
TO: CITY MANAGER **DATE:** 2006 March 20

FROM: CHIEF BUILDING INSPECTOR

**SUBJECT: REQUEST FOR COUNCIL SUPPORT TO CREATE A BYLAW
REQUIRING THE INSTALLATION OF E-COMM WIDE-AREA RADIO
SYSTEMS IN RENOVATED OR NEWLY CONSTRUCTED BUILDINGS
IN BURNABY**

PURPOSE: To provide Council with information on the current status of emergency communication systems in Burnaby and recommendations regarding the request to create a bylaw requiring the installation of Wide Area Radio Systems in new and renovated buildings.

RECOMMENDATIONS:

1. **THAT** a copy of this report be forwarded to Ken Shymanski, President and Chief Executive Officer, E-Comm, at 3301 East Pender Street, Vancouver, B.C. V5K 5J3
2. **THAT** a copy of this report be forwarded to the Chair of the Building Policy Advisory Committee, c/o Ministry of Forests and Range, and Minister Responsible for Housing, at P.O. Box 9049, Stn. Prov. Govt., Victoria, B.C. V8W 9E2

REPORT**BACKGROUND:**

Appearing in the Council Agenda of 2006 March 26 is a letter from Mr. Ken Shymanski, President and Chief Executive Officer of E-Comm, requesting support for their initiative to ensure that emergency responders entering a renovated or newly constructed building have unrestricted access to the E-Comm Wide-Area Radio System.

To: City Manager
From: Chief Building Inspector
Re: Request for Council support for the installation of E-Comm Wide-Area Radio Systems in renovated or newly constructed buildings in Burnaby.
2006 March 20..... Page 2.

DISCUSSION:

Emergency responders in Burnaby and other areas of the Lower Mainland currently use a variety of emergency communication systems including the E-Comm system. It should be noted that the Surrey report and bylaw referred to in Mr. Shymanski's letter deal only with police, fire and ambulance emergency responders. While these may be considered of primary importance, there are other groups involved in emergency response that also rely on effective communication. In Surrey, all three providing emergency services, RCMP, Ambulance and Fire, utilize the E-Comm wide-area 800Mhz radio system.

Staff have reviewed the Surrey Bylaw No.15740 "Public Safety E-Comm Radio Amplification System Bylaw, adopted 2005 May 18, and the staff report to the Surrey Council in support of this Bylaw. The report states, that "in-building" communication was achieved for about 97% of buildings in Surrey, however concerns remained regarding poor coverage within the Surrey Memorial Hospital. In particular, this concern related to the lower levels, and to the below grade parking levels. The E-Comm 800 MHz radio system is dependent upon a relatively unobstructed radio path between a transmitter and a receiver. Radio waves are severely attenuated by metals, reinforced concrete and reflective glass.

The report further explains that the means to overcome the radio signal attenuation are known as "in-building radio support systems". These systems consist of a small antenna mounted on the exterior, or on the roof of the building, connected either to a number of small antennas or a special cable within the building. Staff have not had the opportunity to undertake a cost analysis of this type of installation, however, the Surrey report indicates an estimated cost of approximately 0.5% of the cost of construction for a new building and perhaps slightly more for retrofitting an existing building. This could result in installation costs in excess of \$100,000.00 for a large residential development with underground parking. The Bylaw also requires annual maintenance testing to be performed by a professional engineer registered in the Province of British Columbia, and includes a report sealed by the engineer to be submitted to the City. The additional cost of this service has not been determined.

The Surrey Bylaw identifies that the Bylaw applies to new or renovated buildings and structures of reinforced concrete or structural steel, or using metal cladding or reflective glass, and having a gross floor area greater than 500 sq.m. (5,382 sq.ft.) or over 12 m. (39 ft.) in height, or basements of more than 1,000 sq.m. (10,764 sq.ft.) in gross floor area. Requirements pertaining to the construction of such buildings or structures fall within Provincial regulations such as the Building Code. Section 9(1)(d) of the Community Charter states that local bylaws created to deal with issues covered by Provincial regulation fall within the sphere of concurrent authority and require approval of the Province. We have forwarded a request to the Province for clarification as to whether or not a bylaw of this scope would fall under the concurrent authority provision of the Community Charter.

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Re: Request for Council support for the installation of E-Comm Wide-Area Radio Systems in renovated or newly constructed buildings in Burnaby.
2006 March 20..... Page 3.

CONCLUSION:

This initiative has been discussed with representatives of both the Burnaby Fire Department and the Burnaby RCMP. The Burnaby Fire Department currently utilize different equipment and indicate that while they support any initiative intended to improve responder safety, they are currently satisfied with the systems in use and not experiencing serious coverage problems. The Burnaby RCMP do utilize the Wide Area Radio System (WARS), and also express support for this initiative even though it is their opinion that their current service level of WARS has been met. A bylaw such as that proposed would benefit E-Comm users only, therefore, should a large enough emergency event occur and be attended by the public safety group, being Police, Fire and Ambulance from areas not utilizing this system, the benefits would not be achieved. The Vancouver Fire Department has initiated their own solution and that is to purchase a mobile repeater system for the areas of degraded signal strength. We have no current statistics of the success of this system.

There is general agreement that such a proposed bylaw would enhance emergency radio communications in time of mutual aid, and will enable adequate communication in all major buildings. However, in addition to a need for clarification with respect to application of the concurrent authority provision of the City Charter, it is our opinion that an initiative such as this should apply consistently throughout the province, therefore, should be considered for inclusion in an existing Provincial Safety Regulation. As a change or addition to an existing regulation this proposal would require a detailed review of its intended scope of application and the associated costs of installation and required annual maintenance. The Committee would also have to consider whether or not concerns relating to degraded signal strength could be addressed through other more economical technical solutions and the extent to which the 800MHz E-Comm system is utilized by communities throughout the Province. The Building Policy Committee was established by, and reports to, the Ministry of Forests and Range, and Ministry Responsible for Housing, on matters related to Building Safety. It would therefore be appropriate for this Committee to both consider the initiative and provide comments to the Minister. Staff have already raised this potential review through its representation on the Building Policy Advisory Committee.

It is therefore recommended that a copy of this report be forwarded to the Building Policy Advisory Committee for their consideration and to Mr. Ken Shymanski of E-Comm with the suggestion that he may wish to pursue this initiative directly with the Ministry.


George Humphrey, B.Arch.
CHIEF BUILDING INSPECTOR

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c.c. Officer-In-Charge, RCMP
Fire Chief
Director Engineering
Director Planning & Building

