

Operating Guideline # 810

Operational Fire Investigations

December 6, 2023



PURPOSE:

The purpose of this Operating Guideline (OG) is to establish guidelines to ensure that all fires are investigated for cause and origin and to safeguard the health of those performing these investigations.

ISSUE/RATIONALE:

All fire departments have an obligation to attempt to determine the cause any fire that they attend. Simple fire cause determination efforts can be easily accomplished by most Incident Commanders, while more complex efforts often require the response of personnel who are more thoroughly trained or experienced in investigative techniques.

Section 14 of the *Fire Protection and Prevention Act* (FPPA) also authorizes fire departments to conduct examinations (investigations) where a fire has occurred, and the Fire Chief has authorized all duly appointed officers (Deputy Chief(s), District Chief(s), Captains and any uniformed member of the Fire Prevention Division) to conduct these examinations pursuant to section 6.6 of the FPPA.

The National Fire Protection Association (NFPA) standard 921 (Guide for Fire and Explosion Investigations) is a widely recognized document which sets out fire investigation procedures. This document suggests that a systematic methodology be utilized to conduct a fire investigation.

GUIDELINE:

1. It is the policy and practice of the Muskoka Lakes Fire Department to attempt to determine the origin and cause of all fires that occur in the municipality.
2. For the purposes of determining the origin and cause of fires, fire investigations shall be categorised as a) "Operational Level Fire Investigations", b) "Essential Level Fire Investigations" or c) "Enhanced Level Fire Investigations".
3. An "Operational Fire Investigation" is one that is conducted in accordance with this OG by the Incident Commander, while Essential or Enhanced Level fire investigations are conducted by staff (or outside agencies) with specialised training (i.e. – the Fire Prevention Officer, OFMEM Fire Investigators). SEE OG 1807, ESSENTIAL AND ADVANCED LEVEL FIRE INVESTIGATIONS.
4. An "Essential Level Fire Investigation" is conducted by MLFD staff members with the necessary knowledge, skills and abilities to conduct more complex investigations. SEE OG 1807, ESSENTIAL AND ENHANCED LEVEL FIRE INVESTIGATIONS.
5. An "Enhanced Level Fire Investigation" shall only be conducted by the Office of the Fire Marshal and Emergency Management (OFMEM). The OFMEM conducts fire cause

Operating Guideline # 810

Operational Fire Investigations

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determination efforts in certain circumstances. The OFMEM must be notified in the following instances:

- a) All fatal fires or critical injury incidents
- b) Explosions, where the explosion is the primary event
- c) All fires in vulnerable occupancies as defined in the Fire Code
- d) Suspected incendiary fire
- e) Large loss fire over \$500,000, or where the loss is significant to the community
- f) Fires of unusual origin or circumstance – requiring expert investigation to determine cause
- g) Fires resulting in unusual fire/smoke spread,
- h) Fires involving circumstances that may result in widespread public concern, e.g., environmental hazard
- i) Multi-unit residential occupancies - where fire spread is beyond unit of origin
- j) Fires involving clandestine drug operations or marijuana grow operations
- k) Provincial interest fires that are identified and defined by the OFM

6. Once a fire situation has been brought under control, the Incident Commander with the assistance of other officers and other firefighters will attempt to determine the cause of all fires. This “Operational Level Fire Investigation” will be made to determine the cause of the incident for the purpose of completing the Standard Incident Report (SIR) required by the OFMEM and for fire prevention/educational purposes. It is hoped that through this effort the means to prevent similar fires from occurring again will be identified. Command will ensure that all fires regardless of size will be investigated for cause and origin.

7. Should the Incident Commander:

- a) Believe that the fire cause determination effort that will be required is outside his/her capability;
- b) That some unusual element of the investigation will cause the investigation to be protracted;
- c) That the investigation will require the assistance of some outside agency (i.e. – electrical service provider, TSSA, ESA); or
- d) If the incident falls within the parameters of the OFMEM (see sentence 5)
- e) he/she shall notify the Fire Chief and seek the appropriate direction.

8. Should any member discover anything that might be deemed suspicious during the fire extinguishment or overhaul phase of the incident, the Incident Commander shall be immediately notified and all additional activities undertaken at the scene shall be taken with due consideration for preventing the scene from being disturbed so that evidence may be investigated and gathered by the appropriate authorities. To accomplish this, it will be the responsibility of each member to conduct any extinguishment and overhaul of the fire with great care.

Operating Guideline # 810

Operational Fire Investigations

December 6, 2023



9. Should the circumstances of any incident give rise to a concern about the origin of the fire being anything but accidental in nature; the incident will not be investigated further by fire department personnel. Command shall notify the Fire Chief, the OFMEM and the Police. No unauthorised persons shall be permitted access to the scene until such time as the police or fire investigators authorize their access. The Incident Commander shall be responsible to ensure scene security is established by the police prior to the scene being vacated by fire apparatus.

10. No scene shall be released without being turned over to a proper authority (i.e. - owner, owner's agent or representative, police.) The standard "Fire Scene Release Form" should be utilised in all cases not being investigated by another agency (OFMEM/Police). SEE APPENDIX A.

11. All scenes that cannot be turned over to the owner/occupant (or another authority having jurisdiction) will be secured in such a way as to prevent any accidental intrusion. As a minimum, yellow "FIRE LINE – DO NOT CROSS" tape shall be erected around the perimeter of the site. The Incident Commander shall cause the notification of the "Property Standards" division of the Town where there is any concern about scene security, fire debris etc.

12. Personnel conducting fire scene investigations shall use such PPE that is necessary under the circumstances including gloves, head protection, safety footwear, eye protection, and turnout gear.

13. Respiratory protection shall be worn in accordance with OG 223 - RESPIRATORY PROTECTION DURING FIRE INVESTIGATIONS.

14. "Operational" fire investigations shall be documented via the Standard Incident Report.

15. Members that are assigned to fire investigations shall ensure that they follow the NFPA 921 guidance document for investigation and must have certification in NFPA 1033 Fire Investigator.

16. All members of the fire department are encouraged to take the ["Impact of Ventilation on Fire Patterns"](#) online course from the Fire Safety Research Institute that examines the impact of ventilation on fire damage and fire patterns within a structure.

RESPONSIBILITY:

It is the responsibility of all Emergency Operations Division staff to comply with the provisions of this Operating Guideline.

REFERENCES:

- Fire Protection and Prevention Act, S.O. 1997, as may be amended

Operating Guideline # 810

Operational Fire Investigations

December 6, 2023



- Section 21 Committee Guidance Note GN-4-09, Respiratory Protection
- Section 21 Committee Guidance Note GN-4-13, Personal Protection During Fire Investigation Operations
- Muskoka Lakes Fire Department OG 203, Use of Breathing Apparatus
- Muskoka Lakes Fire Department OG 223, Respiratory Protection During Investigations
- Muskoka Lakes Fire Department OG 1807, Essential & Enhanced Level Fire Investigation
- NFPA 921, Guide for Fire and Explosion Investigations, 2014 Edition
- IFSTA, Fire Investigator, Second Edition



Fire Scene Release Form

Date :	Time of Incident Occurrence :
Property Owner :	
<input type="checkbox"/> Company <input type="checkbox"/> Individual	
Occupant:	
<input type="checkbox"/> Company <input type="checkbox"/> Individual	
Incident Address :	FD Occurance #

Fire Scene Description :

Services Isolated / Shut Off :

Electric Water Propane Oil Other : _____

MLFD Incident Commander Name :

Operating Guideline # 810
Operational Fire Investigations
December 6, 2023



The above noted fire scene is hereby released to the undersigned owner / occupant / officer / agent who accepts responsibility for the site. The undersigned will ensure that the site is made safe by taking whatever lawful actions to do so.

Recipients Name:		<input type="checkbox"/> Owner	<input type="checkbox"/> Police
		<input type="checkbox"/> Occupant	<input type="checkbox"/> Individual
Name of Insurance Provider :		Policy Number :	
Recipient Physical and Mailing Address :			
Phone:		Email :	
Cell :			
Recipient's Signature :			<input type="checkbox"/> Verbally Over Phone
Date :		Time Incident Released	

Best Practices for Post-Fire "Fire Watch"

- Minimum of two persons
- Conducted for minimum of 24 hours following the completion of fire department operations
- Persons providing fire watch are to be appraised of all risks/hazards present
- Persons to check the building perimeter at 15-30 minute intervals for any signs of fire/smoke
- Persons assigned to fire watch should be equipped with an appropriate means to extinguish hot spots
- Persons assigned to fire watch should have a means to summon assistance if required (two-way radio/cell phone)
- Persons assigned to fire watch must have appropriate Personal Protective Equipment and clothing
- The fire watch can only be terminated when all risk of re-ignition has passed.