

COMMISSIONING OF LIFE SAFETY AND FIRE PROTECTION SYSTEMS (INTEGRATED SYSTEMS TESTING)

PURPOSE

This bulletin was developed to remind Code users that commissioning of life safety and fire protection systems is a requirement to be addressed using integrated systems testing (IST).

DISCUSSION

Both Alberta Building Code 2014 (ABC 2014) and the Alberta Fire Code 2014 (AFC 2014) reference the requirement for commissioning of life safety and fire protection systems to ensure proper operation and integration of these systems.

Within a building there are various life safety and fire protection systems. Individually these systems must be tested and verified for operation by the applicable discipline or personnel through a process typically called “commissioning”. However, for the purposes of Articles 3.2.4.6. and 9.10.1.2. of the ABC 2014 and Article 2.1.3.8. of the AFC 2014, the overall system must be tested to verify the integrated operation of the system using the IST process. Newly installed life safety systems and alterations to existing life safety systems would require IST to verify proper integration and performance of these systems.

It is expected that the integrated testing coordinator prepare integrated testing plans for each building or facility. While formatting and layout of the integrated testing plan is not mandated by the ABC 2014 or AFC 2014, the intent of the ABC 2014 and AFC 2014 is to ensure proper operation of these integrated systems. Therefore, all integrated testing plans are expected to include an integrated testing plan that allows for future periodic integrated systems testing and integrated systems testing after modifications.

Guidance for applying IST is described in the “CAN/ULC S1001-11 Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems”.

Appendix A is an example of a verification letter an Authority Having Jurisdiction (AHJ) may accept as confirmation IST has been completed. Depending on the complexity of the life safety systems, the AHJ may also request a copy of the integrated testing plan and a report of the test results.

It is expected that a registered engineering professional will be retained as the INTEGRATED TESTING COORDINATOR (ITC).

Unless stated otherwise, all Code references in this STANDATA are to Division B of the Alberta Building Code 2014.

Issue of this STANDATA is authorized by
the Provincial Building and Fire Administrators

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Alberta
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CODE REFERENCES

ABC 2014 Sentence 3.2.4.6.(1) states:

3.2.4.6. Commissioning of Life Safety and Fire Protection Systems

1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Alberta Fire Code 2014, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. (See Appendix A.)

A-3.2.4.6.(1) Commissioning of Life Safety and Fire Protection Systems. When commissioning a building, the owner must ensure that the life safety systems and their components (i.e. fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, etc.) are functioning according to the intent of their design. The commissioning provides the documented confirmation that building systems satisfy the intent of the Code.

Ultimately, someone will have to ensure that the interconnected operation of all life safety systems within the building has been confirmed: this responsibility may fall on the designer, owner, contractor or a commissioning body. The Alberta Building Code does not specify who must fulfill this role as this is an administrative issue.

ABC 2014 Sentence 9.10.1.2.(1) states:

9.10.1.2. Commissioning of Life Safety and Fire Protection Systems

1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the Alberta Fire Code 2014, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship of the systems. (See A-3.2.4.6.(1) in Appendix A.)

AFC 2014 Division B, Sentence 2.1.3.8.(1) states:

2.1.3.8. Commissioning of Life Safety and Fire Protection Systems

1) Where life safety and fire protection systems are installed to comply with the provisions of this Code or the ABC, the commissioning of these integrated systems must be performed as a whole to ensure the proper operation and inter-relationship between the systems. (See Appendix A.)

A-2.1.3.8.(1) When commissioning a building, the owner must ensure that the life safety systems and their components (i.e., fire alarm systems, sprinklers, standpipes, smoke control, ventilation, pressurization, door hold-open devices, elevator recalls, smoke and fire shutters and dampers, emergency power, emergency lighting, etc.) are functioning according to the intent of their design. The commissioning provides the documented confirmation that building systems satisfy the intent of the Code. Ultimately, someone will have to ensure that the interconnected operation of all life safety systems within the building has been confirmed: this responsibility may fall on the designer, owner, contractor or a commissioning body. The AFC does not specify who must fulfill this role as this is an administrative issue.

Disclaimer:

The information in this bulletin is not intended to provide professional design advice. If professional expertise is required with respect to a specific issue or circumstance, the services of a professional should be sought.

(APPENDIX A) - Example

**COMMISSIONING
Integrated Systems Testing of Fire Protection and Life Safety Systems**

_____ on behalf of
Name of Company or Person Performing Integrated Systems Testing
(INTEGRATED TESTING COORDINATOR)

_____ has developed
Name of Building Owner or Designer/Design Engineer
and implemented the integrated testing plan at:

_____ *Address of Installation (Municipality)*

This test was carried out as required by Article 3.2.4.6 of Division B of the Alberta Building Code 2014, and in accordance with the appropriate standard noted below.

_____ hereby confirms that
Name of Company or Person Performing Integrated Systems Testing

on _____, the integrated testing was performed in accordance with integrated
Month/Day/Year

testing plan to ensure proper operation & inter-relationship between the systems per original design prepared by _____
Name of Designer

And subsequently updated to "As-Built" status by: _____
Name of Contractor

The integrated testing was performed on _____ and proper operation and
Month/Day/Year

inter-relationship between the systems found to be fully operational in accordance with:

1. The Alberta Building Code 2014, and
2. CAN/ULC S1001-11 Standard for Integrated Systems Testing of Fire Protection and Life Safety Systems.

Note: Interconnection between the following integrated systems was subject to the test:

<input type="checkbox"/> fire alarm systems,	<input type="checkbox"/> elevator recalls,
<input type="checkbox"/> sprinkler & standpipes systems,	<input type="checkbox"/> emergency power,
<input type="checkbox"/> fire pumps	<input type="checkbox"/> emergency lighting,
<input type="checkbox"/> electromagnetic locks,	<input type="checkbox"/> smoke and fire shutters and dampers,
<input type="checkbox"/> door hold-open devices,	<input type="checkbox"/> smoke control, ventilation, pressurization,
<input type="checkbox"/> kitchen fire suppression	<input type="checkbox"/> other

_____ *Name of Company or Person Performing Integrated Systems Testing*

_____ *Signature or Person Responsible for Test*

Note: Modifications to the integrated system after _____ will invalidate this Certificate.
Month/Day/Year

_____ *Signature of Person Assuming Responsibility for Test*