at Key Center, Cleveland, Ohio

DATE: October 31, 2019

TIME: 8:30 am

LOG ENTRY SOURCE: Ronald A. Jordan

ENTRY DATE: December 12, 2019

COMMISSION ATTENDEES:
Ronald Jordan ESMC

NON-COMMISSION ATTENDEES:

First name	Last name	Company
Peter	Baker	Maxitrol Company
Gregg	Achman	Hearth & Home Technologies
Sebastian	Button	PFS-TECO
David	Delaquila	Aquila Consulting, LLC
Zenon	Fraczkowski	Technical Standards & Safety Authority (TSSA)
Ciprian	Gherghel	Wolf Steel Ltd.
Ryan	Jensen	Emerson Climate Technologies
Ronald	Jordan	Consumer Product Safety Commission
John	Kory	CSA Group
Tom	O'Leary	Skytech Products Group
Shannon	Corcoran	AEHI
Eric	Hawkinson	Outdoor Greatroom
Peter	Osborne	Enercare
Ryan	Carroll	Hearth Patio & Barbecue Association
Kelsey	Dorrough	Rinnai America Corporation
Bruce	Dresner	Empire Comfort Systems, Inc
Beth	George	CSA Group
Josip	Novkovic	CSA Group
Dan	Yurman	CSA Group

M.9.10 Reports from Delayed Ignition Task Forces

The Delayed Ignition Task Force (TF) reported on the following issues:

M.9.10a: Gas Leakage Rate.
The TF submitted a report and a proposal for the gas leakage rate. The TF was discussed the following two questions about the gas leakage rate:

1. Is the leakage current test unnecessarily stringent and/or unrealistic or impractical in the real world for certain fireplace appliance types? If so, should the test criteria be amended, where justified, so that real world production test limits be set.

2. If the test method is too stringent, does this negatively impact integrity relief systems?

The TF found that leakage requirements that were unnecessarily stringent could create an environment that is counterproductive to the operation of pressure relief devices incorporated in Direct Vent Gas fireplaces. By reducing the test pressure and increasing the allowable leakage rate, the relief mechanisms can be operated with less force than currently required. The result would be relief devices that open faster and relieve pressure better.

M.9.10b: Relief Devices.
The TF addressed the issue of calculation of the relief vent area. The TF indicated that there are no specific requirements or guidelines for relief vent area in current standard and that there was not simple analytical solution for vent area sizing. Studies and theories that currently used for building vent designs could be considered for adoption. Suitability and corrections would need to be confirmed through extensive testing.

M.9.10c: Glass Frame Integrity.
The TF reported on the dynamics of a gas explosion caused by delayed ignition on the frame and glass front of a vented gas appliance installed in a residential fireplace. The TF reported that placement of a barrier in front of the glass panel could have a mitigating effect on projection of pieces of glass into the living area and also provide some measure of burn hazard mitigation. The TF also noted that for older homes the service life of the appliance may be the service life of the home. Newer homes may have an additional safety factor in that the gas pilot light has been replaced by electronic ignition.

M.9.10d: Gas valve as a factor.
The TF reported that the age of the gas valve may be a factor that affects the leakage rate due to the drying out of lubricants and seals. The long service lives of these appliances, in some cases a decade or more, is a factor. For this reason, a design test of 100,000 cycles of open and close functions over a short period of time, may not replicate these conditions. The TF noted that incident data about delayed ignition fires does not report data on the performance of the gas valve.

M.9.10e: Test methods.
The TF did not submit a report.

M.9.10f: Incident Data.
Incident data provide by the Technical Standards and Safety Authority (TSSA) for the period 2014-2018 indicated that there were over 100 incidents of delayed ignition reported in Ontario, Canada. It was noted that local fire departments didn't provide many details other than the source of the fire. Fifty percent of the fires related to vented gas fired appliances installed in fireplaces were cited as being caused by delayed ignition. The TSC chair said that the TSC has committed to review three key items in an effort to address the problems associated with delayed ignition of vented gas fired appliances, (1) gas leakage rate, (2) Relief devices, and (3) gas valves. As a result of these reviews, the TSC may propose technical responses to each factor. The TSC Chair asked all TFs to submit updated reports or original reports by 01/10/20.

M.9.11 Requests for Change:
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M.9.12b. **Issues related to U.S. Department of Housing & Urban Development rules on gas-fired appliances for mobile homes.**
The Z21.83 TC passed a motion to have TSC's identify and report back to the TC existing standards requirements associated with manufactured homes and how safety would be impacted by HUD's proposal to eliminate standards listing requirements for appliances listed for use in manufactured homes. The TSC tabled further discussion on this topic until it had an opportunity to study the matter further.

M.9.12c Common Items
JT 2016 – M.8b: Low Ambient Temperature - The TSC considered whether long-term storage of gas appliances and equipment in extreme cold settings where seals and lubricants in valves might be impacted. The TSC asked the Z21/83 TC to form a cross functional working group as other gas-fired devices covered by other standards might have similar issues.

This meeting was adjourned at 3:00 pm.