



## **FIRE DISPATCH SERVICE COMPONENTS**

Fire dispatch services in North America generally use the NFPA Standards as the guidelines for the delivery of fire dispatch services. These standards address all areas of dispatch service delivery including performance standards, staffing, training, facilities, computer aided dispatch (CAD) platforms, and records management systems (RMS). While the NFPA Standards are not legislated standards and compliance is voluntary, they are generally considered as best practice and are used as guiding principles in the analysis of a regional fire dispatch system.

### **Performance Standards**

The performance metrics prescribed by NFPA 1221 that are expected of a fire dispatch service is the ability to receive and dispatch all emergency events to the appropriate agency within the standards which requires effective call handling within 64 seconds, 90% of the time. Presently these metrics are being met within the region and would be expected to continue in any future model that is considered.

### **Staffing**

In 2016, the NFPA 1221 Standards changed from having the appropriate number of dispatchers necessary to meet performance standards to having a minimum of two dispatchers on 24/7. There is no specific guidelines as to the ratio of dispatchers to call volume in the NFPA. Based on assessment of fire dispatch operations the ratio of dispatchers to call volume ranges from 8,000-12,000 calls per dispatcher position per year and the optimal ratio for a specific system hinges on the level of support needed by the departments and the nature of the calls attended.

Presently, there are four fire dispatchers on duty 24/7 in the region with Victoria having one, Saanich having two, and CRD having one. Based on the fact that the services are meeting the performance metrics it is clear that this staffing level is functional. It is suggested that with the combined call volume of 28,000 calls per annum in the region, the appropriate staffing would be three dispatchers 24/7 which would give a ratio of 1:9,250 calls per dispatcher position. A potential variation would be to consider two dispatchers 24/7 with a third and potentially fourth dispatcher on peak hours daily to gain efficiencies and adjust staffing levels accordingly during slow periods during the night and to increase staff appropriately during peak volume times which better reflects the work flow activity. Either approach would require the ability to up staff the center for major events or emergencies as necessary to support fire operations.

Regardless which staffing model is chosen as appropriate, there appears to be opportunities for economy of scale to be gained versus the current model of four fire dispatchers on 24/7 within the region. In addition, each dispatch center has resources dedicated to dispatch management and technical support which would also be viewed as an opportunity for economy if a consolidation of fire dispatch centers was considered.

Based on consultations with the dispatch experts within the region it suggested that there be a minimum of four operational dispatcher workstations with an additional one or two available for training and or special events. This would allow capacity for growth as the system evolves. It would be expected that all dispatchers would continue to meet NFPA training standards no matter which model is considered.

## **Computer Aided Dispatch (CAD)**

A current CAD system is a basic imperative for any fire dispatch service that may be considered. Presently there are two different systems in operation in the region with CRD and Victoria using the FDM system and Saanich using Intergraph. Both of these systems meet industry standards. E-Comm also uses the Intergraph system for their CAD for fire dispatch operations. Saanich currently has an agreement with E-Comm for computer aided dispatch for fire services in the region which provides First Right of Refusal to expansion of E-Comm fire dispatch services in the area.

The expectations from the dispatch group and the fire leadership is that whichever system is contemplated is multi-jurisdictional and has the ability to handle multiple agencies and their specific dispatch rules. The systems need to be configurable and able to adjust to changing operational and system needs. Additionally, the systems need to have CAD to CAD interface and capability for GPS and mobile workstations for frontline units including an interface from BCEHS for the timely management of first responder calls.

Redundancy in dispatch operations is imperative in the event that the primary fire dispatch site becomes inoperable for any reason such as technology failure, facility issues, etc. Presently, Saanich backs up directly to E-Comm in Vancouver which is considered a hot back-up in that no staff movement or shifting of phones is required. Victoria Fire has a back-up workstation at the Victoria Police Department dispatch centre though would not have access to their CAD and phones would have to be physically switched over. The CRD dispatch through Langford has redundancy with BCEHS dispatch at their Leigh Road centre with two fully functional workstations. This would be considered a warm site in that the phones would have to be transferred and staff would have to make their way over to that site to continue full operations.

It would be expected that whichever fire dispatch model is considered for the region that there would be a hot back-up system in place for the CAD and the emergency phone lines to ensure no lag time in call handling in the event of system failure.

## **Records Management Systems**

A key aspect of the fire dispatch system is records management. Presently, all the dispatch centers use FDM as their records management product. This system is based on a suite of modules that address numerous components including call tracking, training, inspections, equipment maintenance, site plans, etc. and presently meets the needs of the departments served. It is expected by the Fire Chiefs that whichever dispatch model is chosen that there continues to be a robust and comprehensive records management system in place with regular reporting out to their departments. There is also the expectation that the dispatch centers will assist with records management and data entry where possible. Records and data security is an important consideration and administrative and maintenance components will need to be considered. A standardized records management system would ensure effective and consistent reporting amongst fire services.

## Radio

As fire operations are essentially radio based, it is imperative that the appropriate radio equipment is in place and functional to ensure effective communication with all departments as required. In the CRD this means effective connection with the Capital Region Emergency Service Telecommunications (CREST) radio system will be necessary to connect the center with regional emergency services. Additionally, there needs to be the appropriate number of recording capacity for the dispatch radio system to ensure effective monitoring and recording of operational radio channels.

An Advanced Station Alerting System would be necessary to meet the alerting needs of all departments from rural volunteer to urban fulltime fire services. This must include paging, rip and run, and in-hall reader boards with event and mapping information and shot clocks for chute time awareness.

With the pending move to next generation radio systems in the region there may be unanticipated costs and requirements that will impact fire dispatch facilities and operations. These potential influences are not fully quantifiable at this point.

## Facilities

The fire dispatch facility needs to have enough space to effectively house the operational dispatch stations as necessary to meet the day to day operational requirements of the system. The guidelines for fire dispatch facilities and infrastructure are also covered under NFPA Standards for the most part. It would be expected that any facility being considered for fire dispatch operations will be post-disaster rated and have appropriate back-up generators and system redundancies in place to ensure the site is self-sustaining in the event of an emergency. The current Saanich and CRD facilities are post disaster rated while the Victoria site is not.

As fire dispatch operations are a public safety function, security of the dispatch centre is important and needs to be considered when identifying a dispatch facility. This includes limited access to unauthorized personnel and appropriate security measures such as bullet-proof glass.

When looking at fire dispatch facilities at a regional level consideration for training room space should figure into the planning. The training space does not necessarily have to be located in the same facility as the fire dispatch operations.