

Fire Service Association of Nova Scotia
Nova Scotia Fire Dispatch Minimum Standards (2017)

July 14, 2017

Scope

This document sets out the minimum standards to which fire dispatch operations are expected to operate in the Province of Nova Scotia. The document is based on the National Fire Protection Association (NFPA) 1221, *Standards for the Installation, Maintenance and Use of Emergency Services Communications Systems*. Its establishment was lead by the Fire Service Association of Nova Scotia, with valuable input by Emergency Management Office Nova Scotia, the Office of the Fire Marshal, the Public Safety & Field Communications office of Department of Internal Services, fire officers and dispatch operators.

It is important to realize that this document reflects minimum acceptable standards for facilities, equipment, qualifications, training, and procedures and that many operations will easily exceed these minimum standards. Those that do not meet these standards should consider them as a guideline for demonstrating due diligence in their professional service delivery.

Structure

This document considers three broad components of successful fire dispatch operations: human resources (including management, staffing, training); facilities (including onsite and off-site infrastructure); and technology. Each of these components must be considered in relationship to the others and no one can be considered more important than any others. Each component is considered in a dedicated section of the standard followed by some general points that every operation of this nature must consider.

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Human Resources

A. Management

- 1) The overall facility shall be under the control of a responsible person, generally referred to as the Communications (Comm) Centre Manager.
- 2) The Comm Centre Manager shall be responsible for all matters associated with keeping the Comm Centre operational.
- 3) Every shift shall include a Supervisor or 'senior' dispatcher on duty.
- 4) The Comm Centre Manager shall ensure that all employees have appropriate security clearances; as a minimum a Criminal Records Check shall be required.

B. Staff Qualifications and Training

- 1) At minimum, Call Takers/Dispatchers shall have Province of Nova Scotia Grade XII General or equivalent, shall have a minimum of one (1) year experience in emergency incident communications pre-hire and shall be familiar with general fire service operations.
- 2) Call Takers/Dispatchers shall be in good health and free from physical and mental handicaps that affect their ability to efficiently handle the duties assigned with minimum of supervision and working within a team environment.
- 3) Call Takers/Dispatchers shall possess excellent oral and writing skills.
- 4) Call Takers/Dispatchers shall be suited to the role, including being able to remain calm and take decisive action during emergencies.
- 5) Call Takers/Dispatchers shall be able to remain alert during periods of inactivity and when performing tasks of a repetitive nature.
- 6) Call Takers/Dispatchers must be able to type at a rate of 25 words per minute with accuracy of 75 per cent.
- 7) Call Takers/Dispatchers shall have a working knowledge of the Dispatch Equipment and the Standard Operating Procedures used in the operation of the Comm Centre. Where such equipment is installed and used, Call Takers/Dispatchers shall have a working knowledge of the Nova Scotia 9-1-1 Emergency Telephone Answering Equipment.
- 8) One to two months on-the-job training shall be provided to Trainee Call Taker/Dispatchers, depending upon general communications and community knowledge pre-hire. During this period the Trainee shall become familiar with all existing Standard Operating Procedures/Guidelines.

- 9) Trainee Call Taker/Dispatchers shall successfully complete a Call Takers/Dispatchers training program recognized by APCO or other authority.
- 10) Trainee Call Taker/Dispatchers must be supervised at all times by a senior Call Taker/Dispatcher and shall not be left alone in the Comm Centre.
- 11) Complete and accurate records of all training received by each employee, including operational training on existing and any new installations, procedures or methods shall be maintained.
- 12) Call Takers/Dispatchers shall have access to information regarding the location of roads and streets and important structures such as hospitals, schools and other areas with high concentrations of people or hazardous goods within the jurisdiction of operation and the Call Takers/Dispatchers are responsible for knowing how to access this information.

C. Staffing Level

- 1) The number of Call Takers/Dispatchers on duty shall be determined by the following limits:
 - i. Ninety-five percent of emergency calls shall be answered within 15 seconds and 99 percent of emergency calls shall be answered with 40 seconds.
 - ii. Ninety-five percent of emergency dispatching shall be completed with 60 seconds.
- 2) General Operating Guidelines
 - a. In a facility providing service to multiple jurisdictions or independent agencies, each agency shall establish minimum acceptable performance standards for its requirements within the consolidated minimum performance standards provided in this document. Individualized or unique protocols and procedures shall be avoided unless a compelling reason can be presented for exceptions. Each 'client' agency shall enter into a contract with the Comm Centre Management/owner to deliver service to the accepted standard.
 - b. Dispatch of mobile units in response to emergency calls shall be recorded. Records shall indicate units responding to all emergencies, time of acknowledgment by unit(s), time of arrival of first unit at the scene and time available for assignment.
 - c. If applicable, all emergency calls shall be answered and dispatched in the manner prescribed in the Nova Scotia 9-1-1 Standard Operating Procedures and in a manner suitable to the agency being dispatched.

- d. Complete and accurate records of all observations, circuit interruptions, fault reports and other anomalies shall be maintained.

Facilities

A. Physical Plant Requirements – Planned New Structures

- 1) Buildings to be used as Comm Centers are to meet the requirements of the current Nova Scotia Building Code Act (Building Code). Comm Centers shall not be located below grade, unless the structure has been specifically designed for such location.
- 2) Comm Centers shall be located in buildings approved for compliance by the local authority having jurisdiction (AHJ) and shall be occupied only after issuance of an Occupancy Permit.
- 3) Buildings shall not be situated on a flood plain where the operations floor elevation is below the predicted 100 year flood level.
- 4) Buildings to be used as Comm Centres shall not be located over main water lines or have main water lines passing through them.
- 5) All new buildings being constructed and intended for use as a Comm Centre shall be designed to achieve Post Disaster criteria pursuant to Part 4 – NBC.
- 6) A fire sprinkler system shall be installed throughout buildings housing Comm Centres and electrical panel location(s) if required by the Building Code.
- 7) In addition to any requirements of the Building Code, if the Comm Center is not a stand-alone structure, it shall be adequately protected from any adjacent suits or units by a fire separation having a fire-resistance rating not less than 1 hour.
- 8) The facility requires a current fire safety plan prominently posted. The fire safety plan must outline the procedures that staff must follow in the event of a fire involving electrical equipment and normal combustibles.
- 9) The workspace shall have a minimum of two five lb. CO₂ fire extinguishers located near exits.
- 10) Provisions shall be made for staff washroom and lunch areas to be directly accessible from the operations room.
- 11) Heating, ventilation and air-conditioning shall be provided in the Comm Centre in accordance with Part 6 – National Building Code (NBC). Provision shall be made for appropriate comfort levels for sedentary work activities in 24/7 operations. Heating, ventilation and air conditioning, if provided, shall be provided by systems with controls serving only the Comm Centre.

- 12) Appropriate seating and workstations shall be provided for the full staff compliment for each operating shift.
- 13) Entry to the Comm Centre shall be restricted to authorized persons only and controlled by the operations staff. An Entrance Log shall be employed:
 - All personnel who are not exempt must sign and time-stamp the log upon entry and upon leaving the Comm Centre;
 - Only persons conducting official business may be determined exempt by the Comm Centre Manager.
- 14) The Comm Centre shall be equipped with an automatic fire alarm system which shall be monitored at a remote location. An annunciator panel may be installed near the Comms workstation allowing staff to silence and-or acknowledge the sounding fire alarm.

B. Physical Plant Requirements – Existing Structures

- 1) Existing structures being used as a Comm Centre must comply with requirements of the National Fire Code Act (Fire Code) in terms of means and locations of access and egress points for the maximum number of occupants in the space. The local authority having jurisdiction can provide the information required to comply with the Code requirements.
- 2) In the event that an existing building being used as a Comm Centre is above the 50 years flood level but below the predicted 100 year flood level, there must be a fully redundant alternate location to which staff and essential equipment can be promptly relocated. In no case shall a Comm Centre be located in a facility where the floor is below the predicted 50 year flood level.
- 3) An existing building being used as a Comm Centre should be retro-fitted with a residential-type fire sprinkler system in areas occupied as a Comm Centre.
- 4) In addition to any requirements of the Building Code, the Comm Center shall be adequately protected from any adjacent suites or units by a fire separation having a fire-resistance rating not less than 1 hour.
- 5) The facility requires a current fire safety plan prominently posted. The fire safety plan must outline procedures that staff must follow in the event of a fire involving electrical equipment and normal combustibles.
- 6) The workspace shall have a minimum of two five lb. CO₂ fire extinguishers located near exits.
- 7) Where reasonably practicable, provisions shall be made for staff washroom and lunch areas to be directly accessible from the operations room.

- 8) Provision shall be made for appropriate comfort levels for sedentary work activities in 24/7 operations. Heating, ventilation and air conditioning, if provided, shall be provided by systems with controls serving only the Comm Centre.
- 9) Appropriate seating and workstations shall be provided for the full staff compliment for each operating shift.
- 10) Entry to the Comm Centre shall be restricted to authorized persons only and controlled by the operations staff. An Entrance Log shall be employed:
 - All personnel who are not exempt must sign and time-stamp the log upon entry and upon leaving the Comm Centre;
 - Only persons conducting official business may be determined exempt by the Comm Centre Manager.
- 11) If an automatic fire alarm system is in service in the facility it shall be monitored at a remote location. An annunciator panel may be installed near the Comms workstation allowing staff to silence and-or acknowledge the sounding fire alarm.

C. Electrical Systems Requirements

- 1) All electrical wiring and equipment shall be installed according to the requirements of the current Canadian Electrical Code (CEC).
- 2) All electrical equipment in the facility shall be approved for, and used only for, its intended application.
- 3) Transient voltage surge protection shall be provided between the incoming electrical service for the building and the power panel feeding the dispatch operations equipment.
- 4) The electrical design shall be performed by a Professional Engineer or where a facility exists it shall be reviewed by a Professional Engineer to ensure it complies with all the electrical requirements of this standard.
- 5) Reference to any code, standard or regulations shall be the most recent edition that is in force at the time of design or review.

D. Electrical Power Supply Sources

- 1) The Comm Centre shall be powered by a primary source of power from the electric utility and an emergency (back-up generator) source of power; both shall be adequately sized to operate all equipment associated with the proper operation of the Centre on a continual basis. The emergency source of power (back-up generator) shall consist of an engine driven generator complete with automatic start and fully automatic transfer switch and a storage battery having a minimum capacity to crank the engine at -35 degrees C.
- 2) The generator shall have sufficient capacity to operate the following, but not limited to:

- a. Comm Centre phone equipment
 - b. Dispatch communications equipment
 - c. Operational lighting
 - d. Fire alarm and fire protection systems (fire pump if applicable)
 - e. Recharging of the generator battery system
 - f. Generator fuel transfer pump (if applicable)
 - g. Sump pumps (if applicable)
 - h. Security system (if applicable)
 - i. Heating, Ventilation, and Air Conditioning
 - j. Limited kitchen equipment (microwave oven, refrigerator)
- 3) The complete emergency power system shall meet the installation, monitoring, performance and operational requirements of CSA C282-00- Emergency Electrical Power Supply for Buildings. If applicable, wiring from the generator to the fire pump shall be fire rated.
 - 4) Fuel for the generator shall be stored in accordance with the applicable codes, standards and regulations. Sufficient fuel must be stored on site to allow for twenty-four (24) hours of continuous operation of the generator to supply full power to all necessary loads.
 - 5) Where the possibility exists that during a transfer of power or upon initial loss of power a necessary system may lose essential information or may shutdown and cannot be restored until power restores, these systems shall be supplied with an uninterruptible power supply (UPS) to operate the system for at least two (2) hours.
 - 6) The Comm Centre shall be equipped with emergency lighting that shall immediately illuminate the entire Centre upon failure of the primary source of power. The emergency lighting shall be capable of providing sufficient lighting to permit continuation of all operations until the primary source of power is restored or until emergency source of power supplies stable power. The National Building Code requires a minimum 20 minutes duration, and 2 hours in main electrical rooms where the transfer switch is located.

Technology

A. Commercial telephone system

- 1) There shall be at least one (1) unlisted telephone line located at the Comm Centre; the number of lines depends upon the population served by the Comm Centre.
- 2) A non-emergency telephone number listing for each emergency service provider being dispatched shall be recorded in their local white pages directory. Telephone number listings for each emergency service provider agency shall be recorded in the on-site documentation.

- 3) If the call answering and emergency dispatching personnel are not located in a common facility, there shall be at least two independent circuits provided between the call answering and emergency dispatching personnel.
- 4) If the Comm Centre monitors private automatic alarm systems, they shall route through to a separate number and shall not use the 9-1-1 Emergency Telephone System.

B. Dispatching systems

- 1) When the emergency notification system equipment is used for non-emergency communications for various agencies, the Dispatchers shall not action calls of a routine nature (IE. Pager Test) when the routine call may interfere with the full and proper processing of any emergency call.
- 2) Unless the total quantity of emergency calls processed are less than 600 per year per Comm Centre, two (2) separate means of emergency notification shall be provided. A circuit terminating at a telephone instrument only is not considered as either of the two separate means of emergency notification.
- 3) At least one emergency notification method shall incorporate one of the following:
 - A supervised wire circuit;
 - A radio channel/talkgroup;
 - A microwave and/or radio link supervised carrier channel;
 - A polling or self-interrogating radio or microwave radio system.
- 4) The primary dispatch and call answering equipment must have full redundancy within the facility such that failure of one component does not necessitate relocation to the back-up facility.

C. Computer Aided Dispatch Systems

- 1) Where a Comm Centre uses Computer Aided Dispatch (CAD) it shall be configured to receive and process the Automatic Location Information (ALI) and the Automatic Number Identification (ANI) to the standards established by EMONS and the Enhanced 911 service provider.
- 2) In addition to the CAD system a manual backup system shall be provided and in a fully functioning state should failure of the CAD system occur.
- 3) When a CAD system is employed, it shall be dedicated solely to servicing public safety organizations.
- 4) A third-party text message (SMS or email) notification service may be offered/supported by the Comm Centre, however this is not considered to be a primary emergency notification method. Where feasible, such text message notification service will be fully integrated with any existing CAD system.

D. Records and Recording

- 1) All emergency calls received, regardless of the source, shall be voice recorded and tabulated to indicate the date, time and source of the call.
- 2) All emergency calls dispatched shall be recorded and tabulated to indicate the date, time and agency notified in a paper or electronic format and filed for future reference by the agency of jurisdiction.
- 3) Acknowledgement by mobile units responding to emergency calls shall be recorded. Records shall indicate units responding to all emergencies, time of acknowledgment by unit(s), time of arrival of first unit at the scene and time available for new assignment.
- 4) Complete and accurate records of all fire alarm tests shall be maintained. Any failed test alarm shall be immediately reported to the agency of jurisdiction.
- 5) Complete and accurate records of all observations, circuit interruptions, fault reports and other anomalies shall be maintained with the following noted:
 - Date and Time of observation;
 - Name of Call Taker/Dispatcher;
 - Note of any corrective action or test(s) performed by Call Taker/Dispatcher;
 - Date and time Fault/Observation reported to Maintenance/Repair Organization;
 - Date and time Maintenance/Repair Organization arrived on site;
 - Date and time of Repair Completed;
 - Description of work performed or fault corrected and name of servicing party.

E. Timing Equipment

- 1) The clock for the main voice record-keeping device in the Comm Centre shall be verified weekly to ensure synchronization with Universal Time Coordinated (UTC).
- 2) All equipment in the dispatch facility (computers, call answering and dispatch equipment etc.) with a clock shall be maintained within +/- 5 seconds of the main voice recording device.

General Requirements

A. Facility Overflow Capability

- 1) In the event that a fire dispatch facility becomes overwhelmed by the volume of incoming requests for service or is disabled by local circumstances (IE. inclement weather or catastrophic incident) to the extent that the operators or the telephone or radio equipment is unable to meet the service delivery standard specified in **Human Resources** part C., there shall be provisions for incoming calls to be rerouted to an alternate dispatch facility which has the appropriate staff, equipment, information and systems to allow dispatchers to undertake the duties

of the primary facility until the call volume returns to a level to allow the primary facility to resume full responsibility.

B. Backup Facility

- 1) Every Comm Centre providing emergency dispatch or notification services shall have a reliable, fully functional backup facility sufficiently geographically separated from the primary facility so as to minimize dependence on the same electrical distribution, sanitation and transportation infrastructure.
- 2) A backup facility shall be maintained in full standby mode such that dispatchers can be relocated to it on short notice and immediately resume full service to clientele.
- 3) The backup facility communications equipment shall be tested at least once a month. At least once every six months the backup facility shall be operated for one full shift.

C. Providing Service for Multiple Client Agencies

- 1) When a Comm Centre provides service for multiple client agencies, a universal protocol for dispatching fire services shall be developed through a consensus of clients and Comm Centre owner/manager. This protocol shall be clearly described and provided for use by the Comm Centre staff. Only in extenuating circumstances shall non-conforming protocols be used when dispatching fire services.
- 2) Although not a mandatory part of this standard, it is strongly recommended that Service Level Agreements (SLA) be signed between each of the client agencies and the Comm Centre. A model SLA is attached as Appendix A.

D. General Priority of Service

- 1) Any emergency which, in the judgment of the Dispatcher, is life threatening, shall take precedence over all other traffic.
- 2) Public Safety emergency communication shall take precedence over all other work or communication activities performed. Other work shall not interfere with the proper handling of emergency service calls.

E. Business Continuity-Succession Planning

- 1) The owner or manager of a Comm Centre providing emergency call taking, dispatching, or notification shall develop and maintain a business continuity plan to acknowledge the possibility of catastrophic events either physical or human.
- 2) The owner or manager of a Comm Centre shall develop and maintain a succession plan for continuation of service for a reasonable period of time in the event of a loss of any key personnel from the organization.

