
BULLETIN 2000-021-EL

APRIL 19, 2007
(Revised)

VERIFICATION OF FIRE ALARM SYSTEMS

Sentence 3.2.4.5.(2) of Division B of the Vancouver Building By-law requires that fire alarm systems installed in buildings must be verified to ensure satisfactory operation in conformance with CAN/ULC-S537. City of Vancouver acceptance criteria for organizations involved in verification of fire alarm systems is described in Bulletin 2003-009-EL.

Upon completion of the verification procedure, a verification report must be submitted to the Electrical Inspection Branch by an acceptable fire alarm verification organization. The fire alarm verification report must be provided with the Appendix C form (C1 FIRE ALARM SYSTEM VERIFICATION REPORT) completed and signed by a qualified person employed by the acceptable fire alarm verification organization. The referenced Appendix C form is a part of ULC-S537-04, and it has been amended for use in the City of Vancouver (see attachment 1 to this Bulletin).

When a fire alarm system (FAS) is connected to an acceptable central station (see Bulletin 2000-019-EL) a ULC Certificate "Central Station Fire Protective Signalling Service" must be completed as a part of verification report. A sample of this certificate is shown on Attachment 2 to this Bulletin.

When an existing FAS in the building is subjected to an addition or alteration (replacement of components, addition, modification, repair, adjustment to system hardware, or any change to software), then the extent of the FAS re-verification must be provided as follows:

1. When a control unit, CACF or an annunciator has been replaced, repaired or modified on the existing FAS the entire FAS must be re-verified.
2. When a component or components of the existing single zone fire alarm system have been subjected to an addition or modification the entire FAS must be re-verified.
3. When fire alarm initiating devices have been added or modified in a fire alarm initiating zone (a manual station, a smoke detector, a flow switch or a heat detector), then that entire fire alarm initiating zone shall be re-verified. (See Notes).
4. When audible signal devices have been added or modified in a fire alarm signalling zone (speakers, bells, vibrating gongs, etc.) then that entire fire alarm signalling zone shall be re-verified. (See Notes).
5. When an existing fire alarm system component (a field device, voice communication module, a control unit, annunciator, etc.) has been modified or replaced with a component from a different manufacturer, all existing and new/modified devices must be compatible. The requirement of Clause 3.1.4 of the Standard ULC S524-01 states that "*All devices incorporated in a fire alarm system shall be compatible*". Thus, such compatibility must be indicated on Appendix C form by providing a compatibility test report from the ULC. The referenced test report must accompany each completed Appendix C form submitted in accordance with this Bulletin.

Notes:

1. Section 6 of ULC S537 provides specific verification requirements for modified fire alarm systems.

Clause 6.2 of the ULC S537 offers a clarification for modified *“conventional field devices”* by indicating that where a conventional field device is added or modifications are made to an existing input circuit or output circuit and the wiring is extended from an existing field device, the new device(s) as well as the existing device(s) connected on either side of the added or modified device and the end of the line for that circuit shall be verified for correct operation.

For the purpose of items 3 and 4 of this Bulletin, provision of Clause 6.2. of the ULC S537 is deemed to be acceptable to this office, when only a minor modification is made to an existing fire alarm initiating or signaling zone (i.e., replacement, relocation or addition of not more than 10% of conventional field devices in the zone).

2. Conventional field device is defined by the ULC S537 as follows:

“Conventional Field Device - A field device that is usually connected to the control unit on a common wiring circuit with other devices on the circuit provide common status change information (e.g. Fire alarm detection or signalling). Such devices cannot be uniquely identified by the control unit unless there is only one device on the circuit. (Refer to active field devices.)”

A.Z. Tsisserev, P.Eng.
CHIEF ELECTRICAL INSPECTOR AND
CITY ELECTRICIAN

Attachments 1 and 2

CAN/ULC-S537-04

APPENDIX C (INFORMATIVE) – FIRE ALARM SYSTEM VERIFICATION REPORTS

(Amended for use in the City of Vancouver)

(Reference: Subsection 3.1-Note, Clause 3.2.1, 3.2.2)

C1. FIRE ALARM SYSTEM VERIFICATION REPORT

(Reference: Clause 3.1.6, 3.1.7, 3.2.2)

Electrical Permit # EL:		Date:		
Address				
	New FAS <input type="checkbox"/>	Existing FAS <input type="checkbox"/> (see Note 1)		
System Manufacturer:		Model Number:		
A	System provides single-stage operation.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	-
B	System provides two-stage operation.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	-
C	The entire <i>fire alarm system</i> has been verified in accordance with CAN/ULC-S537, standard for Verification of Fire Alarm Systems.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	-
D	This is a partial verification for a partial occupancy.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
E	Components of the existing Fire Alarm System have been modified or replaced with components from a different manufacturer and are compatible with the existing Fire Alarm System components. (see Note 2)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
F	This is a partial verification for a <i>fire alarm system</i> that has been replaced in stages.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
G	This is a verification of a portion of an existing fire alarm system verified in accordance with Section 6, System Modifications.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
H	Installed in accordance with the design and CAN/ULC-S524, Standard for the Installation of Fire Alarm Systems.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
I	The <i>fire alarm system</i> documentation is on site and includes a description of the system.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
J	The <i>fire alarm system</i> is fully functional without deficiencies. (see Note 3)	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
K	The Fire Alarm System is connected to an acceptable central monitoring station via a supervised circuit of a ULC-listed transmitter approved for the purpose.	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
	If "Yes", specify the name and location of the central monitoring station: _____ and provide a copy of ULC "Central Station Fire Protective Signalling Service" Certificate No. _____ issued for the address above. (Note: A sample of the ULC Certificate is shown on Attachment 2 to the Bulletin.)			
L	Comments			
M	A copy of this report will be given to the following, who is the owner or owner's representative for this <i>building</i> : _____	Yes <input type="checkbox"/>	No <input type="checkbox"/>	-

This is to certify that the information contained in this Fire Alarm System Verification Report is correct and complete.

Printed Name and Signature of Qualified Person(s)
conducting the Verification
(see list of acceptable verification organizations,
Bulletin 2003-009-EL)

Company

() _____
Telephone

Notes:

- Please, elaborate on the extent of verification of the existing F.A.S.: _____
- If "Yes", ULC Test Report must be attached in conformance with Item 5 of Bulletin 2000-021-EL (Revised).
- Identified deficiencies relate to:
 - The existing portion of the FAS is not covered by the scope of work under electrical permit EL _____. Yes No
 - The newly installed FAS (or modified/added portion of the existing FAS.) Yes No



Corporate Headquarters
 7 Underwriters Road
 Toronto, ON M1R 3B4

Certificate Number

PROTECTIVE SIGNALLING SERVICE

This Certifies that the Alarm Company whose name appears below is Listed by Underwriters' Laboratories of Canada (ULC) and is authorized to install and monitor Protective Signalling Fire Alarm Systems in compliance with the requirements in ULC/ORD C693 for Protective Signalling Systems.

The Alarm Company named on this certificate bears the responsibility for the correctness of the system installation, periodic testing, maintenance and repair as well as the keeping of records respecting these activities.

It is also the responsibility of the Alarm Company to confirm that the equipment used in the installation is ULC Labelled and is suitable for the application. All required service is provided for in the care contract between the Alarm Company and the Occupant.

Underwriters' Laboratories of Canada makes no representations or warranties, express or implied, that the alarm system will prevent any loss by fire, smoke, water damage or otherwise, or that the system will in all cases provide the protection for which it is installed or intended. This certificate is evidence that the signalling devices are monitored and maintained by a ULC Listed Monitoring Station and that the service is subject to countercheck field inspections by ULC Representatives. This certificate is to be posted at the Subscriber's site and is valid only with a current maintenance contract.

ULC is not an insurer and does not assume or undertake to discharge any liability of the Alarm Company or any other party for any loss, which may result from failure of the equipment, incorrect installation, non-conformity with requirements, cancellation of this certificate or withdrawal of the Alarm Company from listing by ULC prior to the expiration date appearing on this certificate.

Normand Buteau
 Regional Chief Engineer,
 Underwriters' Laboratories of Canada

LISTED ALARM COMPANY						LOCATION								
TYPE OF SYSTEM	NUMBER OF SIGNAL SWITCHES								LOCAL F/A INTERCONNECTION					
	ROOM	WATER FLOW	SMOKE LEVEL	PRESSURE	WATER TEMP.	CUT OFF VALVES	PUMP SUP.							
NUMBER OF RISERS														
TRANSMISSION MODE	ISSUED: D M Y			EXPIRES: D M Y			MAXIMUM TERM							
SUBSCRIBER						MAINTENANCE								
						SYSTEM SHALL BE EXAMINED AND TESTED AT LEAST ONCE EACH YEAR								
						REPRESENTATIVE						DATE		
												D	M	Y