

**CITY OF HAMILTON**

**PUBLIC WORKS DEPARTMENT**  
*Transportation, Energy and Facilities Division*

<b>TO:</b> Chair and Members Public Works Committee	<b>WARD(S) AFFECTED:</b> CITY WIDE
<b>COMMITTEE DATE:</b> March 5, 2012	
<b>SUBJECT/REPORT NO:</b> Conventional Transit (HSR) Fleet Purchasing Policy Review Request for Policy 11 Approval (PW12017) - (City Wide)	
<b>SUBMITTED BY:</b> Gerry Davis, CMA General Manager Public Works Department	<b>PREPARED BY:</b> Douglas H. Murray Manager, Transit Fleet Maintenance (905) 546- 2424, Extension 2804
<b>SIGNATURE:</b>	Geoff Lupton Director, Energy, Fleet, Facilities & Traffic (905) 546-2424, Extension 7372

**RECOMMENDATION**

- (a) That Council authorize the Central Fleet section to continue to use the current Purchasing Policy 11 for the single source contract for repair and maintenance of the City's two natural gas compressor stations to MCI Inc. in the estimated annual amount of \$300,000 yearly until the feasibility study is completed and recommendations are reported back to Council and staff are given further direction;
- (b) That Council authorize approval for the hiring of Marathon Technical Services to complete an in-depth feasibility study for the possibility of returning to the practice of purchasing compressed natural gas (CNG) buses for conventional transit.

**EXECUTIVE SUMMARY**

Recommendation (a) of this report seeks Council's approval of a single source contract for the repair and maintenance of the City's two natural gas compressor stations. MCI Inc. has serviced and repaired the City's two CNG stations, under contract, since 2000. The service has been consistent and reliable. Central Fleet and Purchasing have searched unsuccessfully for alternative sources. The nearest alternative is Enbridge

**SUBJECT: Conventional Transit (HSR) Fleet Purchasing Policy Review Request  
for Policy 11 Approval (PW12017) - (City Wide) - Page 2 of 5**

---

Gas Distribution, a competitor to Union Gas, and they are unable to provide service outside of their franchise territory. There is only one other vendor in Ontario, Fiba-Canning in Markham who declined to quote on contract C11-81-10 (Request for Prequalification, Contractors Required for Natural Gas Compressor Station Maintenance & Service).

Recommendation (b) of this report seeks Council's authorization and direction to undertake a number of activities and to report back to Council prior to submitting a Capital request for the planned replacement of Transit buses in 2013.

Staff will be undertaking a number of activities culminating in a recommendation report to Public Works Committee prior to submitting a 2013 Capital request for conventional transit fleet replacement.

These include:

- Updating the Business Case Analysis for CNG versus Diesel in view of the decoupling of diesel and CNG prices over the last couple of years;
- Assessing the purchase of additional 60-foot articulated buses to replace end-of-life 40-foot buses to further address ongoing capacity shortfalls on some routes;
- Assessing the purchase of additional 26 foot buses to replace end-of-life 40-foot buses to be utilized on our lower ridership routes;
- Undertaking a Business Case Analysis for the conversion of the existing fleet from hydraulic fans to electric fans (mini-hybrid) as other transit operators are experiencing increased fuel savings in the order of 15%. The 2012 fleet purchase previously approved by Council will provide this feature as standard equipment;
- Monitoring the availability of a planned fully electric bus available from at least one vehicle manufacturer in 2013/14.

Currently Hamilton operates 217 conventional transit buses. Of these 217 buses 72 are compressed natural gas the remainder are diesel. Since 2004 Hamilton has purchased diesel and diesel-hybrid buses. Diesel has been the recommended policy of staff for over a decade due to the higher "all-in" operating costs and lack of reliability of earlier generation CNG technology, as well as comparable environment impact.

New Environmental Protection Agency (EPA) requirements in 2012 require the use of Diesel Exhaust Fluid which will add approximately \$.03/ltr of fuel consumed by these vehicles. Current costs for diesel fuel are \$1.09/ltr vs. \$.26/ltr equivalent CNG. Current predictions are that diesel fuel pricing will remain volatile whereas CNG is expected to be stable for the foreseeable future.

Current CNG engines are 4<sup>th</sup> generation Cummins ISL – G engines that have an 80% parts commonality with the diesel equivalent that we are currently using. The ISL –G engine also claims a 20% increase in fuel mileage compared to the CNG engines currently being used at Transit.

The City of Calgary, through Calgary Transit, has just completed a feasibility study and is pursuing a CNG start-up by 2014. Calgary's study was completed by Marathon Technical Services whom have also previously done studies for Hamilton on our current

**SUBJECT: Conventional Transit (HSR) Fleet Purchasing Policy Review Request  
for Policy 11 Approval (PW12017) - (City Wide) - Page 3 of 5**

---

CNG fuelling stations, with all this current knowledge staff is of the opinion they should be retained for this requested feasibility study.

**Alternatives for Consideration - See Page 4**

**FINANCIAL / STAFFING / LEGAL IMPLICATIONS**

**Financial:** Adequate budget is available for the consultant's report estimated to be approximately \$20,000. Central fleet/Transit have adequate budget in the 2012 tax supported operating budget to continue on-going maintenance and repairs of the CNG compressor stations.

**Staffing:** N/A

**Legal:** N/A

**HISTORICAL BACKGROUND**

The City commissioned construction of the natural gas fuelling stations at the Mountain Transit Centre and Wentworth Street in 1990. Transit continued to purchase CNG buses until 2003. In 2004 the decision was made to purchase diesel buses as early generation CNG buses were found to be costly to repair and maintain and all in costing showed CNG buses were more expensive to run than diesel buses. Also the present CNG compressor station was considered too old and fragile (escalating annual maintenance costs) to support CNG fleet expansion.

Currently with the volatile fluctuation in diesel fuel prices compared to the stable price of CNG and the ability to lock in for long term pricing staff feel a review is needed to ensure the right decisions are made on a go forward basis regarding what technology to purchase.

There have also been a number of improvements made in the currently available CNG engine technology, i.e. 80% parts commonality with its diesel equivalent, and a 20% increase in fuel mileage compared to the CNG engines Transit is currently using. Ongoing maintenance of CNG engines is now equal to, or possibly less than that of an EPA 2010 diesel engine. Exhaust treatments on CNG engines are substantially less complicated than that of an EPA 2010 diesel engine. CNG technology is becoming more widely accepted and in fact approximately 25% of all bus orders in the United States are for CNG.

**POLICY IMPLICATIONS**

For the feasibility study - N/A

For the continuation of the current Policy 11- Single source requests which are \$250,000 or greater must have Council approval prior to initiating the negotiation process.

**SUBJECT: Conventional Transit (HSR) Fleet Purchasing Policy Review Request  
for Policy 11 Approval (PW12017) - (City Wide) - Page 4 of 5**

---

This recommendation aligns with the Public Works Business Plan by ensuring that equipment is maintained and completes its expected lifecycle, and costs are kept to a minimum.

**RELEVANT CONSULTATION**

Staff has consulted with other transit properties including Calgary Transit, OEM bus manufacturers, and Central Fleet staff.

**ANALYSIS / RATIONALE FOR RECOMMENDATION**

On a go forward basis make the best decision possible in regards to purchasing of Transit fleet that will have the best financial and environmental benefits for the City. Purchasing a Transit fleet that keeps the Corporate Strategic Plan goals in relation to obtaining financial stability by 2020 and Environmental stewardship by investing in a fleet that offers the best emission standards that will reduce our carbon footprint.

In the previously approved Council report (PW09042b), permission was granted to use Purchasing Policy 11 for MCI Inc. as the service provider for maintenance and repair of the City's two CNG stations. In July 2010 the Purchasing section issued a Request for Prequalification (Contractors Required for Natural Gas Compressor Station Maintenance & Service), Contract C11-81-10 to find out if there were any overlooked sources. The only response was from MCI Inc. An evaluation team reviewed the submission and concluded that it did not sufficiently respond to the form of the prequalification selection criteria. While the applicant (MCI) met our requirements for understanding the project and ability to respond to after-hours emergencies, both critical for success, insufficient detail was provided about experience in similar contracts and applicant experience in the written submission to meet the minimum score needed to pass. The evaluation team agreed that this was an oversight on the applicant's part, and did not truly describe the applicant's qualifications, based on our experience to date.

**ALTERNATIVES FOR CONSIDERATION**

Staff could be directed to continue purchasing diesel buses, and phase out all current CNG buses as new fleet are purchased.

**CORPORATE STRATEGIC PLAN**

Focus Areas: 1. Skilled, Innovative and Respectful Organization, 2. Financial Sustainability, 3. Intergovernmental Relationships, 4. Growing Our Economy, 5. Social Development, 6. Environmental Stewardship, 7. Healthy Community

***Financial Sustainability***

- ◆ Financially Sustainable City by 2020
- ◆ Effective and sustainable Growth Management

**SUBJECT: Conventional Transit (HSR) Fleet Purchasing Policy Review Request  
for Policy 11 Approval (PW12017) - (City Wide) - Page 5 of 5**

---

- ◆ Delivery of municipal services and management capital assets/liabilities in a sustainable, innovative and cost effective manner
- ◆ Address infrastructure deficiencies and unfunded liabilities
- ◆ Maintain effective relationships with other public agencies

***Environmental Stewardship***

- ◆ Natural resources are protected and enhanced
- ◆ Reduced impact of City activities on the environment
- ◆ Aspiring to the highest environmental standards

<b>APPENDICES / SCHEDULES</b>
-------------------------------

None