City of Burnaby

Meeting 2018 May 23

COMMITTEE REPORT

TO:	CHAIR AND MEMBERS FINANCIAL MANAGEMENT COMMITTEE	**DATE:**	2018 April 27
FROM:	DIRECTOR ENGINEERING	**FILE:**	23000-00

SUBJECT: INFORMATIONAL REPORT – RECOMMENDATIONS FOR WINDSTORM PREPAREDNESS

PURPOSE: To provide information on the actions taken by the City following the 2015 windstorm.

RECOMMENDATION:

1. **THAT** the Financial Management Committee recommend Council receive this report for information.

REPORT

INTRODUCTION

In August 2015 the City experienced a severe windstorm that caused considerable disruption of power and other City services to residents. After the windstorm, staff undertook a study to improve the resilience of City infrastructure in the event of another windstorm. In the March 2018 Financial Management Committee meeting, the committee requested an update of this study.

POLICY SECTION

This study is aligned with the City of Burnaby's Corporate Strategic Plan, typically by supporting the following goals and sub-goals of the Plan.

- A Dynamic Community – Build and maintain infrastructure that meets the needs of our growing community.
- A Thriving Organization – Protect the integrity and security of City information, Services and Assets.

A summary of findings and actions resulting from the report undertaken by Staff following the 2015 windstorm is provided below.

Recommended Improvements/Studies	Update
1. Investigate the feasibility and costs of expanding the back-up power capacity for key traffic signals in the City.	**Action: Report back to Council on findings, options and costs.** A follow up information report was provided to Council on 2016 May 30 regarding the installation of additional uninterrupted power supply (UPS) to our traffic signals. The installation of the recommended 16 additional UPS has been recently completed. Additional staff has also been provided with automated email notification of any abnormal traffic signal operations from the central monitoring system. Electrical operations staff has also been provided with remote access to the central monitoring system to enable more detailed diagnostics in advance of attending the location. Lastly, response procedures during the recovery phase of an event have been updated to help resume normal operations more quickly.
2. Develop internal procedures to improve coordination between City staff and RCMP members on road closure, signal outage and traffic control.	**Acton: Incorporate into operating and emergency response procedures.** Emergency Response Procedures document updated 2016 March 10 and crew talks completed.
3. Review the current location of the City data centre and system redundancy with respect to risks, security and suitability. Investigate the feasibility of establishing a back-up data centre (City-owned or otherwise).	**Action: Report back to Council on findings, options and costs.** Provision for a new data centre within the footprint of the new Laurel Street Works Yard (LSWY) has been investigated and is moving forward. This is a long-term investment in technology services at the City, and will provide a new data centre in a post-disaster rated building – minimizing the risk of City-wide service outages. The new data centre within the LSWY program takes into account all of the recommendations and improvements listed in Tables 1 and 2 in Section 4.0 'Data Centre Assessment' in the FMC Committee Report dated 2016 April 05.

	IT has also improved several key aspects of our current data centre (monitoring systems, networking, power systems, environmental controls and backup systems) to minimize the risk to City data and services in the short term while the LSWY is under construction. In addition to the work underway on our local data centres, IT is also investigating the use of Canadian-based remote data centre solutions (Cloud) to provide additional capacity and disaster recovery capabilities that facilities within the physical boundaries of the City of Burnaby cannot provide. A project to pilot a small number of Cloud services is scheduled to begin in 2018. These initial services will include disaster recovery and communication workloads.
4. Investigate the advisability and feasibility of expanding the provision of emergency power to selected key City facilities, such as libraries and major community centre, to maintain business continuity and public access.	**Action: Report back to Council on findings, options and costs.** Roy Campbell Ltd. was engaged in November 2017 to investigate the feasibility of providing full emergency power to three of the City's major recreation centers (Edmonds Community Centre, Shadbolt Centre for the Arts and Bonsor Recreation Centre.). The study will outline possible siting options at each of the locations, costing and other relevant project details. The full study is expected to be completed by the end of 2018.
5. Create a more robust inspection and testing of pump station back-up power transfer.	**Action: Incorporate into operating procedures.** The Electrical/Mechanical Division of Public Works has created a more robust inspection and testing program of our pump station back-up power transfer components through an improved preventative maintenance program and our in-house electricians.

	In addition, we have added three (3) trades qualified Millwrights (Industrial Mechanics) to maintain, service, test and repair all components at our pump stations which includes the auxiliary power unit (generator) that is comprised of a diesel engine.
6. Investigate the feasibility of undergrounding the overhead Hydro power line serving the City Hall Complex. Initiate interim tree trimming if warranted.	**Action: Report back to Council.** Working with BC Hydro, Staff have completed a review of the hydro power undergrounding options for the City Hall Complex. Several options were developed and the costs range from $600,000 to $1,000,000 depending on the different undergrounding alignment and equipment options. In 2016, BC Hydro crews completed an intensive tree limbing program around the existing City Hall overhead hydro service lines. Since that time, there have not been any hydro failures attributable to the tree limb concerns.
7. Refine current communication plan for residents impacted by temporary loss of City services.	**Action: Incorporate into the City's Emergency Management Plan.** The Emergency Information Officer Guideline is a supporting document of the Emergency Plan. Considerable work was undertaken to completely review the 2009 document including updating sections, addition of social media communications, establishing prewritten key messages, etc. With the recent reorganization and addition of Corporate Services which included a dedicated Corporate Communications division, Emergency Management will engage with the Manager Corporate Communications, Manager Corporate Marketing and the previous Information Officer Team to review the updated draft Guideline and work towards the final completion of an all-encompassing Crisis Communication Strategy.

8. Continue with the investigation of a Notification System for residents impacted by major emergencies.	**Action: Report back to Council.** Emergency Management staff have continued to obtain and compile information from mass electronic notification vendors. Staff also continue to obtain information on evolving key areas of a mass notification system such as: i. The constantly changing landscape of Mass Electronic Notification technology with numerous alternatives available, significant varying costs and the future needs of the City for mass notification. ii. The Trans Mountain Expansion Project application requiring a Mass Electronic Notification system as a condition of the approval process. iii. A number of initiatives by the Federal and Provincial governments related to Mass Electronic Notification has been progressing including the implementation of the National Public Alerting System by Wireless Service Providers. The integration of local government into these systems and processes needs to be more clearly understood prior to taking further action.
9. Review with Hydro with respect to critical facilities, power reinstatement priority and power grid interconnection.	**Action: Incorporate into operating procedures.** In 2015 December, Staff discussed the power outage reinstatement priorities with BC Hydro. The following is BC Hydro's priority sequence: During a storm or major outage event (i.e. earthquake) P1 (priority 1) is always downed power lines and assets due to public safety risk. BC Hydro has trained wire guards who are deployed to the downed power line and take pressure off of fire and rescue personnel and set up the 10m protection zone for the public. P2 are critical facilities and/or large circuits with the most customers impacted.

	P3 are circuits with medium customers impacts (i.e. 2-5K) and P4 - remaining circuits and P5 – least amount of customers on the circuit. There is a City of Burnaby critical site list that is updated by BC Hydro and the City of Burnaby staff. BC Hydro would make reasonable efforts to try and re-established power to these sites with higher priority.

RECOMMENDATION

It is recommended the Financial Management Committee receive this report for information.

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DIRECTOR ENGINEERING

JL:ac

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