



Proposal Regarding Fire Dispatch

for

**Sasamat Volunteer Fire Department
Servicing the
Villages of Belcarra and Anmore**

Confidential

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This document is confidential and has been prepared for review by the Sasamat Fire Department group by the City of Surrey Fire Service.

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Proposal Regarding Fire Dispatch Sasamat Fire Department

The City of Surrey Fire Service is pleased to present this formal proposal after a preliminary proposal was accepted in principal in July, 2011 by Fire Chief, Larry Scott on behalf of the Sasamat Fire Department which was formed to protect the Village of Belcarra and the Village of Anmore. (Referred to henceforth as Sasamat, for brevity).

The City of Surrey Fire Service is confident that its Fire dispatch services meets and/or exceeds any performance expectations and requirements of Sasamat. The benefits of shared dispatching include dedicated fire service dispatchers, improved grade of service and reliability, computer-aided management of resources, mobile CAD, fire hall tone and pre-alerts and “rip and run” computer printout of dispatch information at fire halls to assist the responding firefighters by providing relevant information, and other valuable features listed in the proposal. The associated costs are nominal when compared to alternative means of obtaining similar benefits.

In addition, the City of Surrey maintains and manages the FDM records management system, specifically workspaced by jurisdiction, and can offer this service included in the pricing of this proposal.

The City of Surrey Fire Service is proud of its record of dispatch service to its eleven client municipalities which include, Langley City, Langley Township, Maple Ridge, Pitt Meadows, Port Coquitlam, White Rock, City of North Vancouver, District of North Vancouver, District of West Vancouver, Bowen Island, Lion’s Bay, District of Golden, City of Revelstoke, District of Salmon Arm, District of Sicamous, District of Field, the Regional District of Squamish Lillooet (northern), the Columbia Shuswap Regional District and looks forward to the opportunity to work with Sasamat to provide industry leading cost effective fire dispatch services to their citizens.

This proposal is valid until September 30, 2011 but may be extended at the mutual agreement between Sasamat and Surrey.

Introduction

The City of Surrey presented a preliminary proposal to Sasamat in response to request received from Fire Chief Larry Scott in November 2011. This preliminary proposal was requested to be refreshed on June 9, 2011 and this proposal was accepted in principal and a request to formalize it was made in July 2011.

The request expresses Sasamat's interest in pursuing an agreement under which Surrey would provide Fire dispatch services for the Villages of Belcarra and Anmore. We have obtained Sasamat's emergency call volume data and the communication and dispatch service requirements from Chief Scott.

This proposal deals with Fire dispatch services. Other services have been may be added at the request of Sasamat at a later date (examples: after hour's public works dispatching, working alone monitoring services, dispatching of emergency operations centre)

1 Sasamat Emergency Call Volume and Radio Traffic

We have examined the current emergency call activity for fire calls per hour. We find those call activities to be well within the capability of Surrey's existing fire services dispatch operation. Surrey's existing peak hour call activity is extremely higher than the level of those activities listed for Sasamat. As required, Surrey is prepared to make capital and operating expenditures to provide additional dispatching equipment if this proposal is accepted.

From the supplementary information we received, we have learned that Sasamat dispatched approximately 56 incidents in 2009. We have not been given information regarding the volume of incoming 9-1-1 and other emergency calls related to those incidents. However, from experience we estimate the number of incoming calls to be about 30 the remainder of incidents would be transferred directly through the BC Ambulance CAD interface. This is well within the capability of our dispatch operations to handle.

2 Sasamat Fire Department Dispatch Services Requirements

2.1 Current Fire Department Operations. We understand Sasamat has 2 fire halls, both of which are strictly volunteer hall. Currently Sasamat is using a VHF repeater site which is nearing end of life, and there are discussions relating to investigating replacing the radios and upgrading the system. There are current areas that have coverage issues and this will need to be addressed. Surrey's dispatch operations will have no difficulty managing and servicing the anticipated quantity of stations, apparatus and radios. Surrey has included, in this proposal, costs for upgrading the existing radio/paging system to a RoIP (Radio over Internet Protocol) for communication between Surrey and Sasamat as a primary communication link (back up from Hall in Anmore), Secondary back up system to be telephone interconnect at both locations as well.

2.2 Fire Department Communication Services Responsibilities. Surrey dispatchers understand and will provide the critical dispatch and mobile communications services required by Squamish

3 Client RMS System Options

Hosted clients are provided a workspace within the Surrey FDM File Server and access their data and programs through the VPN (Virtual Private Network) or through a Citrix token.

Clients that choose this option can elect to utilize any of the modules that Surrey provides. Currently the in-service modules are the Property, Inspections, Personnel, Training and Incident Modules with the Preventative Maintenance to come on line shortly.

Workspacing provides each client with the same access and functionality as the Surrey Fire Service but protects the privacy of information by allowing users to view only their data. The FDM RMS and CAD system is a tier-1 cad and records management system. CAD is directly interfaced with the BCAS system and calls are automatically assigned.

Clients that have selected this option enjoy the benefit of having Surrey Fire Service manage their FDM RMS. Surrey has a robust I.T. department with two dedicated staff on duty and on call 24 hours a day, 7 days a week and 365 days a year.

In addition, all FDM licenses for CAD and RMS must be repurchased through Surrey Fire Service and the yearly support will be included in the annual fee.

4 Voice Logging, Recording and Archiving:

Surrey currently uses the NICE recording system to record Dispatch Centre communications and telephone communication system will record all incoming and outgoing Emergency (911) and Non-Emergency phone lines as well as all radio transmissions that come through the Surrey Dispatch Centre with a date/time stamp.

Benefits of this particular digital recording device are:

- Instant recall of radio transmissions and telephone recordings through the user-friendly software application.
- Files (or recordings) are easily searched and sorted by channel, date, time, duration or other flagged criteria.
- Recordings can be emailed, saved to a CD in a variety of formats for later playback.
- Complete scenarios can be saved as single .wav for replay on standard PC for fast evidence delivery or training.
- Archived onto DVD's that provide indefinite history storage.
- Any requests for recordings by the designated Administration staff of the responsible department will be completed in either a wave file (emailed) or compact disc (sent by courier or mail) by the end of the next business day.
- Freedom of Information Act may grant access of recordings as requested to other individuals.

5 Connectivity - Virtual Private Network

The Surrey Fire Service connects to its clients utilizing high-speed Internet connections through a Cisco Virtual Private Network (VPN) and Citrix software. The use of the Cisco VPN combination provides a secure tunnel provides a low cost reliable system with excellent data throughput. Basically, a VPN is a private network that uses a public network, the Internet, to connect remote sites or users together. Instead of using a dedicated, real-world connection such as leased line, the VPN uses "virtual" connections

routed through the Internet from the City of Surrey to its client's computers. Citrix software provides a secure system for applications to function across different City Software platforms and networks.

The VPN designed by the City of Surrey offers:

- Security
- Reliability
- Scalability
- Ease of installation
- Proven effectiveness
- Remote Network management
- A Preconfigured Solution

VPN Setup

The City of Surrey, to ensure consistency, ease of installation, and to expedite the installation process will purchase and configure system components which in turn will be billed back to each client. Each client will be required to provide configuration information such as IP addresses, firewall port information and to complete the actual onsite installation of the equipment. The purchase and configuration of the components by Surrey allows the client a turnkey solution resulting in minimal configuration challenges. Alternately, RMS can be accessed using any general internet service with the application of the Citrix application. *This proposal will assume that connections to Sasamat will be made using a secure Citrix token and dedicated Fax machine (for rip/runs). There will be no requirement for a separate VPN setup.*

6 Dispatch Incident Configuration:

Currently, Surrey uses approximately fifty (50) different Incident Types and approximately (40) Nature Codes to categorize incidents. It is assumed that that there will be compatibility with the coding used by Sasamat however, additional codes can be created to meet operational needs.

The Client's street database will be required to be consistent with the Telus MSAG (Municipal Street Address Guide) and parsed out in the conventional FDM format. The GIS mapping layer should contain these same streets. Any inconsistencies in the streets will be the responsibility of the Client to correct either with TELUS or with their MSAG provider. This will reduce a duplication of streets in the FDM database.

It is understood that dispatchers and clients use plain language and common vehicle terminology in their radio communications.

7 Setup Requirements for FDMCAD:

Surrey's FDM Implementation Team will work with each Client to assist in CAD setup configuration including:

- Full list of Apparatus and Type of Apparatus.
- Apparatus line-ups and run orders.
- Deployment strategies.
- List of Fire Stations.
- Operational Guidelines pertaining to Response to Calls.
- GIS Mapping for Response area.

8 Client Computer Hardware Requirements:

FDM Win Software runs on Microsoft Windows 98/NT/2000/XP/Vista/Windows 7 Professional Operating System and will run on any Intel Pentium computer hardware. The minimum requirements are listed below:

Computers:

- All computers must be Pentium III or IV class machines, Celeron processors are not recommended.

RMS Workstations:

- 256 MB RAM, Intel PIII 750MHz processor or faster, 17" monitor recommended.

9 Incident Printouts and Pre-Alerts

When incident information is entered in FDM CAD by the Call Taker and upon the Call Taker "Committing" the incident, information is simultaneously sent to a dispatch terminal as well as to the selected fire stations printers. Each fire hall printer then prints out the information which is available approximately 15 to 20 seconds prior to the dispatcher actually announcing the incident over the radio system. Additionally, several clients have chosen to purchase a pre alerting system developed by Surrey that is installed on their printers so when the printer begins to print out the Incident "Rip and Run" it sets off a pre alert tone that warns the fire crews that they are about to receive a call. The pre-alert tone significantly improves "turn out" response performance. A sample printout is in Appendix 2.

Surrey also uses an Email Gateway, to send instant notification of an incident to an individual (e.g. Chief) or group. This allows an internet notification through a traditional mail server. The email, which includes all of the incident details so far, when replied to logs information back into the CAD system for the dispatcher.

10 Billing Practices:

- No User Levies.
- No Surcharges.
- No CAD Equipment Upgrade costs.

11 Support

Surrey Fire Service has a full-time Deputy Chief, Manager of Communications dedicated to oversee the Dispatch Centre and FDM database. Under this position, there are two full-time Computer Specialists and one full-time Radio Technician supporting our Communication Division.

12 Technical Support and Trouble-Shooting:

Surrey Fire Service has a guide that is provided to clients to assist in system troubleshooting connectivity issues. The responsibility for each network component is detailed in the guide. The cost of service will be included in the Dispatch service fee and billed by Surrey Fire Service to the Client.

13 Grades of Service

13.1 Grades of Service Requirements.

Surrey's current target for the time from the entry of the dispatcher's first key stroke in response to an incoming 9-1-1 call until dispatching the call to the appropriate Fire department resource is 60 seconds for 90% of emergency incidents. We are meeting that target. In some instances that time can be as little as 16 seconds, and may extend to times of more than a minute when several pieces of apparatus must be dispatched and particularly when volunteers must be called out by paging. Furthermore, Surrey is making and exceeding the NFPA standard on call processing and dispatching 90% of emergency incidents in 60 seconds or less, for the year to date 90% of emergency incidents are being dispatched in 40 seconds.

Response of Surrey fire dispatchers to incoming radio calls during an emergency is practically instantaneous, similar to what would be expected from any other party called on the radio during the emergency. Dispatchers' response to incoming non-emergency radio calls normally is within a few seconds, but is highly dependent upon the situation in the dispatch centre at the time, with priority given to radio traffic associated with current incidents. Generally, if dispatchers are very busy they will respond to the non-emergency radio call with a request for the caller to wait until priority activities have been completed.

Surrey's target for answering incoming 9-1-1 and other emergency lines is to pick up the line before the end of the third ring (average 15 seconds) for 99% of calls, and pick up during the first ring is not unusual. Surrey fire is currently making this performance measure.

13.2 Grades of Service Specifications

The predicted number of calls that will be delayed at all (all dispatchers busy) as a percentage of all received calls for Sasamat during the peak Surrey busy hour is 0.027%. The probability of a call being delayed more than 12 seconds is about 0.008% under the same conditions.

The average delay for delayed calls will increase to about 14.6 seconds (rather than the 12-second target) during a peak Surrey busy hour for calls averaging 40 seconds duration. This includes the anticipated calls handled for Squamish

The "typical worst case" delay for a delayed call during an average Surrey busy hour is impossible to predict with any accuracy. It depends very much on the length of time each call taker is tied up in obtaining information. "Worst case" usually occurs when there are multiple calls coming in simultaneously for a single incident through sources other than the 9-1-1 PSAP (the PSAP tends to filter out multiple calls for a single incident)

A Surrey "peak busy hour" may occur only two or three times a year, because of the smoothing provided by the diversity of clients served.

We define a Surrey "peak busy hour" as a time when the number of calls received during a single hour exceeds approximately 10.3 times the average call rate. Peak busy hours can occur any time, but tend to occur between 1500 and 1800 hours on any day of the week.

In developing the Grade of Service figures presented here, we have calculated the results using existing Surrey resources and facilities supplemented as necessary to handle the increased traffic resulting from addition of the Squamish, using the Erlang C formula, and without specific reference to technological interfaces between agencies. Note that Erlang C presumes an

“infinite” and random source of incoming calls, which is not strictly true in the present case (some filtering occurs at the PSAP). Because of the PSAP filtering, incoming calls are not strictly random in occurrence or duration, and the averaging inherent in Erlang C may not hold true in practice. However, Erlang C remains the simplest and best tool available at this time.

Request for Pricing

14.1 Price quotation breakdowns for CAD (Dispatch).

Year	Annual Cost
2012	\$5,000
2013	\$5,125
2014	\$5,300

14.2 Pricing requirements.

The only non-recurring (one-time) fees or charges will be those associated with the provision of necessary technological interfaces between Surrey and Sasamat equipment, one-time set up and training, and for remote terminal equipment desired by Sasamat for remote access to the Surrey records management system, rip and runs and pre-alert toners.

The recurring yearly fees or charges are listed in Appendix 1. We prefer to have all dispatching client contracts have the same termination date, which for the current clients is December 31, 2014. Therefore, this proposal only deals with fees and charges up to that date. However, you will note that the charges are not uniform, but escalate at approximately 2.5% per year.

The following specific services or service functions are **NOT** included in the quoted prices:

- Internet Connection (at each hall for RoIP)
- Fax Machine (Rip and Runs)
- Wireless Modem(s) for Mobile CAD (1 per unit) with monthly subscription.

The prices proposed are based on the delivery of all services by Surrey with specific reference to the technological interface between Surrey and Sasamat. Further, the prices are subject to change as a result of new or amended requirements that may result from subsequent discussion of this proposal by Surrey and Sasamat. Sasamat will be required for any additional costs that come with further requests for service or amendments to this proposal.

For the City of Surrey

Appendix '1'

Pricing Schedule

Annual Operation Charges

Year	Annual Cost
2012	\$5,000
2013	\$5,125
2014	\$5,300

1. The annual operating charge will be the only “Annual Operating Charge” or the amount charged for service. A rate review will occur in 2014.
2. These charges do not include any telecommunication costs incurred to transmit data to and from Surrey. Telecommunications costs are included in one-time costs, in addition to any monthly cellular or network costs are the responsibility of Sasamat.
3. These charges do not include HST or any other applicable taxes.
4. These prices are for Fire Service dispatching.
5. Charges for the initial calendar year will be pro-rated for the effective balance of the year.
6. FDM Software licenses have a 20% (+HST) annual maintenance fee: (for projected 1 RMS and 3 mobile CAD licenses this would be: \$2452.)

Non-Recurring Charges

Remote Access Tokens which allow connection to CAD Active Incident Monitor and/or RMS: will need to be renewed every 3 years).

Mobile CAD is optional and may be purchased at a later date.

Radio Connectivity, includes telecommunication links to Surrey with primary (RoIP) and back up (Telephone Interconnect): \$16,354.00

Description	Cost	Quantity	Total
Training/Implementation	\$5,000	1	\$5,000
Dedicated Fax Rip n Run Printer (to be supplied by Sasamat)	Purchased directly by Sasamat		
Remote Access Tokens (Records Management System)	\$250	3	\$750
FDM RMS License	\$5401	1	\$5401
Mobile CAD (license)	\$1848	3	\$5544
Mobile CAD	\$4704	3	\$14,112
Computers/Hardware/Docking Stations	\$225	3	\$675
	\$1008	3	\$3024
Installation of Mobile CAD	\$600	3	\$1800
Wireless Modem	To be purchased by Sasamat		
Radio Connectivity & Back Up <i>*Requires high speed internet connection and Static IP address at both fire halls*</i>	16,354	1	\$16,354
Total One-Time Costs			\$52,660

Appendix '2'

Sample Rip & Run Report:

CAD Incident Report			
Incident Type: MISC/OTHER/SPECIAL/NOTLISTED			
Incident Nature: FMI Fire - Miscellaneous			
Address:	10	PEMBERTON	AVE Unit #
Cross Streets:		and MCKEEN	AVE
Map Grid #:	NV-C05	Tac:	DELTA 4F
Response Zone: D5			
PrePlan#:	P149	Mast. Prop.PrePlan #	
Building Name: SEASPAN INTERNATIONAL			
MAIN BLDG:			
<u>Complainant Info:</u>			
Name:	INTERNATIONAL LTD		Building Postal Code-
Phone:	(604) 988-3111		
Lockbox Location:			
Property Contacts: Safety Officer, Brian Stansbury, Cellular, (604) 788-1752, , Facility Engineer, Rick Wannamaker,			
Incident # 09-26506			
Inc. Date & Time: 06/16/2009 04:52:52			
<u>Unit(s) Responding - Selected</u>			
<u>Dispatcher Notes:</u>			
05:01:44 - 162543			
Small Fire, DNE3 can stand down			

04:55:58 - 131248			
cant confirm what is burning - could be grass fire or possibly wood fibre chips?? will			
call back with more info if they can			

04:53:36 - 131248			
unknown what is on fire			

Appendix "3"
Remote Access Portal – For CAD View and RMS clients.

