

Purpose

The purpose of the guideline is to create consistency with the education and enforcement of the Alberta Building Code, and the requirement for the integrated systems testing of the life safety systems as a whole.

The Alberta Building Code, and the Alberta Fire Code currently require that where life safety and fire protection systems are installed, integrated systems testing must be performed as a whole to ensure proper operation and inter-relationship between the systems.

Code Reference



Current National Building Code – Alberta Edition Division B Article 3.2.9.1. & 9.10.1.2.

2015 Illustrated Users Guide – NBC 2015 Part 9 of Division B Housing and Small Buildings Article 9.10.1.2.

National Fire Code – Current Alberta Edition Article 6.8.1.1.

CAN/ULC-S1001:2011 Integrated Systems Testing of Fire Protection and Life Safety Systems

Summary



The requirements within this Guideline are applicable to and provide clarity on the requirements regarding the Integrated Systems Testing of Fire Protection and Life Safety System for Commercial or Industrial buildings.



Conclusion

Where a new building is constructed, an addition is completed, or where a renovation takes place within an existing space (where Integrated Systems Testing has previously taken place), which affects the life safety or fire protection systems as they were previously functioning, integrated systems testing of the life safety and fire protections systems must be completed.

The intent behind integrated systems testing is to ensure that the overall system is reviewed to verify the integrated operation of the system using the Integrated Systems Testing (IST) process. Components that must be tested to ensure they are functioning according to the intent of their design include components such as the fire alarm system, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting and any other applicable components, including their interconnections with other building systems.

1. New Building – Where a new building is constructed, the overall system must be tested to verify the integrated operation of the system using the Integrated Systems Testing process.
2. Modifications to an Existing Building - Where modifications to the system are completed which require alterations to the existing life safety systems, re-verification of the individual systems and

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re-integrated systems testing of the overall system will be required. Where modifications take place, the Integrated Testing coordinator may accept documented evidence of any tests that have been performed on a system as part of its acceptance testing for the purpose of demonstrating compliance to the requirements of the standard.

Integrated Systems Testing when modifications are made to the system is only required following renovations or alterations which occur on existing buildings that were initially constructed after November 1, 2015.

3. Who performs the Testing – A qualified person or a registered engineering professional shall be retained as the Integrated Testing Coordinator. The Integrated Testing Coordinator prepares Integrated Testing Plans for each building or facility. All Integrated Testing Plans are expected to allow for future periodic integrated systems testing and integrated systems testing after modifications.

Documentation for the Building Safety Codes Officer –

a) New Building – When fire protection and life safety systems are integrated with each other, the current National Building Code – Alberta Edition and current National Fire Code – Alberta Edition require Integrated Systems Testing in accordance with the CAN/ULC-S1001 standard. Sample Integrated Testing Plan documents have been provided by Alberta Municipal Affairs within STANDATA 19-BCB-008/19-FCB-008, and CAN/ULC-S1001:2011. This documentation must be provided to the Building Safety Codes Officer for Final Inspection.

b) Existing Building Modification – When modifications to the existing life safety or fire protection systems or interconnections are completed, the Integrated Testing Coordinator can accept documented evidence of any tests that have been performed on a system as part of its acceptance testing for the purpose of demonstrating compliance with the integrated testing requirements of CAN/ULC-S1001. Where the Integrated Testing Coordinator determines that re-testing of the integrated system is not required, a verification letter or an updated Systems Testing Certificate which are signed and stamped by the Integrated Testing Coordinator, must be provided to the Safety Codes Officer. This documentation provides confirmation that the system continues to function as per the requirements of CAN/ULC-S1001.



Additional Information

[19-BCB-008/19-FCB-008 CAN/ULC S1001 Integrated system testing report \(sample\) \(alberta.ca\)](#)



Reference

Approval Date

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- October 2024
- October 2024