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CORPORATE REPORT

NO: R024 COUNCIL DATE: February 8, 2021

REGULAR COUNCIL

TO:	**Mayor & Council**	DATE:	**February 8, 2021**
FROM:	**Fire Chief** **General Manager, Corporate Services**	FILE:	**7150-01**
SUBJECT:	**Purchase of Next Generation 9-1-1 Software**		

RECOMMENDATION

The Surrey Fire Service and the General Manager, Corporate Services recommend that Council:

1. Approve a single source purchase from TELUS Communications in the amount of $681,445.00, including GST & PST, for the purchase of on-premise Next Generation 9-1-1 Software and three years of maintenance support;

2. Set the expenditure authorization limit at $713,000 (including contingency);

3. Authorize the Fire Chief to initiate a competitive procurement process to purchase the hardware required for the TELUS Avaya and Komutel on-premise solution (Option 2), as outlined in this report; and

4. Authorize the Fire Chief to execute all related agreements and approve payments up to the expenditure authorization limit.

INTENT

The purpose of this report is to obtain Council's approval to award a single source purchase from TELUS Communications ("TELUS") for Next Generation 9-1-1 ("NG9-1-1") Software and three years of maintenance support, to meet the Canadian Radio-television and Telecommunications Commission ("CRTC") requirements for emergency dispatch centres to comply with NG9-1-1.

BACKGROUND

The CRTC regulates the telecommunications service providers who supply the networks required to direct and connect 9-1-1 calls to emergency call centres who dispatch emergency responders such as fire, police, and ambulance.

In June 2017, the CRTC directed all telephone service providers to update their networks to prepare for NG9-1-1 voice and text messaging services for use with mobile devices.

The CRTC set out specific milestone deadlines for transition to NG9-1-1:

- March 30, 2021 - originating network providers must have their networks ready to support NG9-1-1 voice calling.
- June 30, 2021 – NG9-1-1 networks in-service.
- March 30, 2022 - wireless service providers must provide Real Time Text capability and Public Safety Answering Points ("PSAP's") must be ready to receive NG9-1-1 Text Messaging.
- March 30, 2024 - existing 9-1-1 networks must be decommissioned.

The CRTC determined that TELUS will be the Incumbent Local Exchange Carrier and is responsible for providing the NG9-1-1 network in British Columbia. Accordingly, TELUS pre-qualified software vendors which will provide the NG9-1-1 compliant components to operate on their network. The approved software vendors in this regard include Motorola Mobility LLC ("Motorola"); and two partnering entities Avaya, Inc. and Komutel Communications Solutions ("Avaya and Komutel").

DISCUSSION

The NG9-1-1 transition for Surrey Fire Service's fire dispatch will require upgrades at both the primary and backup locations. The transition requires new hardware environments, new internet protocol-based software for call-handling and new security software. This report focuses on the software procurement.

PRICING

The following prices were submitted by TELUS based on their approved vendors Motorola for TELUS' cloud-based solution; and Avaya and Komutel for TELUS' on-premise configuration.

Table 1: TELUS Next Generation 911 Software Options

Vendor & Options		**One-time Cost to Purchase Software Including GST & PST**	**Accumulative 3-Year Maintenance Cost Including GST & PST**	**Total Cost including GST & PST**
Option 1: Cloud Hosted Configuration	TELUS (Motorola)	$532,180	$513,435[1]	$1,045,615
Option 2: On-Premise Configuration	TELUS (Avaya and Komutel)	$582,097	$99,348[2]	$681,445

Notes:

1. The actual pricing submitted by TELUS' for Option 1 is for $855,725 based on a minimum five-year maintenance contract. For comparative purposes, the maintenance cost over a three-year period has been reflected in the table above.

2. The three-year maintenance cost for Option 2 translates to an annual maintenance cost of $33,116. For approximately the past eight years, the City has been paying this annual maintenance cost to TELUS for maintenance of the City's existing 911 system. For the purposes of this quote, TELUS requires that the City lock into a three-year guaranteed maintenance contract with the three-year accumulative cost $99,348 paid upfront. Notwithstanding entering into a three-year maintenance agreement with TELUS in this regard, the City would otherwise continue to pay TELUS annually for maintenance at a cost of $33,116/year for our existing system. Accordingly, locking into a three-year maintenance contract with TELUS would not represent a net-new cost to the City under this option.

EVALUATION

In preparation for the NG9-1-1 transition, staff participated with the CRTC's Emergency Services Working Group and reviewed pathways with other BC public safety answer centres. This process included discovery meetings with each vendor to discuss the requirements and options of their NG9-1-1 system components.

As noted above, TELUS offers either a cloud-based solution or an on-premise configuration. Both options were evaluated based on the following factors:

- meeting the NG9-1-1 call handling and security needs;
- how each option would impact integration with the City's current systems;
- failsafe redundancy;
- impact of transition on business requirements;
- support availability; and
- financial considerations.

Option 1: Cloud Based System (Motorola)

This configuration includes an initial core software component, with support being provided on an annual subscription basis.

Advantages:

- Lower initial software cost.

Disadvantages:

- Cloud services and back up not necessarily hosted in BC;
- The setup is not customizable which limits ability to modify the service to meet our needs;
- High operational costs for the life of the service as compared to an on-premise solution;
- No failsafe redundancy on site; and
- Cost impacts:
    - Requires a change of currently used software systems including the computer aided dispatch system.
    - This option does not integrate with existing on-site dispatch support systems. This would create additional costs and require a hard transition cutover to NG911.

- While the exact cost impacts and level-of-effort required to implement the above noted changes have not been assessed, it is expected that they would be significant.

Option 2: On-Premise System (Avaya and Komutel)

This on-premise solution allows for integration with existing dispatch support systems and a measured transition to NG9-1-1.

Advantages

- As it is provided by the NG9-1-1 network provider for BC, system integration and maintenance are more streamlined;
- Low operational costs compared to a hosted solution;
- Allows continued use of our current systems providing seamless transition to NG9-1-1;
- Provides the TELUS recommended function of having a NG9-1-1 demarcation points on-premise to ensure redundant 9-1-1 call handling ability during any outage; and
- Provides opportunity for other internet protocol telecommunication services to be hosted on site.

Disadvantages

- Requires purchase of hardware. The initial one-time hardware cost is estimated at approximately $560,000. (However, the expected life cycle of the technology is a minimum of 7 years and, in this regard, the overall cost of the system (software, hardware and maintenance) is much lower than the cloud-based (Option 1) solution).

Upon evaluating both options, it was determined that the TELUS Motorola cloud-based system (Option 1) is not preferrable given the additional time, effort and cost required to integrate the City's existing services with this solution. In addition, the lack of onsite failsafe redundancy presents an unreasonable risk and is prohibitive to the City's business requirements.

TELUS' Avaya and Komutel solution (Option 2) is recommended as the preferred configuration. Overall, this choice is more efficient, ensures simplified transition, and supports locally available on-site service.

FUNDING

Funding for this purchase is available in the 2021 Fire Capital Replacement Plan.

Finance Review

The Finance Department has reviewed this report and has no concerns.

Legal Services Review

Legal Services has reviewed this report and has no concerns.

SUSTAINABILITY

The modernization of the Surrey Fire Regional Dispatch Services with a NG9-1-1 transition supports the City's Sustainability Charter 2.0. In particular, the purchase relates to the Sustainability Charter 2.0 themes of Public Safety and Infrastructure. Specifically, this work supports the following Desired Outcomes ("DO"):

- Community Safety and Emergency Services DO2: Police and fire services provide timely and reliable responses across the city;
- Community Safety and Emergency Services DO5: Surrey is recognized and perceived as a leader in establishing and maintaining collaborative partnerships for community safety and well-being;
- Emergency Preparedness and Prevention DO8: The community's critical infrastructure and systems are designed to withstand climate change impacts and natural events and disasters, and include emergency response and reconstruction plans;
- All Infrastructure DO2: Infrastructure systems provide safe, reliable and affordable services; and
- Telecommunications DO22: The city has excellent communications infrastructure that provides affordable and effective connectivity across the community.

CONCLUSION

It is recommended that Council approve a single source purchase from TELUS in the amount of $713,000 (including GST & PST and contingency) for the purchase of Next Generation 9-1-1 Software and three years of maintenance support as outlined in this report.

Larry Thomas
Fire Chief

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