

HALIFAX

P.O. Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 11.1.7
Halifax Regional Council
April 28, 2015

TO: Mayor Savage and Members of Halifax Regional Council

SUBMITTED BY: Original signed by 
Richard Butts, Chief Administrative Officer

Original Signed by 
Mike Labrecque, Deputy Chief Administrative Officer

DATE: April 1, 2015

SUBJECT: **Sole Source Award – Fibre Optic Network Relocation**

ORIGIN

The Approved 2015/16 Project Budget for ICT Infrastructure Recapitalization.

LEGISLATIVE AUTHORITY

Under the HRM Charter, Section 79 Halifax Regional Council may expend money for municipal purposes. Administrative Order #35, the Procurement Policy, requires Council to approve the award of contracts for sole sources exceeding \$50,000 or \$500,000. Section 111(5) of the Halifax Charter requires Ministerial approval for any lease, lease-purchase or other commitment to pay money over a period extending beyond the end of the current fiscal year, where the total commitment exceeds five hundred thousand dollars.

RECOMMENDATIONS:

It is recommended Halifax Regional Council:

1. In accordance with the sole source provisions of Administrative Order 35, Section 8(11)(A) sub-section (a) "to ensure compatibility with existing products, to recognize exclusive rights, such as exclusive licences, copyright and patent rights, or to maintain specialized products that must be maintained by the manufacturer or its representative" award a sole source purchase to Internetworking Atlantic Inc. for the construction of a new fibre connection over the MacKay bridge in the amount \$215,585.23 (net HST included), with funding from Project No. CI000004 - Infrastructure Recapitalization, with an annual maintenance fee of \$11,732.18 (net HST included) payable over a twenty (20) year period;

Recommendations continued on Page 2

2. Authorize and direct the CAO or his delegates to negotiate a new master service agreement (“MSA”) with Internetworking Atlantic Inc.(IAI) in respect of (i) the construction and maintenance of a new fibre connection over the MacKay bridge and (ii) existing fibre optic product and services detailed in this report, that meets the requirements of the Municipality (to the satisfaction of the CAO) and accords with the Financial Implications section of and key terms set out in this report;
3. Authorize the CAO to execute the MSA on behalf of the Municipality for a twenty (20) year renewable term at an anticipated annual maintenance cost of \$50,336.77 (net HST included), subject to successful negotiation of terms and conditions agreeable to the CAO and subject to Ministerial approval. The annual maintenance fees will pay for the upkeep of new fibre connection over the MacKay bridge (\$11,732.18, net HST included) and existing fibre optic product and services (\$38,604.59, net HST included). The net present value of the MSA is \$1,464,336.53 (net HST included), comprised of the installation costs over the MacKay bridge in the amount \$215,585.23 (net HST included) and twenty (20) years of annual maintenance fees totalling \$1,248,751.30 (net HST included);
4. Instruct staff to seek Ministerial approval for this multi-year commitment to expend funds in excess of five hundred thousand dollars (\$500,000) once the terms and conditions of the MSA have been finalized; and
5. Authorize the CAO or his delegate to purchase from IAI additional fibre optic network components and/or fibre optic lateral connections during the term of the contract, and to amend the contract accordingly, where the purchase is necessary to achieve HRM’s operational requirements and the total expenditure is budgeted and within their delegated authorities for sole source awards as approved by Council in Administrative Order 35, Procurement Policy, as may be amended at Council’s discretion.

BACKGROUND

On April 26, 2005, Halifax Regional Council approved a contract with IAI for the construction and co-ownership of a high speed fibre optic network that spans from downtown Halifax to the Eric Spicer Building in Woodside. Under the terms of the contract, HRM has a 49.5% ownership (72 fibre strands), IAI owns 49.5% (72 fibre strands) and InNovacorp owns 1% (0 fibre strands, leases from IAI). This jointly owned fibre optic network (which IAI calls the 029 Network) provides connectivity for the computer network services used to link sixteen municipality facilities including, but not limited to: Duke Tower, Alderney Gate, Eric Spicer Building, and Halifax Regional Police Headquarters. This fibre optic infrastructure also provides connectivity between the Municipality’s two datacenters which host HRM’s corporate applications including the Revenue System, Email, Permitting System, GIS, and Police/Fire Dispatch and Records Management systems.

Since the original build in 2005, under the delegated financial authority of the applicable Business Unit Director, the Municipality has expanded the fibre optic network to a total of sixteen municipal facilities by procuring the installation and access to additional lateral cables. Some of the facilities include: Metro Transit depots at 200 Illsley and 150 Thornhill Dr.; Police and Fire offices in Burnside; TPW depot at 10 Thornhill; HRP CID Building on Brunswick St.; and Halifax Ferry Terminal Building.

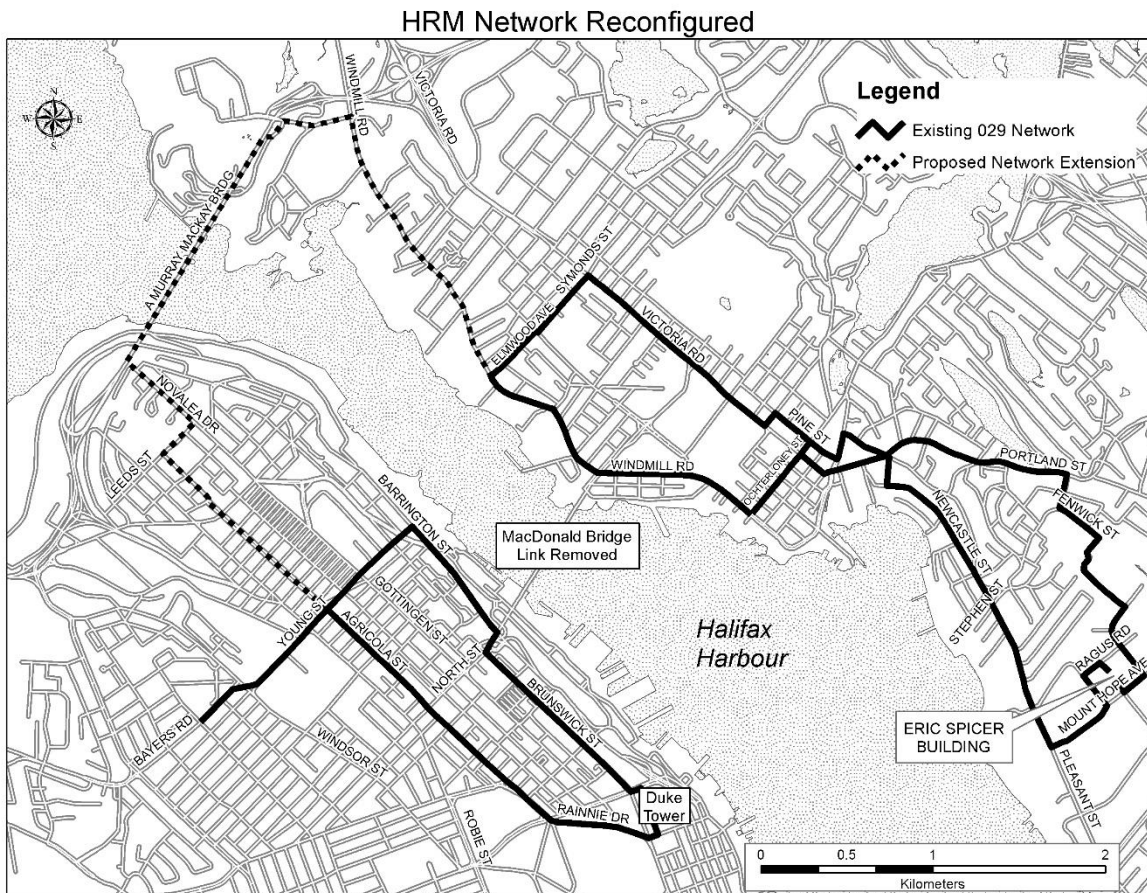
IAI has treated the expansions completed after the original build in 2005 as being purchased using an Indefeasible Right of Use (“IRU”), although the parties did not agree to a set duration for these IRUs in contract. An IRU is a grant from a network service provider (IAI) to a customer permitting the customer either common or exclusive use of fibre-optic cable for a defined period of time. In contrast to ownership, an IRU places the risk of unexpected future expenses due to cable maintenance/damage or relocation of fibre on the service provider. The Municipality’s cost for access and maintenance to the lateral connections added after 2005 is currently \$38,604.59 (net HST included) annually.

The purpose of this report is to solidify an agreement to move the fibre optic cable from the MacDonald Bridge to the MacKay Bridge and to co-terminate the existing arrangements for the lateral connections.

DISCUSSION

The fibre optic cable that is used to connect the municipal facilities across the harbour is currently installed on the MacDonald Bridge. The Halifax Bridge Commission plans to replace the MacDonald Bridge deck starting in the spring of 2015. In preparation for the upcoming maintenance, cabling infrastructure currently installed below the deck of the MacDonald Bridge must be relocated. All of the major service providers with infrastructure on the bridge (i.e. IAI, Telus, Bell-Aliant, Eastlink, etc.) have decided to relocate their infrastructure to the MacKay Bridge, as remaining on the MacDonald Bridge would require the installation of two cables. A temporary cable would need to be installed above the deck during the renovations and a new permanent cable installed underneath the deck after the renovations are completed.

The diagram below delineates the route for the new fibre optic cable to be installed. This new fibre optic cable integrates with the existing 029 Network and expands the footprint of the fibre optic products and services available to the Municipality through North End Halifax and North End Dartmouth.



As is stated above, the Municipality has been granted several IRU's from IAI for fibre optic networking services since the original build in 2005. These IRUs have uncertain end dates. The annual cost for these IRU's is \$38,604.59 (net HST included). It is proposed that these lateral IRUs along with the fibre optic build on the MacKay Bridge be consolidated into a single MSA and thus subject to the same terms

and all co-terminating twenty (20) years from the date of signing. The new annual maintenance cost would be \$50,336.77 (net HST included). Subject to budget availability and the appropriate approvals, future additions to the jointly owned 029 Network or the IRU Network could then be added to this MSA. The MSA has an initial five (5) year term, and thereafter automatically renews annually to a maximum of 20 years, unless there is an early termination of the contract. IAI's proposal also includes an option for the municipality to extend the MSA for an additional 20 years for a cost of \$1.

The municipality's fibre optic network is jointly owned with IAI and is delivered through shared fibre infrastructure assets. IAI, along with the other service providers currently on the MacDonald Bridge, have decided to move their fibre infrastructure to the MacKay Bridge. To maximize the value of the previous investment and to continue to minimize municipal expenditure, the existing relationship with IAI should be maintained. The other fibre optic service providers do not provide the same type of service as IAI. They would not provide dark fibre (unused fibre strands available for expansion without leased/metered transfer speeds) which would yield higher monthly operating costs for the municipality. Further, connecting the municipality's existing fibre optic network with that of another service provider's would add unnecessary complexity and costs.

FINANCIAL IMPLICATIONS

Based on the sole source pricing of \$206,725, plus net HST of \$8,860.23, for a net total of \$215,585.23, funding is available from Capital Account CI000004 – Infrastructure Recapitalization. The first year annual consolidated maintenance costs of \$48,296.77 plus net HST of \$2,070.00 for a total of \$50,336.77 (net HST included) is available from Operating Account A742 – Technology Infrastructure. Budget availability has been confirmed by Finance.

Budget Summary:	<u>Project No. CI000004 – Infrastructure Recapitalization</u>	
	Cumulative Unspent Budget	\$ 216,384.07
	Less: Sole Source (Capital)	\$ 215,585.23*
	Balance	\$ 798.84

*The capital project was originally estimated at \$250,000.00 (net HST included). Remaining funds will be used for other infrastructure recapitalization projects.

ENVIRONMENTAL IMPLICATIONS

Not Applicable

ALTERNATIVES

1. Regional Council may choose to abandon using the existing fibre optic network and direct staff to solicit competitive solutions which would replace the current HRM-owned components of the existing fibre optic network with the new services. This is not recommended by staff as the current market cost to provide the similar services we currently utilize on the IAI fibre optic network would cost \$537,000 annually and additional capacity can be enabled for existing and future facilities on the fibre optic network without the municipality incurring additional costs.

ATTACHMENTS

Attachment A – Administrative Order #35, Procurement Policy Section 8(11)(A)

Attachment B - Halifax Regional Council, April 26, 2005, Item 10.1.6 – Report to Council “HRM Public Sector Partnership – Dartmouth Fiber Optic Network”

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.php> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Phillip Evans, Technology Infrastructure Manager, Service Management & Operations, (490-6567)

Report Reviewed by: Donna Davis, Chief Information Officer (490-4417)

Report Reviewed by: Greg Keefe, Director of Finance & ICT/CEO (490-6308)

Report Reviewed by: David Greener, Senior Solicitor, Legal Services, 490-3960

Report Reviewed by: John Traves, Director, Legal Services, 490-4219

Procurement Review: Anne Feist, Manager, Procurement (490-4200)

Original Signed

Attachment A
Administrative Order 35
Procurement Policy Section 8 (11) (A)
Sole Source/Single Source Purchases

(11) **Alternative Procurement Practices** may be used as follows:

A. Sole Source/Single Source Purchases. These occur:

- (a) To ensure compatibility with existing products, to recognize exclusive rights, such as exclusive licences, copyright and patent rights, or to maintain specialized products that must be maintained by the manufacturer or its representative.
- (b) Where there is an absence of competition for technical reasons and the goods or services can be supplied only by a particular supplier and no alternative or substitute exists.
- (c) For the procurement of goods or services the supply of which is controlled by a supplier that is a statutory monopoly.
- (d) For the purchase of goods on a commodity market.
- (e) For work to be performed on or about a leased building or portions thereof that may be performed only by the lessor.
- (f) For work to be performed on property by a contractor according to provisions of a warranty or guarantee held in respect of the property or the original work.
- (g) For the procurement of a prototype of a first good or service to be developed in the course of and for a particular contract for research, experiment, study or original development, but not for any subsequent purchases.
- (h) For the purchase of goods under exceptionally advantageous circumstances such as bankruptcy or receivership
- (i) For the procurement of original works of art.
- (j) For the procurement of goods intended for resale to the public.
- (k) For the procurement from a public body or a not-for-profit corporation.
- (l) For the procurement of goods or services for the purpose of evaluating or piloting new or innovative technology with demonstrated environmental, economic or social benefits when compared to conventional technology, but not for any subsequent purchases.

The terms and conditions of a sole source/single source purchase shall be negotiated. Sole source/single source purchases over \$25,000 and not exceeding \$50,000 shall be approved by the CAO.

10.1.6



PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Halifax Regional Council
April 26th, 2005


TO: Mayor Kelly and Members of Halifax Regional Council

Original Signed

SUBMITTED BY:


George McLellan, Chief Administrative Officer

Original Signed


Dan English, Deputy Chief Administrative Officer

DATE: April 20th, 2005

SUBJECT: HRM Public Sector Partnership - Dartmouth Fiber Optic Network

ORIGIN

Staff

RECOMMENDATION

It is recommended that:

1. HRM Regional Council authorize the Mayor and Municipal Clerk to enter into a formal ownership / service agreement with Internetworking Atlantic and InNOVAcorp as per the key terms and conditions outlined in the body of this staff report.

2. HRM Regional Council authorize the expenditure of \$161,350 including net HST from capital account CID00748, for the purpose of building a Fiber Optic Network, with funding authorized per the Budget Implications section of this report.

BACKGROUND

HRM staff have been examining trends in municipal government toward municipally owned data networks using fiber optics. An opportunity has arisen for HRM to participate in a joint project with Nova Scotia Community College, InNOVAcorp, and Internetworking Atlantic Inc. to provide fiber optic network services linking City Hall, Duke Tower, Halifax Regional Police (HRP), Alderney Gate and Eric Spicer buildings, in addition to the new NSCC Campus and InNOVAcorp's Research Drive facilities in Dartmouth. This project will provide high speed data services to HRM and its public sector partners and will reduce current and future operating costs.

In 2002, HRM took the first step toward high speed networking using fiber optics to support internal operations. HRM obtained a four year Indefeasible Right of Use (IRU) for four strands of a new fiber optic network built by Dixon Networks (the "metro ring"), in consideration for waiving encroachment fees. These fibers provide data services from the Duke Tower data center to City Hall and HRP; the full network ring covers most of south end Halifax. Since 2002, the savings to HRM have been approximately \$26,000 in data line leasing charges annually.

In the fall of 2003, HRM was contacted by Canarie Inc., a non-profit agency funded by Industry Canada, to participate in a request for information (RFI) to extend the existing metro ring to Dartmouth. The Canarie RFI process did not conclude with an agreement among the stakeholders. The metro ring was subsequently purchased by Dalhousie University in fall 2004, and Dalhousie has agreed to provide HRM a twenty year IRU without charge on the existing four strands as a condition of sale.

HRM was subsequently contacted by InNOVAcorp to resurrect the Canarie project with a subset of the original partners who were seen as having the interest, funds and commitment to see the project through to completion. HRM has met with InNOVAcorp and NSCC to discuss the requirements of each party, identify routes and potential connection points, and the determination was that our collective requirements could be met with a smaller, more focussed network build. These agencies collectively engaged Internetworking Atlantic Inc., by virtue of their being the only complete response to the Canarie RFI, to conduct a detailed engineering study and propose a funding and operating model. The results of the engineering study detailing attachment points and preliminary routes were presented back to the staff during summer 2004.

DISCUSSION

HRM has invested in storage area network technology and backup systems which support SAP, HANSEN, Geographic Information Systems (GIS) and other corporate applications. As these applications become more widely used (particularly GIS) the requirement for high speed networks increases exponentially. Also, through consolidation of equipment there is the opportunity to reduce

leasing costs, as was the case when the high speed link was installed in City Hall. This fiber optic network will meet these needs.

A fiber link to the Eric Spicer Building would facilitate an on-line disaster recovery (DR) data centre, which furthers HRM's current efforts to improve redundancy and fault tolerance in our systems. In the event of a major system or building failure at the Duke Tower data center, the DR center would take over, effectively eliminating down time.

The introduction of CAD/RMS into the production system scheduled for spring 2005 will require a reliable and secure data connection. Fiber optic cable is impossible to tap into, providing the highest level of security possible. The CAD implementation is more bandwidth intensive than existing systems due to the mapping and graphical representations. This build would avoid the long term costs associated with increasing the bandwidth to Police Headquarters.

Fiber optic networks make possible other data and telecommunications services, such as packet radio, cellular, analog and digital voice traffic (including voice over IP), wireless connections, surveillance cameras, traffic light control and other applications. Investment in this technology will become a critical component of HRM's long term telecommunications strategy.

The proposed route for this network is attached as Appendix A. Finalization of the route will take into consideration the pole free zone, opportunities for undergrounding in existing and planned ducts, opportunities to underground during scheduled street openings and potential future connection points. It is not anticipated that street cuts will be required to build this network, as the majority of the cable will be aerial.

There is the potential for this network to enhance economic development in Downtown Dartmouth. Excess capacity is being built in to be resold to other users, reducing total cost of ownership. HRM has agreed not to actively market its capacity for a period of five years or until Internetworking Atlantic's portion is at capacity, the HRM strands may however be freely used to connect any agency HRM has a relationship with that requires data services. A high speed, low cost data network linking educational, government and private sector concerns could be viewed as the "third bridge" connecting Halifax and Dartmouth.

BUDGET IMPLICATIONS

HRM has adopted the risk averse approach of securing an ownership position in this project in consideration of an up front investment, versus a fee for service arrangement. This model allows HRM greater flexibility in future usage which may provide advantage to HRM. The proposed ownership / service agreement with Internetworking Atlantic is a shared ownership model of 49.5% HRM, 49.5% Internetworking Atlantic and 1% InNOVAcorp. HRM would maintain exclusive use of 72 strands of the 144 strand cable for HRM purposes. HRM's investment would be protected

through security agreements which specify in the case of bankruptcy or abandonment of the cable by another partner, ownership would automatically transfer to HRM. As well, it is proposed that HRM would have a first right of refusal in the case of a sale of Internetworking Atlantic at a price to be determined before execution of this agreement.

The total cost to construct this network is \$336,000, exclusive of taxes. HRM's capital cost is \$156,000, giving HRM 50% of the total capacity for 46.5% of the total project cost. HRM's liability for maintenance is set to a maximum of \$15,500 annually, based on the actual costs incurred for network operation.

HRM currently spends \$39,360 annually for data connections to Alderney Gate and Eric Spicer buildings from the Information Technology operating budget. When reductions in equipment leasing and cost avoidance are factored in, the investment has a very positive net present value.

Funding for this purchase is available in the Approved 2005/06 Capital Budget from Capital Account No. CID00748, Fiber Optic Network. The budget availability has been confirmed by Financial Services.

Budget Summary:	<u>Capital Account No. CID00748, Fiber Optic Network</u>	
	Cumulative Unspent Budget	\$200,000
	Less: Proposed Expenditure (taxes included)	\$161,350
		\$ 38,650

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation. This project supports the Shared Services Business Plan objective of "Best Use of Technology" and forwards the Excellence in Governance scorecard outcomes of "*HRM is positioned to act on leverage opportunities*" and "*Efficiency in Integrated Service Delivery*".

REGIONAL PLANNING IMPLICATIONS

There are no known regional planning implications for this project.

ALTERNATIVES

1. HRM could build a network to provide the same functionality without a partner, at significantly greater cost to HRM, estimated at \$250,000. The timeline would be significantly impacted as attachment make-ready arrangements would have to be negotiated with pole owners. Without the participation of HRM as a key stakeholder in this project, NSCC and InNOVAcorp will likely withdraw from the project.
2. HRM could also continue to lease data services. This alternative would require further investment in technology for both Alderney Gate and Eric Spicer to duplicate services already available in the HRM data centre, due to the need for high speed access to these systems.

ATTACHMENTS

Appendix A

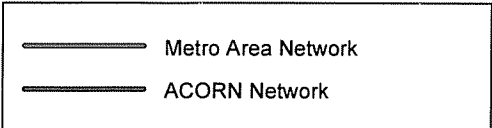
Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: David Muise/Division Manager - Information Technology Services, Shared Services
M.E. Donovan/Manager - Legal Services

Financial Review: **Original Signed**
Howard Barnes, CMA, Financial Consultant 490-6468

Report Approved by: **Original Signed**
Geri Kaiser/Director, Shared Services 490-4630

Original Signed
S. Dale MacLennan, CA, Director, Financial Services, 490-6308



Title Metro Area Network Route Plan		100-029-026 Revisions		Internetworking Atlantic Inc. Internetworking - Telecommunications - Computer Engineering (902) 421 6021 info@internetworking-atlantic.com
		1	12/6/04	
DWG		JGW		Metro Area Fibre-Optic Network
VER		BCM		
REL		BCM		

