

Supports Item No. 5
CS&B Committee Agenda
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CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: November 14, 2007
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TO: City Services & Budgets Committee
FROM: General Manager of Engineering Services
SUBJECT: Emergency Management Priorities

RECOMMENDATION

- A. THAT Council receive this report for INFORMATION and defer the following Recommendations to the 2008 Interim Operating Budget.
- B. THAT Council authorize the creation of 2.5 regular full-time staff positions, as outlined in this report, at an estimated annual cost of \$257,000 (including benefits and incidental costs) to support the Emergency Management Programme, subject to classification review by the General Manager of Human Resources, and subject to approval of the 2008 operating budget.
- C. THAT Council appoint Kevin Ramsay as Director of Emergency Management, in accordance with Emergency Response Bylaw #5654.

COUNCIL POLICY

Over the past 17 years, Council has demonstrated a high level of commitment and leadership to emergency management and preparedness. In 1990 Council identified Emergency Preparedness as one of the City's seven corporate priorities and supported the continuation of an expanded work program in this area. Between 1990 and 2000, Council supported funding for specific capital improvements including the Emergency Operations Centre at E-Comm, the Dedicated Fire Protection System, and the Urban Search and Rescue team. In 2000 Council supported initiatives that increased public awareness, improved emergency sheltering,

minimized seismic risk through the Vancouver Building By-Law, and minor earthquake proofing in civic facilities.

The Vancouver Charter specifies the responsibilities of Council to declare an emergency, authorize extraordinary expenditures during an emergency, provide disaster relief, and govern during and after a major emergency.

SUMMARY

Over the past 17 years Council has invested significantly in the infrastructure required to address emergency management and response needs. Historically, the City's emergency planning priorities have focused primarily on the upgrading and hardening of key City infrastructure to address life safety and property issues and ensure reliable response capabilities. The Dedicated Fire Protection System, fast response fire boats, potable water supply sources, seismic upgrading of buildings, emergency containers, the Emergency Operations Centre, the Urban Search & Rescue Team, the Hazmat teams, and other developments / enhancements have improved the City's ability to respond. The City has emergency plans in place, has exercised these plans, and has many enthusiastic employees and volunteers positioned to provide leadership in the event of an emergency.

There has been a practical effort to address the "people" side of emergency management through training and exercising. Over the past 5 years plans and procedures have become dated and are in need of renewal. A recent review of the status of our Emergency Plan and state of readiness indicates that significant work is required to bring the overall programme up to date, address shortcomings, and achieve compliance with provincial standards.

As an interim measure, staffing has been put in place on a temporary basis assigned to assist with the core functions of emergency management including: completion of a High Risk & Vulnerability Assessment; a Critical Infrastructure Assessment; a comprehensive gap analysis; an inter-dependency review; the development of standard operating procedures; the development of detailed concepts of operations; the training and exercising of key staff who will be critical to the City in the event of a minor or major disaster; and, emergency planning for persons with a disability, accessibility, and/or a language barrier. Appendix B details these major work programme items.

This report summarizes the significant and valued accomplishments in emergency management, outlines the required work programme, and makes recommendations to ensure that temporary staff resources are made permanent.

PURPOSE

The purpose of this report is to recommend ongoing funding for additional staff resources required to ensure the City can warrant an appropriate level of response and recovery in the event of a minor or major emergency.

BACKGROUND

From 1990 to 2000, the City's emergency planning priorities were focused on the upgrading and development of key City infrastructure to address life safety and property issues and ensure reliable response capabilities. From 2000 to 2007, the City's emergency planning priorities were focused on providing personal preparedness training for residents and businesses; minimization of seismic risk in city and private buildings; improved sheltering capability for victims of a disaster; improved personal readiness for City employees, and more widespread community preparedness information and training. These programmes were developed over the past 7 years in an attempt to reduce the financial impact on the City yet maintain a reasonable pace of advancing emergency preparedness.

A brief summary of accomplishments can be found in Appendix A.

DISCUSSION

Emergency management and preparedness has changed significantly over the past 7 years. Global events such as the New York terrorist attacks in 2001, the Sumatran earthquake and tsunami in 2004, Hurricane Katrina in 2005, and other catastrophic events have focussed Vancouver's attention on the potential for a major disaster in the region. Provincial events, such as the 2003 Okanagan interface fires and the 2007 freshet floods, have also impacted the planning process and galvanized the emergency management community into developing improved standards, procedures, and partnerships. Overall, the industry has seen a significant shift in the planning and management activities related to emergencies including specific planning methodologies, rating systems, management systems, and response protocols.

The City of Vancouver has invested significant resources into infrastructure and community engagement but has not had the capability to provide comprehensive attention to a core function of emergency management, the planning, exercising, and validating of the program. There is an imperative need for completing specific tasks that provide the backbone for emergency planning, such as a hazard risk & vulnerability analysis, a critical infrastructure assessment, a review of inter-dependencies, and a comprehensive business continuity plan. There is a defined need to upgrade specific concepts of operations including emergency plans for persons with a disability, accessibility, and/or a language barrier, etc. There is an immediate need to develop software and systems that can address an emergency and allow linkages to internal and external partners and stakeholders. Specifically, the City must move to the provincial model for emergency response, the BC Emergency Response Management System (BCERMS). Appendix B outlines the major work programme items.

There are legislative requirements that dictate emergency management activities required of local government (Appendix C). Specific to the City of Vancouver, we are required to have emergency plans including preparation for, response to and recovery from emergencies and disasters. We are required to have a risk assessment that can be related to the impact on people and property. We must conduct periodic reviews, update plans, conduct exercises, identify resource requirements, establish implementation procedures, establish notification procedures, coordinate emergency social services, and establish plans for the recovery of essential services. At this time the City of Vancouver is not in full compliance with the Provincial Local Authority Emergency Management Regulation.

In early 2007 the organizational structure included three Emergency Planners and a ½ position dedicated to ESS, directed through Corporate Services' Risk & Emergency Management office. The temporary and proposed organizational structure includes a Director of Emergency Management, a Manager of Emergency Planning, three Emergency Planners, and a Clerk III. This improved structure supports active involvement in senior level government discussions while supporting the planning functions with needed administrative support. These positions are essential for the City's role in preparing for the 2010 Olympic and Paralympic games and there is a defined urgency to providing this requisite level of preparedness.

In 2000, City Council approved a 10 year funding model for "Emergency Planning Initiatives". Specifically, \$347,000 / year is allocated for public education, minor earthquake-proofing, neighbourhood emergency preparedness, safety fairs, and improved sheltering. In 2009 the Office of Emergency Management will be reporting back to Council and recommending continuation of this program with a potential redistribution of funding to address emerging issues, such as the ongoing greening of the Emergency Operations Centre infrastructure.

FINANCIAL IMPLICATIONS

The net annual cost for 2.5 FTE positions is \$257,000 / year. This includes the amalgamation of a 0.5 FTE Emergency Social Services position and the elimination of the \$31,000 temporary help budget that was historically used for clerical support efforts. \$20,000 has also been included for vehicle allowance, phone, pager, computer, and other related ongoing support costs for the positions. Specific positions, using 2006 salaries, are as follows:

- 1 - Clerk III, PG 17 - \$47,884 / year, including benefits
- 1 - Manager of Emergency Planning, PB 9 - \$90,968/ year, including benefits
- 1 - Director of Emergency Management, PB 13 - \$130,699 / year, including benefits

PERSONNEL IMPLICATIONS

This report recommends the creation of a new regular full-time Clerk III position subject to classification by the Director of Human Resources. The position will be posted as per the collective agreement between the City and CUPE 15.

This report recommends permanent status for the current temporary position of Director of Emergency Management, previously classified by the Director of Human Resources.

This report recommends the creation of the Manager of Emergency Planning position, subject to classification by the Director of Human Resources.

CONCLUSION

Emergency Management has been a corporate priority for two decades. Considerable effort has been put into building infrastructure, hardening facilities, and educating the public. The City has completed many of the objectives defined in the original scope for emergency planning and management. However, based on contemporary expectations of emergency management, there have not been appropriate resources applied to completing background assessments, developing detailed concepts of operations, and exercising the operation.

To meet the critical outcomes, as outlined in this report, additional staff resource adjustments are required.

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APPENDIX A

Emergency Management Accomplishments, 1990 - 2007

Enhanced Fire Protection

A major seismic event or other disaster may render the City's conventional fire protection system unusable. In the Kobe earthquake, for example, Kobe's water system suffered more than 10,000 line breaks. Firefighters were unable to battle fires because they had no effective water supply. Following the 1989 San Francisco earthquake, where San Francisco struggled with fires in the Marina district, the City reviewed methods of providing an alternative water supply for enhanced fire protection.

In 1993, the City began development of a \$67 million Dedicated Fire Protection System. This system is designed to be operational following a large earthquake and will provide an alternate water supply for firefighting following a disaster. The system consists of two pump stations and a hardened salt water distribution system throughout the downtown peninsula, Kitsilano and Fairview slopes. In 1991, Vancouver, along with the Vancouver Port and the municipalities of Burnaby, North Vancouver District and City, and Port Moody formed a consortium and together acquired five fast-response firefighting vessels. Two are operated by Vancouver but mutual aid arrangements effectively mean that all five fireboats have a capacity equivalent to 10 conventional land pumper trucks. In addition, a drafting station on the Fraser River allows fire pumper trucks to draw water directly from the river.

Emergency Potable Water Supplies

To enhance the availability of water supplies for drinking, the Engineering Department, in conjunction with Parks and Recreation, has developed access to underground supplies at both Langara and McCleery Golf Courses. Wells have been established to provide water for irrigating the courses through the summer and these wells can be used to provide drinking water in an emergency. The Engineering Department can also access the Oakridge Mall well to provide potable water. The water quality from these wells is tested regularly to ensure the on-going safety of the supply.

In case of a large scale emergency, such as a severe earthquake, water from these wells can be transported to various emergency shelters via City street flusher trucks. Plumbing has been developed to allow the truck to act as a water supply to fill individual buckets or containers.

Bridge Upgrades

The City of Vancouver is responsible for all bridges within the City boundaries. In general, bridges that cross between municipalities along a major highway, such as Second Narrows Bridge on Highway 1, are the responsibility of the Provincial Ministry of Transportation and Highways. Typically, bridges that cross municipal boundaries along major roads or minor highways, such as the Knight Street Bridge, are the responsibility of the Greater Vancouver Transportation Authority. Bridges that cross into the Vancouver Port Authority, such as the McGill Street Overpass, are the responsibility of the Port of Vancouver. There are also some anomalies, such as the Arthur Laing that is managed by YVR.

Altogether, the City of Vancouver is responsible for 27 bridge structures, 9 pedestrian bridge structures, and 5 sections of seawall. Most of these are smaller structures and, in the event

of earthquake damage, could be circumvented. The main 'lifeline' bridges in the City which connect residents and commuters to the downtown peninsula and other parts of Vancouver are the Burrard Bridge, Granville Bridge, First Avenue Viaduct, Hastings Viaduct, Cambie Bridge, and Grandview Cut bridges. The Cambie and Grandview Cut bridges are relatively new and would be expected to perform well in an earthquake.

The City has spent approximately \$11 million on seismic upgrading of major bridges. The Granville Bridge and the First Avenue Viaduct have been completed; work on the Burrard Bridge main span is complete and it is anticipated that the remaining approach spans will be addressed in the near future. The next focus will be on the Georgia and Dunsmuir viaducts. It should be noted that older structures that are seismically upgraded will not perform as well as newer structures during a seismic event.

Emergency Operations Center

In 1998, the City completed development of a purpose-built, post disaster Emergency Operations Center, considered as one of the most technologically sophisticated operations centers in North America. Located on the main floor of the E-Comm building at 3301 East Pender Street (Pender and Rupert Streets), it takes advantage of the unique post-disaster features and technology of the E-Comm facility.

In an emergency, the City's Emergency Operations Center will be staffed by City personnel representing various City departments as well as by trained volunteers. In the immediate response phase of a major disaster, the Emergency Operations Center will centralize information; coordinate emergency response across City departments and with other agencies; identify critical needs and establish response priorities; and, provide accurate and timely information to the public concerning the emergency or disaster.

The 19,000 square foot centre cost \$10.4 million, including land and communications systems (which cost about \$3.5 million). Of this amount, \$6.6 million was provided by the Federal and Provincial governments through the B.C. infrastructure grand program. By co-locating this facility with other agencies, the City was able to achieve very high capability at much lower cost than if it had built a stand-alone facility.

Urban Search and Rescue

From 1995 to 1998, the City developed an Urban Search and Rescue team; the only one in Canada at the time. Urban search and rescue involves the location, extrication, and initial medical stabilization of victims trapped under collapsed structures.

Experience over the past fifteen years in earthquakes, bombings, collapses, and other catastrophes has added to the cumulative medical understanding of crush injuries and has prompted the development of highly specialized teams and extrication equipment. Increasingly, it is recognized that urban search and rescue expertise is a critical component of any emergency response program.

The Vancouver team is modeled on U.S. teams. It has 72 volunteer members all bringing years of current, relevant training and experience from various occupational and professional backgrounds. It includes search dog handlers, hazardous materials specialists, structural engineers, confined space technicians, and emergency physicians. On joining the team, members' existing skills and knowledge are augmented with hundreds of training hours in techniques like emergency shoring, crush injury treatment, and searching with the use of

acoustic listening devices and remote cameras. The team is supported by 32,000 pounds of specialized equipment. It includes medical supplies and the most sophisticated heavy lift air bags, confined space stretchers, and hydraulic concrete-cutting chain saws. The equipment is stored and transported in three trailers.

Today, there are about 45 specialized Urban Search and Rescue teams throughout the world, 24 in the United States, and two in Canada (Vancouver and Toronto).

The Vancouver team was developed by the City of Vancouver for its use and as a Provincial and Federal resource. Vancouver would deploy the team to incidents within Vancouver, the Provincial Emergency Program would deploy the team to incidents elsewhere in the Province (and to neighbouring states and provinces), the Federal government would deploy the team outside those areas, both nationally and internationally. In a major disaster, teams from the United States and other parts of the world would come to our aid as part of reciprocal aid understandings. The Vancouver team can be deployed and function 24 hours per day, seven days a week.

In 2005, the team was deployed to Louisiana to assist with recovery from damage caused by Hurricane Katrina. The team performed extremely well and learned valuable lessons on emergency response.

Post Disaster Dispatch Facility and Radio System

Through its initiation of the E-Comm project in 1995, the City of Vancouver was a leader in the development of a post-disaster 9-1-1 dispatch center and radio system for emergency services. Today, the dispatch center and radio system are owned and operated by E-Comm, a special purpose corporation comprising public agency shareholders. As a shareholder in E-Comm, the City of Vancouver ensures that the VPD and Fire & Rescue Services have reliable communications systems which will function, even after a major disaster. 9-1-1 calls will continue to be answered and emergency services will be dispatched to the areas of need.

Emergency Social Services

ESS provides short-term assistance to residents of Vancouver who are forced to evacuate their homes due to fire, floods, earthquakes or other emergencies. ESS can be activated to assist Vancouver Fires & Rescue Services and the Vancouver Police Department with smaller activations when people may not be able to return home due to emergency events. In larger emergencies ESS would set up reception centres and/or group lodging facilities at local community centres. The assistance provided to the evacuees includes food, lodging, clothing, emotional support and family reunification. Funding is typically provided through PEP and the City's role is to administer.

In order to assist evacuees quickly, the City utilizes the Disaster Assistance Team (DAT), a specialized group of ESS responders. This group consists of 15 highly trained volunteers who receive the first call in an emergency or disaster. If the event is a large event, the ESS team would be called in for assistance. Emergency Social Services is largely made up of trained volunteers and volunteer organizations to provide support to evacuees:

- Vancouver Park Board provides facilities management and food services for victims and disaster response personnel.
- Red Cross trains volunteers to handle search and reply to reunite families and in large events the Red Cross would set up a central registry.

- The Salvation Army provides training to volunteers to carry out the "Meeting and Greeting" of evacuees at a reception centers.
- St. John's Ambulance provides first aid services to disaster victims.
- Vancouver School Board provides emergency services to the student population and acts as a back up resource for reception center facilities.
- City of Vancouver Tenant Assistant Program assists disaster victims in finding alternate housing.
- Vancouver Police Victim Services provides support and direction victims at the scene of a disaster or emergency.
- Greater Vancouver Mental Health coordinates counseling for disaster response staff and volunteers, and provides support to Mental Health clients in reception centers.
- Information Services Vancouver provides an information and referral service for those requiring assistance.
- The Society for the prevention of Cruelty to Animals and the Vancouver Humane Society provide emergency pet services.

In the event of a major disaster, the Emergency Social Services program would initially establish emergency shelters or reception centers in the City's 26 community centers, located throughout the City. Public schools and other facilities would also be used, if needed. If the facilities themselves were damaged and not useable, then open spaces surrounding them would be used to provide shelter, using tents and mobile food services.

The City has developed a core emergency social services programme, creating partnerships with suppliers, training volunteers, developing operational protocols for shelters, and conducting emergency exercises to test their response capability. The current Emergency Social Services programme represents a significant achievement and capability in the City.

Backup Communications: Amateur Radio

Amateur radio plays an important role in disaster communications and is a critical piece of any emergency planning program. For example, in the 1998 Quebec ice storms, hundreds of Amateur Radio operators provided the only communication link between many rural areas and the outside world. They augmented regular emergency services' communications in cities and towns where telephone service had been severed.

The technological advancements in Amateur Radio mean that it is highly reliable and has the capability to transmit large amounts of information quickly. Providing this type of assistance in times of emergency has generated growing public interest in the hobby, thereby enhancing its long-term survival.

In recognition of the critical role that Amateur Radio plays in disaster communications, the City of Vancouver set out to formally develop an Amateur Radio component as part of its Emergency Operations Center. In 1997, an independent 3-month study was carried out to assess the capability and accessibility of amateur radio in the City. As a result of this study a non-profit society, Vancouver Emergency Community Telecommunications Organization (VECTOR), was created to formalize and coordinate Amateur Radio disaster communications.

In an emergency, Amateur Radio operators will convey important emergency information to and from emergency shelters, provide information on persons seeking missing family members through the Red Cross (usually via packet radio - similar to wireless e-mail), transmit damage

reports from the field to emergency responders, provide back-up communications to and from the Emergency Operations Center, and even provide live television coverage if necessary.

The development of a formal amateur radio organization dedicated to the provision of disaster communications is an important enhancement to the City's overall emergency plan.

Coordination with External Organizations

The City's ability to respond to an emergency requires effective coordination, not only within City departments, but with external agencies such as utilities and hospitals as well as with the Provincial government. Over the past ten years, essential relationships have been established with external organizations to ensure that we are well positioned to deal with emergencies at the local, regional, provincial, and federal level.

In an emergency, the City of Vancouver would work closely with other municipalities, utilities, hospitals, emergency services, transportation agencies, and the Provincial Emergency Program (PEP) to ensure that information and resources are shared and to coordinate an effective response.

The City also co-chairs the Joint Emergency Liaison Committee which coordinates emergency planning initiatives across municipalities and between municipalities and the Provincial Government.

Emergency Exercises

To ensure employees are familiar with their roles and responsibilities in a major emergency, the City conducts regular emergency exercises. Over the past 8 years the City has activated the Emergency Operations Center for many varied and unique exercises. These exercises are intended to use the systems, to respond to hypothetical emergencies, to coordinate with other agencies, to test and evaluate emergency plans and procedures, and to make changes which will improve our ability to respond effectively. In conjunction with the activities at the Emergency Operations Center, field staff and volunteers also validate their response capability. These exercises were supplemented with on-site tabletop exercises and workshops with various Emergency Operations Center components to ensure roles and responsibilities are clearly understood. The Emergency Social Services program conducts regular exercises to provide staff and volunteers experience at activating emergency shelters.

For the past 2 years there has been limited attention to providing meaningful exercises for City staff. This is a result of staff turnover and systems changes.

Enhanced Sheltering

26 emergency supply containers are strategically located throughout the City. They contain emergency supplies such as first aid kits, food supplies, water, cots, blankets and other necessities to support citizens during the critical first 72 hours (or longer) following a disaster. 3 containers are located at the works yards to support staff and facilitate continued operations. The City has also purchased 7 Mobile Water Purification Systems that can produce potable water from a range of water sources (excluding salt water).

Emergency Supply Cabinets & Vehicle Kits

Cabinets have been located within City-owned and staffed buildings and individual emergency car kits have been placed in City vehicles to provide emergency supplies for staff to ensure effective response following a disaster.

Non-Structural Seismic Upgrading of City Buildings

This initiative reduces the potential hazards associated with unsecured office furniture and fixtures within City buildings. This work is being undertaken in conjunction with renovations or building upgrades as they occur.

Neighborhood Emergency Preparedness Program (NEPP)

Since 2000, NEPP has provided a series of workshops that provide residents with information, training and skills to assist them through an emergency. By preparing neighborhood emergency response teams ahead of time, Vancouver residents can reduce the fear, anxiety and loss that can occur with a disaster. NEPP volunteers instruct residents how to be prepared and how to protect themselves and their families in the event of an emergency. Four workshops are offered at 11 community centers and through community and cultural groups within the city. Training materials have been translated from English into Chinese, Punjabi and Vietnamese to better meet the needs of Vancouver's ethnically diverse communities.

APPENDIX B

2008 - 2013 Emergency Planning & Management Priorities:

1. British Columbia Emergency Response Management System (BCERMS)

The City of Vancouver developed a system before the BCERMS standard was established. While the two systems are based on the Incident Command System, there are some notable differences which cause confusion and conflict with BCERMS, particularly in the organization of our Emergency Operations Centre. Key elements include levels of response involved in an emergency, responsibilities, management structure, and lines of communication between each level. With movement towards an integrated regional emergency governance model it is to the City's advantage to transition the emergency response structure to the BCERMS standard used by other municipalities in the Lower Mainland, the Province of British Columbia and its agencies. BCERMS is mandated for all provincial agencies and departments through provincial legislation, is strongly recommended for use by local governments and the private sector, and will be the standard for Olympic Operations.

Specific tasks required to move to the BCERMS model include:

- a. Reconfigure the Emergency Operations Centre (EOC) to align with the BCERMS model, including required equipment
- b. Develop a concept-of-operations for City-wide emergency management using the EOC and Department Operations Centres (DOCs)
- c. Obtain and install EOC support materials (e.g. flexible signage, office supplies, whiteboards, etc.) and communications equipment (e.g. radios)
- d. Develop EOC training materials
- e. Train EOC responders, including senior management and Council, in EOC practices utilizing the BCERMS model
- f. Exercise BCERMS and fine tune, as necessary

2. Hazard Risk and Vulnerability Analysis (HRVA)

A Hazard Risk and Vulnerability Assessment (HRVA) is an assessment of the hazards that may impact an entity (e.g. City of Vancouver corporate entity), facility (e.g. City Hall), or jurisdictional area (e.g. everything within the City of Vancouver municipal boundary) and a ranking of their relative risk. The HRVA can be used in both planning emergency response and should be consulted in general urban planning.

The HRVA also contains critical background information on the hazards assessed as well as potential impacts and impact areas for each hazard. It also provides details of highly-vulnerable areas and people as well as general demographic information about the different areas within the jurisdictional area. This is valuable information for reference during times of response.

The HRVA deliverable consists of a written explanation of the hazards, a table showing the relative rank of each hazard, and maps showing hazard impact areas, critical infrastructure, and socio-demographic variables.

In British Columbia, provincial legislation states that each local authority must have an emergency plan that reflects: a) the potential emergencies and disasters that could affect all or any part of the jurisdictional area for which the local authority has responsibility;

and, b) the local authority's assessment of the relative risk of occurrence and the potential impact on people and property of the emergencies or disasters.

An HRVA is the most common way to address the legislated requirements and for incorporation into the City's emergency plan. The City has not completed a comprehensive HRVA at this time but will be completing a high-level HRVA in December 2007.

3. Critical Infrastructure (CI) Assessment

Critical infrastructure consists of physical and information technology facilities, networks, services and assets that are critical to the well-being, operations and continuity of our city. The federal government defines ten categories of national critical infrastructure: energy and utilities, communications and information technology, finance, health care, food, water, transportation, safety, government, and manufacturing.

A Critical Infrastructure Assessment involves the identification of this critical infrastructure and an assessment of each category of CI's relative importance. This allows CI to be protected and/or given priority for repair during times of disaster. It also highlights critical infrastructure that should be examined further and protected against natural disasters, accidents, or intentional damage. This information is best stored in a secure geospatial database.

A Critical Infrastructure Interdependency Study goes further by identifying interdependencies between CI and ranking them based on these interdependencies. For example, while a specific power substation may seem a medium priority at first, when identified as the substation providing electricity to a telephone switch which in-turn provides telephone service to our emergency operations centre, it becomes more critical and will therefore be ranked higher.

There are a number of federal and regional initiatives under way to rank and share information on critical infrastructure between government, health, and private sector organizations. One such initiative is the Joint Emergency Liaison Committee (JELC) Critical Infrastructure Working Group in the Lower Mainland. In order to fully participate, the City must conduct an assessment of its own CI assets.

To date, no comprehensive assessment has been conducted on the City of Vancouver's infrastructure.

4. Business Continuity Planning (BCP)

In the event of a major emergency, continuity of government (COG) is important to the well-being of all residents and businesses in the City of Vancouver.

Business Continuity Planning is an interdisciplinary peer mentoring methodology used to create and validate a practiced logistical plan for how an organization will recover and restore partially or completely interrupted critical function(s) within a predetermined time after a disaster or extended disruption. The logistical plan is called a Business Continuity Plan. In plain language, BCP is how an organization prepares for future incidents that could jeopardize the organization's core mission and its long term health. Incidents include local incidents like building fires, regional incidents like earthquakes, or national incidents like pandemic illnesses.

The development of a BCP manual typically has five defined phases: analysis, solution design, implementation, testing and organizational acceptance, and maintenance.

All City business units must undertake a BCP review. To date, Corporate Services is the only department that has completed a high level BCP. There is a defined requirement to make certain that the City's approach to business continuity ensures that all departments are interlinked across the City. Research needs to be undertaken to assess critical infrastructure interdependencies across the city. Specifically, IT networks, CCTV, utility infrastructure and holistic utility company partnerships must be addressed.

5. Corporate and Departmental Emergency Response Plans

Although there are response plans for the City and for all business units, improvements are required to address links to the Hazard Risk & Vulnerability Analysis, the Critical Infrastructure assessment, BCEMS structure, and interdependencies. New concepts of operations must be created, tested, and refined that clearly dictate best practices in consequence management. Emergency Response Plans are a key deliverable that addresses necessary improvements to current documentation.

6. Enhance Partner / Stakeholder Relationships

The City has active partnerships and relationships that are essential to the planning process, response protocols, and recovery. These relationships must be enhanced to ensure that best value is received for services considering federal, provincial, regional, and local attention to emergency planning and management. Important government partnerships include JELC (Joint Emergency Liaison Committee), REPC (Regional Emergency Preparedness Committee), PEP (Provincial Emergency Program), PSC (Public Services Canada), ISU (Integrated Security Unit), IPSU (Integrated Public Safety Unit), and VANOC. Ensuring that these relationships are well grounded and serviceable will optimize the City's likelihood of success during and following a disaster.

The City has Mutual Aid agreements with Lower Mainland communities that specify how we will assist each other in the event of an emergency. Although basic expectations are understood, work is required to link these expectations with the BCERMS model.

It is also crucial that we pay specific attention to our extremely valuable volunteer groups that support the City of Vancouver in emergency management. Countless hours are provided to the City, at no cost, which provide emergency response services on a regular and ongoing basis. These volunteers are fundamental resources in disaster response plans. Specific effort must be given to support the VECTOR, ESS, DAT, and NEPP volunteers and encourage further participation.

The Downtown Eastside Emergency Management Committee participated in initial meetings in 2005 and 2006. There have been no meetings in 2007. It is important to recognize the specific needs of the DTES community, as related to an emergency. Detailed plans must be developed that address the local challenges with supporting this community.

7. Public Education

The City's Emergency Management Public Education Programme has not been evaluated since 2000. Public education is extremely important in assisting Vancouver businesses and

residents to prepare for an emergency. In a major disaster, it will be difficult for the City of Vancouver to assist every community and the minimum expectation is that individuals must attempt to take care of themselves for the first 72 hours.

Technology and knowledge transfer methods have advanced since 2000 and a re-tooling of the programme is necessary. Specific changes contemplated include upgrading existing educational materials, on-line training, targeted training, web site upgrading, and instruction methodology.

8. Emergency Management Software

In late 2007, the Ministry of Public Safety and Solicitor General are expected to announce a change to a synchronized software system that will incorporate standardized emergency management software. Provincial and local government emergency management and response agencies will utilize this enterprise software that integrates between organizations and allows the transfer of information between organizations. It is expected that this software will be the standard for Olympic emergency management planning.

Software installation, system migration, and links to the City's geographic information systems will be required, along with the training of emergency management practitioners.

9. Alternate City Hall

If City Hall were to become uninhabitable, an alternate facility, or facilities, would be required to house Council, senior management, and critical functions. A number of options have been considered such as the Vancouver Public Library, National Works Yard, and E-Comm. A more detailed review is required to determine specific critical functions required, space requirements, technology requirements, and functionality.

10. Major Projects

In addition to the regular concepts of operations that are developed for the City of Vancouver, there are specific events that require additional attention. Under normal circumstances, large events are simply considered as "layers" on top of existing plans. Once Emergency Management has completed the HRVA, CI Assessment, and developed standard concepts of operations for normal functioning, we will be in a position to effectively address the specific needs of large localized events.

Two scheduled events requiring attention are the 2009 World Police & Fire Games and the 2010 Olympic and Paralympic Games. These two events will actively involve the City in determining inter-operability with security, public safety, emergency responders, and event committees.

11. Emergency Communications Services

In the event of an emergency, communication services and protocols are critical to consequence management outcomes. There are many distinct communications systems currently utilized in the City of Vancouver, such as simplex radio, encrypted radio, ham radio, landline, cell phone, satellite phone, text messaging, and email messaging. Specific issues to be addressed:

- a) Communication Mode Inter-Operability - Disasters throughout the world have demonstrated the importance of reliable communications systems and the ability to use multiple-mode communication devices.
- b) Call-Out Procedures - Protocols need to be reviewed and enhanced to effectively address layers of response, considering the severity of influence after a major event.
- c) Secured Conference Calling - For Council, the Senior Management Team, and other defined emergency management response groups, systems need to be developed that allow secure "conference calling" during a significant event.
- d) 311 integration - A major advantage of the 311 system is the ability to utilize the service in the event of a minor or major emergency. Specific benefits include mapping, call traffic monitoring, and messaging.
- e) Reverse 911 - The CRTC is reviewing the ability for communities to deliver outbound messages through the public switched telephone network.

12. Exercising

The City of Vancouver must schedule, on a regular basis, exercises and simulations that validate our ability to perform in an emergency. We must include local, regional, provincial, federal, and stakeholder groups to ensure that we can effectively work together in the event of a major disaster. Continual exercising ensures that the base plans and operational procedures can be upgraded to the highest standard. Continual exercising also ensures that City employees are trained, practiced, and engaged in consequence management.

In 2008, two major functional exercises will involve the City of Vancouver. In February, Fire & Rescue Services will be a major participant in the federal Initial Thunder exercise. In September and October, the City of Vancouver will be actively involved in a full scale urban transit exercise sponsored by Public Safety Canada. These two events will validate the strength of our programs and determine future priorities to improve the program.

13. Amend City Bylaw

Emergency Response Bylaw #5654 will require revision to comply with the Provincial Emergency Program Management Regulation and to align with the new BCERMS model. This bylaw was written in 1983.

APPENDIX C

Synopsis of Emergency Program Act

Local authority emergency organization

A local authority is at all times responsible for the direction and control of the local authority's emergency response.

A local authority must prepare or have prepared local emergency plans including preparation for, response to and recovery from emergencies and disasters. The local emergency plan or aggregate plans must apply to all of the electoral areas within its jurisdiction.

A local authority that is a municipal council must establish and maintain an emergency management organization to develop and implement emergency plans and other preparedness, response and recovery measures for emergencies and disasters and,

- a) the municipal council must establish and maintain an emergency management organization responsible for the whole of the municipality

A local authority may:

- a) appoint committees considered needed or desired to advise and assist the local authority.
- b) appoint a coordinator for each emergency management organization established by it.

A local authority may, in writing, delegate any of its powers or duties under this Act to the committee, emergency management organization or coordinator, except the power to make a declaration of a state of local emergency.

Emergencies, Disasters and Declared Emergencies

Implementation of local emergency plans

A local authority or designated person may cause the plan to be implemented, whether or not a state of local emergency has been declared if, in its opinion, an emergency exists or appears imminent or a disaster has occurred or threatens in

- a) its jurisdictional area, or
- b) any other municipality or electoral area if that local authority has requested assistance.

If a Provincial emergency plan has been implemented, a local emergency plan may be implemented or may continue to the extent that it does not conflict with the Provincial emergency plan.

Declaration of state of local emergency

A local authority may, at any time it is satisfied that an emergency exists or is imminent in its jurisdiction, declare a state of local emergency relating to all or any part of the jurisdictional area.

A declaration of a state of local emergency must identify the nature of the emergency and the part of the jurisdictional area it pertains to, and the declaration must be made

- a) by bylaw or resolution if made by a local authority, or
- b) by order, if made by the head of a local authority

The head of a local authority must, before making a declaration, use best efforts to obtain the consent of other members of the local authority and must, as soon as practicable after making a declaration, convene a meeting of the local authority to assist in directing the response to the emergency.

Immediately after making a declaration of a state of local emergency, the local authority must

- a) forward a copy of the declaration to the minister, and
- b) have the details of the declaration communicated in the most effective way to the population of the affected area.

A declaration of a state of local emergency expires 7 days from the date it is made unless it is earlier cancelled.

The local authority may, with the approval of the minister or Lieutenant Governor in Council, extend the duration of a declaration of a state of local emergency for periods of 7 days or less.

Powers of local authority in declared state of local emergency

After a declaration of a state of local emergency is made, the local authority may do all acts and implement all procedures that it considers necessary to prevent, respond to or alleviate the effects of an emergency or a disaster, including:

- a) implement its local emergency plan or any local emergency measures;
- b) exercise, in relation to the area affected by the declaration, any power available to the minister;
- c) authorize, in writing, anyone involved in the operation of a local emergency plan or program to exercise, in the affected area, any power available to the minister.

The minister can order a local authority to refrain from exercising their power in the state of a local emergency. The minister must then immediately communicate the details of the order to the local authority. The local authority must comply with the order immediately and must direct every person under its direction to comply.

The Local authority may, within 60 days after declaring a state of local emergency, borrow any money necessary to pay expenses caused by the emergency.

Cancellation of declaration of state of local emergency

The local authority must, when an emergency no longer exists in its area,

- a) cancel the declaration of a state of emergency for that area by bylaw or resolution, if cancelled by the local authority, or by order, if cancelled by head of the local authority and,
- b) promptly notify the minister .

Notification of termination of declaration of state of local emergency

Immediately after the termination of a declaration of state of local emergency, the local authority must communicate the details of the termination to the affected population.

A declaration of a state of local emergency is terminated when

- a. it expires
- b. it is cancelled by the minister
- c. it is cancelled by bylaw, resolution or order
- d. it ceases to have any force or effect as a result of a declaration of a state of emergency.

Synopsis of Local Authority Emergency Management Regulation

Local Emergency Plans:

Local authority must include the following in its local emergency plan:

- a) potential emergencies and disasters that could affect all or any part of its jurisdictional area.
- b) an assessment of the relative risk of each of these emergencies or disasters occurring and the potential impact they might have on people and property.

The municipal council must include the following in its local emergency plan:

- a) the local authorities commitment to provide policy guidance and direction to the Emergency Management Organization, and
- b) the procedures regarding how that guidance and direction is to be provided.

As part of the local emergency plan, local authority must:

- a) conduct a periodic review and updating of the local emergency plan and establish a procedure for that review and revision.
- b) create and maintain a program of emergency response exercises as well as a training program for all emergency response staff who are assigned responsibilities in the plan.
- c) identify the procedures of obtaining emergency resources from sources under local authority, both within and outside of the jurisdictional area. Resources can include personnel, equipment, facilities, and financial resources.
- d) establish implementation procedures for the emergency response plan.
- e) establish procedures to notify the public of an emergency or impending disaster.
- f) coordinate the provision of food, clothing, shelter, transportation and medical services to victims of emergencies and disasters, regardless if the provision is made from within or outside local authority.
- g) establish the priorities for restoring essential services provided by the local authority that are interrupted during an emergency or disaster.
- h) recommend these priorities to service providers not provided by the local authority.

Local authority may include any confirmed, potential or anticipated assistance and resources of other levels of government or non-government bodies into its local emergency plan.

Power of a local authority

A local authority can:

- a) enter into mutual aid agreements with other local authorities as well as agreements with NGO's for emergency resources and subsequent cost recovery.
- b) provide emergency training to and conduct emergency exercises with anyone living or doing business in its jurisdictional area.

Duties of a local authority

Each municipal council must, when requested, submit to the minister:

- a) the local emergency plan
- b) the schedule and content of any emergency training exercise program
- c) any other emergency prevention, preparedness, response or recovery information that the minister may require.