



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

Item No. 14.2.3
Halifax Regional Council
July 26, 2016

TO: Mayor Savage and Members of Halifax Regional Council

Original Signed

SUBMITTED BY:

Councillor Linda Mosher, Chair, Audit & Finance Standing Committee

DATE: July 20, 2016

SUBJECT: Halifax Regional Fire & Emergency Unmanned Aircraft Surveillance (Drones)

ORIGIN

July 20, 2016 meeting of the Audit & Finance Standing Committee, Item No. 12.1.4

LEGISLATIVE AUTHORITY

Audit & Finance Standing Committee Terms of Reference section 3.8, which states “to review and make recommendations on proposals coming to Halifax Regional Council outside of the annual budget or tender process including but not limited to:

- New Programs or services not yet approved
- Programs or services that are being substantially altered
- Proposed changes in operating or budget items
- Committing of funds where there is insufficient approved budget, or,
- New or increased capital projects not included in the approved budget
- Increases in project budget due to cost sharing
- Creation or modification of reserves and withdrawals not approved in the approved budget

RECOMMENDATION

It is recommended by the Audit & Finance Standing Committee that Halifax Regional Council:

1. Approve a budget increase of \$60,000 to Capital Account CEO10001, Fire Services Equipment Replacement for the purchase of two unmanned aircraft surveillance drones.
2. Approve an unbudgeted withdrawal in the amount of \$60,000 from Q206, Fire & Emergency Service Vehicle and Equipment Reserve, as outlined in the Financial Implications section of the staff report dated July 12, 2016.

BACKGROUND

A staff report dated July 12, 2016 pertaining to Halifax Regional Fire & Emergency Unmanned Aircraft Surveillance (Drones) was before the Audit & Finance Standing Committee for consideration at its meeting held on July 20, 2016.

For further information, please refer to the attached staff report dated July 12, 2016.

DISCUSSION

The Audit & Finance Standing Committee reviewed the staff report dated July 12, 2016 at its meeting held on July 20, 2016 and forwarded the recommendation to Halifax Regional Council as outlined in this report.

FINANCIAL IMPLICATIONS

As outlined in the attached staff report dated July 12, 2016.

RISK CONSIDERATION

As outlined in the attached staff report dated July 12, 2016.

COMMUNITY ENGAGEMENT

The Audit & Finance Standing Committee meetings are open to public attendance, a live webcast is provided of the meeting, and members of the public are invited to address the Committee for up to five minutes at the end of each meeting during the Public Participation portion of the meeting. The agenda, reports, and minutes of the Audit & Finance Standing Committee are posted on Halifax.ca

ENVIRONMENTAL IMPLICATIONS

Not applicable.

ALTERNATIVES

The Audit & Finance Standing Committee did not discuss alternatives.

ATTACHMENTS

1. Staff report dated July 12, 2016.

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 902.490.4210, or Fax 902.490.4208.

Report Prepared by: Liam MacSween, Legislative Assistant, 902.490.6521.

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Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 12.1.4
Audit & Finance Standing Committee
July 20, 2016

TO: Chair and Members of Audit & Finance Standing Committee

SUBMITTED BY: Original Signed
John Traves, Q.C. Acting Chief Administrative Officer

Original Signed
Doug Trussler, Chief, Halifax Regional Fire & Emergency Service

DATE: July 12, 2016

SUBJECT: Halifax Regional Fire & Emergency Unmanned Aircraft Surveillance (Drones)

ORIGIN

The Origin of this project is the HRFE Operations division and was conceived at the station level. It began with some general inquiries and after a tremendous amount of research and personnel time, it has become a project with the potential to protect lives and property when fully deployed.

LEGISLATIVE AUTHORITY

Halifax Regional Council approved, Dec 11, 2012, that all budget increases are to be presented to the Audit and Finance Standing Committee, prior to submission to Council.

Halifax Charter, section 93(1) - The Council shall make estimates of the sums that are required by the Municipality for the fiscal year; Halifax Charter, section 79(1) - Specifies areas that the Council may expend money required by the Municipality; Halifax Charter, section 35(2)(d)(i) - The CAO can only authorize budgeted expenditures or within the amount determined by Council by policy; Halifax Charter, section 120(6) - The Municipality may maintain other reserve funds for such purposes as the Council may determine; Halifax Regional Municipality policy on Changes to Cost Sharing for Capital Projects - Changes requiring Council approval; and the Halifax Regional Municipality Reserve Policy - No reserve funds will be expended without the CAO's recommendation and Council approval.

RECOMMENDATION

It is recommended that the Audit & Finance Standing Committee recommend that Halifax Regional Council:

1. Approve a budget increase of \$60,000 to Capital Account CEO10001, Fire Services Equipment Replacement for the purchase of two unmanned aircraft surveillance drones.

2. Approve an unbudgeted withdrawal in the amount of \$60,000 from Q206, Fire & Emergency Service Vehicle and Equipment Reserve, as outlined in the Financial Implications section of this report.

BACKGROUND

The UAS or drone project was conceived at the station level during the winter of 2015 when the municipality experienced a significant number of calls that involved assessing building stability and structural integrity of roofs with extreme snow loads. The building stability assessment often involved placing responders at significant or potential risk in order to make a real time assessment of the conditions.

DISCUSSION

The deployment of a drone capable of interior and exterior flight with high definition real time imagery would have eliminated that risk to responders and would have allowed for a real time assessment of conditions.

HRFE began to look at other potential uses and in particular how the fire industry was adopting this technology. It was determined that the ability to do building stability assessments was extremely useful but not the only, nor most significant, use of drones for HRFE.

Other significant uses and benefits of drones include but are not limited to:

- the ability to view a complete picture of the roof and all sides of a building during a major fire to facilitate rapid deployment of forces to the right places to contain and prevent fire spread
- the ability to view and monitor the spread of wildfire in an urban interface environment
- the ability to rapidly fly above a fire and use thermal and HD imagery to track progress and map response plans to effectively extinguish and contain fires
- the identification and current state of products involved in a HazMat incident to allow for a more rapid assessment resulting in a safer and quicker response

These are only a few of the benefits that could be realized from the purchase and deployment of a drone/UAS. The ability to fly in almost all weather and to use thermal and HD imagery is paramount in providing real time situational awareness. The uses of a drone/UAS are many and the technology is affordable.

RFP P15-335, Unmanned Drones for Halifax Fire and Emergency Services was publicly advertised on the Nova Scotia Public Tenders portal on September 8, 2015 and closed on September 22, 2015. Nine proposals were received and scored using a two envelope process.

A demonstration by the highest scoring bidder was required by the RFP and did not provide the desired results. These unsatisfactory results coupled with the issues encountered by the requirement for enhanced security with these devices make it necessary for HRFE to retender. The RFP will be for two drones (one operations and one training/backup) and necessary training.

FINANCIAL IMPLICATIONS

To fund this purchase, HRFE is recommending the transfer of \$60,000 from the Fire & Emergency Service Vehicle & Equipment Reserve (Q206) into project account CEO10001, Fire Services Equipment Replacement. This reserve is intended to provide funding for the purchase of vehicles and equipment with a useful life of less than 10 years and is therefore appropriate to use for this purchase. If approved,

there will be an increase to the gross capital budget but not the net and there will be an increase to reserve withdrawals. The budget availability has been confirmed by Finance.

Budget Summary:	<u>Project Account CE010001 – Fire Equipment Replacement</u>	
	Cumulative Unspent Budget	\$557,229
	Plus: Transfer from Reserve Q206	<u>\$ 60,000</u>
	Balance	\$617,229

Budget Summary, Q206 - Fire Vehicle Reserve

Projected available balance March 31, 2017 as of June/16	\$ 578,437
2016/17 Withdrawal per recommendation	<u>\$ 60,000</u>
Projected net available balance at March 31, 2017	\$ 518,437

Q206 – Fire Vehicle & Equipment Reserve (March 28, 2000)

Purpose of reserve is to provide funding for replacement of fire and Emergency service utility vehicles (cars, vans, and light trucks), and firefighting equipment as they reach the end of their useful life. Also to provide partial financing for the replacement of firefighting apparatus (heavy firefighting trucks).

The Reserve is primarily intended to provide funding for the purchase of vehicle and equipment with useful life of less than 10 years.

The approval of the recommendation does not have a negative impact on the anticipated reserve balances' ability to fund the proposed 2016/17 withdrawals.

RISK CONSIDERATION

The Adoption and use of the proposed UAS (Drone) will not add any significant risk to the municipality, however the use of a Drone will in some case eliminate or significantly reduce risk. Risk and Insurance Services has updated the insurance policy to include the use of Drones. The use of a Drone will allow for many dangerous or time consuming situational assessments to be made rapidly and without placing responders in danger thereby reducing the risk to responders and the public.

COMMUNITY ENGAGEMENT

N/A

ENVIRONMENTAL IMPLICATIONS

The UAV imposes no significant environmental implications except perhaps at the end of life cycle where its disposal may have some limited impact. This impact is currently mitigated by properly disposing of electronics and technologies. That will effectively eliminate any perceived impact to the environment.

ALTERNATIVES

There are no recommended Alternatives

ATTACHMENTS

None

A copy of this report can be obtained online at <http://www.halifax.ca/boardscom/SCfinance/index.php> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 902.490.4210, or Fax 902.490.4208.

Report Prepared by: Rita Clarke, HRFE Coordinator, 902.490.5614

Report Approved by: Original Signed
Brian Gray, Deputy Chief of Operations, 902.490.5542

Financial Approval by: Original Signed
Amanda Whitewood, Director of Finance and Information Technology/CFO, 902.490.6308
