

# **CREST Independent Review of Operations**

## **Executive Summary**

Prepared for:



**Capital Region Emergency Service (CREST) Telecommunications  
Incorporated**



**Planetworks Consulting**

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## **Executive Summary**

Capital Regional Emergency Service Telecommunications (CREST) Incorporated is a designated Emergency Communications Corporation which is responsible for providing an emergency radio network serving some 39 public safety agencies in the Capital Regional District (the "CRD"). CREST was formed in 2001, and its Motorola Smartzone radio network became fully operational in 2003. In late 2004, certain funding, operational and governance issues became apparent, which led CREST to retain Planetworks Consulting to conduct an independent, external review of the organization.

The Planetworks review was to cover operational, financial and governance issues, to determine if CREST was fulfilling its mandate and, where not, to offer specific recommendations for improvements. Planetworks conducted a series of meetings with stakeholders, including the CREST Board, management and user agencies, to assess how CREST was, or was perceived to be, delivering its services. In addition, a benchmarking exercise was undertaken to compare CREST against other similar organizations and relevant international standards, on issues such as service delivery, cost, organization, governance and finance. From the information collected, a series of operational, financial and governance recommendations were crafted.

## **Summary of Operational Review and Recommendations**

The review of CREST's operational performance and organization involved a consideration of a series of issues, including (a) whether the network as built met the contractual specifications and user requirements; (b) what deficiencies existed; and (c) what steps should be taken to address the deficiencies identified.

A detailed review of the Communications System Agreement revealed that Motorola met the specifications laid out in that agreement and the final form of the coverage acceptance test plan. Both of these contracts, however, involved material changes from the original request for proposal (RFP), which had been created with user agency input. Those changes were driven in part by requirements imposed by Industry Canada, and in part by cost considerations and negotiations with Motorola. As a result, in a number of respects the system as implemented and tested did not meet user requirements or expectations.

The information gathered from user agencies and CREST management, and Planetworks assessment of the operational performance of the CREST system, revealed that the network and system generally functions well. It does, however, have several material coverage deficiencies which must be addressed. In particular, in-building penetration in the core areas of Victoria, Saanich and Esquimalt are inadequate, and geographic coverage in some parts of the Electoral Areas must be addressed. We recommend that a thorough baseline coverage test be conducted as a necessary first step in designing and building the needed coverage enhancements for the CREST network.

Finally, the review of CREST as an organization indicated that it is materially under-resourced. In the long term, CREST is unable to fulfil its mandate as currently staffed and in the event of an area-wide emergency, may not have the ability to keep the network operating reliably. We consequently have recommended that additional staff be added to the CREST organization. In addition, to further enhance all aspects of functionality, CREST must ensure that it works closely with the user agencies on all operational aspects of the network. To that end, we have recommended that immediate steps be taken to bring into operation the User and Service Committees that were created in the spring of 2005, and that these groups become fully involved in the strategic planning process and planning for coverage enhancements recommended by this report.

### **Summary of Financial Review and Recommendations**

As currently constituted, CREST has two principal sources of funding: a \$350 per year charge on each radio held by participating user agencies and a service fee from the CRD, which is approximately equal to the amount collected by the CRD from a Call Answer Levy ("CAL") on landline telephones. This revenue stream is insufficient to meet CREST's aggregate annual costs of operations. The projected deficit is in the order of \$1.2 million per year, commencing in 2006, prior to any system or organizational enhancements.

The only source of funding readily available to CREST is further charges to its Members and users. The difficulties encountered in 2004 when agreeing on a levy to cover an anticipated funding shortfall in 2005, demonstrate the need to establish a fair cost allocation model to deal with the on-going funding requirements of CREST.

Following a review of benchmark organizations and a consideration of input from the Board, user agencies and Members' administrative and financial officers, the following cost allocation approach is recommended:

- (i) The model should be based on a fair allocation of the costs of shared infrastructure and overhead costs. Those costs should be allocated to each user agency on the basis of the costs associated with delivering services to that agency.
- (ii) All costs related to user equipment should be borne directly by the relevant user agency.

Our analysis considers a series of weighted factors which drive the cost of building the network and delivering services to each user agency. The model is set out in section 4.3.1 of the body of the report and the analysis of each factor is considered in detail in Appendix III. The factors which are applied in the model are: geographic area coverage (60%); population (10%); number of radios (15%); and usage (15%). In addition, we recommend adjustments to the geographic coverage calculation on an agency-by-agency basis to reflect differences in the nature of each agency's requirements and the cost of delivering services to them.

We anticipate that, once user equipment costs are directly allocated, and the cost of expanding CREST's organization and enhancing system coverage are factored in, CREST will have to allocate to its Members approximately \$1.1 million per year as a shared infrastructure cost.

In addition, we have recommended that CREST undertake a 5-year budget planning process to establish goals for the organization, and that it continue to pursue additional revenue generating options, including lobbying for provincial legislation to impose a CAL on wireless operators. Finally, we recommend that CREST establish and maintain a financial reserve equal to approximately 3 months operating expenses (or, at current levels, about \$400,000).

### **Summary of Governance Review and Recommendations**

When trying to agree the special levy for 2005, a number of problems with CREST's Members' Agreement, articles and memorandum (collectively, the "Governing Documents") were identified. In particular, it was discovered that the operational version of the Members' Agreement differed from the version that many of the municipalities had approved, and lacked any provision for allocating costs, except with 100% approval of all Members. The Members' Agreement also lacks any means of dealing with deadlock, and a careful review of the Governing Documents demonstrated a series of other inconsistencies. We consequently have recommended that the Governing Documents be carefully reviewed by CREST's lawyers, and revised to deal with the problematic provisions.

Given the problems experienced in 2004 and the recommended approach to the cost allocation model, the approval levels for financial decisions specified in the Members' Agreement must be changed. It became evident that several of the larger municipalities were of the view that an allocation method which left them with a larger share of the financial burden would only be acceptable if voting on such matters was appropriately weighted. A number of smaller communities concurred in this view. Consequently, we have recommended the following:

- i. The Board should be given the right to establish a budget which contemplates increased charges to Members, provided that such budget does not exceed the previous year's budget by more than twice the annual inflation rate. Approval of this budget would require a two-third majority of directors.
- ii. Where a budget is to be struck, or expenses incurred, that exceed the level specified in (i) above, such matter must be approved by not less than two-thirds of the Members. The approving Members must also represent not less than two-thirds of the costs to be incurred, as determined by the cost allocation model.

The information and views collected from the Board, management and user agencies, and comparison to certain benchmark organizations, also identified several other governance issues that need to be addressed. Consequently, we have recommended a series of other steps be taken, including the following: the issue of voting of the shares held by the CRD on behalf of the three Electoral Areas should be clarified in the Governing Documents, so that those shares are voted only as directed by the relevant elected representative for each Electoral Area; CREST should remove the stipulation in its Governing Documents that directors appointed by municipal Members must be elected officials; CREST should expand its board to include one or two independent directors and consider the issue of remuneration of its directors; CREST must develop an orientation package for directors which clearly delineates their roles and fiduciary responsibilities; CREST's Members need

to understand the separate responsibilities that their appointees have to CREST, and steps should be taken to reduce the number of conflicting roles that the directors are asked to fill; and CREST needs to undertake a strategic planning process that involves all of its major stakeholders.

## Conclusion

CREST as an organization faces a series of challenges and changes almost as great as when the organization was first created. CREST is responsible for delivering emergency communication services in life-critical situations. If CREST is to fulfil its mandate, the stakeholders will have to agree to a series of changes to enhance and improve the operation of the organization, and commit additional resources and funding to enable necessary system and organizational enhancements to be implemented. If CREST's operational, financial and organizational challenges are not addressed, there is a significant risk that the CRD's emergency communication system will fail when it is most needed.

The stakeholders must recognize that dealing with the recommendations in this report will take a significant period of planning, time and commitment from each of them. In section 6 and Appendix VI, we have mapped out a timeline that would see most of the recommendations acted upon (though not necessarily fully realized) by the end of 2006.

The highest priority recommendations are summarized in the table below.

No.	Recommendation
1.	CREST must define and agree, along with its members, a cost allocation methodology that incorporates the following principles: <ul style="list-style-type: none"><li>○ User agencies are directly responsible for the cost of their user equipment</li><li>○ Shared infrastructure costs are allocated according to a Weighted Factor model</li></ul>
2.	CREST must make changes to its governance and decision making procedures commensurate with the implementation of the new cost allocation method.
3.	CREST must develop a 5 year business, financial and operating plan that addresses the following requirements: <ul style="list-style-type: none"><li>○ Additional capital expenditure in the radio system infrastructure</li><li>○ Expansion of the CREST organization to better serve the users</li><li>○ Establishment of a reserve fund</li><li>○ Stable user agency charges</li></ul>
4.	CREST must undertake a technical assessment of the system relative to

	performance criteria that incorporate the requirement for in-building coverage.
5.	CREST should expand its organization to approximately 5 FTE's: <ul style="list-style-type: none"><li>○ Full time General Manager</li><li>○ Permanent administrative support</li><li>○ Additional technical support</li></ul>
6.	As it adds staff, CREST should commence discussions with Motorola aimed at restructuring or reducing the scope of the vendor support contract (hardware and software) for the radio system infrastructure.
7.	Once the performance baseline study is complete, CREST should identify and assess alternative technical approaches to improve coverage and address performance issues.
8.	CREST should establish and facilitate the operation of User and Service committees.
9.	CREST should undertake a legal review and re-drafting of its Members' Agreement and articles.
10.	CREST should continue to pursue secondary sources of new revenue to reduce the burden on its members: <ul style="list-style-type: none"><li>○ Grants from senior levels of government</li><li>○ Support the BC 911 SPA in its efforts to expand the CAL to include cellphones</li><li>○ Undertake discussions with potential new users of the system that would be synergistic with the existing public safety focus</li></ul>