

**Halifax Regional Council
September 8, 2009**

TO: Mayor Kelly and Members of Halifax Regional Council



SUBMITTED BY: _____
Mike Labrecque, P.Eng., Director, Transportation and Public Works

DATE: August 5, 2009

SUBJECT: Streetlight Service Level Improvement Options - Update

INFORMATION REPORT

ORIGIN

At the July 8, 2008 meeting of Halifax Regional Council, a staff report dated June 17, 2008 indicated that a follow-up report on streetlight service level improvement would be issued in early 2009.

BACKGROUND

Streetlight service level improvement has been a concern of HRM for some time. Based on a 2008 review of the service level associated with streetlight outage levels, NSPI committed to measurable improvements on a go-forward basis. **The utility agreed to reducing the streetlight burnout percentage to 5% or less, on average, across all NSPI maintained streetlights.** This initiative, in combination with communication improvements that have occurred over the past year, and a commitment from NSPI to examine alternate service delivery models and emerging technologies, was considered to be encouraging, and represents real progress. During the second half of 2008, NSPI concentrated on identifying the outage levels for all areas of HRM, through a comprehensive nighttime, district by district survey. In addition, the utility committed to carrying out a detailed street light inventory. The goal for the utility was to improve the streetlight outage rate and be able to offer HRM more comprehensive power bills which identified streetlights by type and geographic area.

DISCUSSION

Between September and December 2008, NSPI carried out nighttime surveys of all streetlights in HRM. Burned out lights were identified and located by use of GPS devices. GPS files were then provided to their work crews to carry out repairs. This process proved to be very efficient and cost effective. Approximately 1300 light fixtures were repaired in this manner. Such an approach eliminates the need:

- for outages to be reported before they can be scheduled for repair;
- to accurately describe a pole location on a service request;
- to report outages through HRM or NSPI Customer Service personnel or website;
- to schedule work crews to the same area as outages are reported.

In the Spring of 2009, NSPI undertook a follow-up nighttime survey of districts that had been originally surveyed in 2008 by HRM staff (Reference “Streetlight Service Level Improvements Options”, Halifax Regional Council, July 8, 2008) to confirm a service level improvement as a result of the recent repairs. Four HRM polling districts had been originally surveyed for burned out lights. They included:

- District 3 - Preston - Lawrencetown - Chezzetcook
- District 6 - East Dartmouth - The Lakes
- District 20 - Lower Sackville
- District 22 - Timberlea - Prospect

The original 2008 outage survey concluded that the average outage rate for all four districts was approximately 10%. NSPI agreed that this was not acceptable, and a service level of 5% across all HRM districts that they maintained, was more reasonable, and would be implemented. The nighttime surveys of the four districts provided the following results.

	2008	2009
• District 3 - Preston	10.7%	2.7%
• District 6 - East Dartmouth	8.8%	2.9%
• District 20 - Lower Sackville	6.4%	1.9%
• District 22 - Timberlea	11.8%	2.0%

NSPI has concluded that this approach to repairing street lights is cost effective and has indicated that commencing September 2009, annual surveys will be carried out throughout HRM on a 4-quadrant basis, each quadrant being completely surveyed annually. Repairs will be undertaken by utilizing GPS data files created through the nighttime surveys, and service level results, including outage statistics will be provided annually. While this new system does not eliminate the need for individuals or groups reporting burned out lights, the reliance on that system to repair burned out lights is significantly reduced. This level of service is comparable to that achieved by the HRM street

light department, which maintains all the street lights within the pre-amalgamation City of Halifax boundary.

Alternatives

Pre-2009 Status Quo

Status quo is NSPI's reactive approach to streetlight repairs. This involves a reliance on the general public to report outages to the NSPI Customer Service Call Centre; it requires accurate reporting of outages; it relies on accurate information transfer from reports through the Call Centre and onto the repair crew and it requires action on the repair request within seven working days. This is an inefficient system, particularly if it is a stand-alone system, and not in combination with a group relamp program, or nighttime surveys. As has been demonstrated, this system has resulted in outage rates that significantly exceed those experienced by HRM's maintained streetlights.

HRM Purchase NSPI Streetlights

As indicated in HRM staff's report dated July 8, 2008, the NSPI owned streetlight fixtures in HRM include approximately 27,000 fixtures. These fixtures are located in all areas of the municipality, not maintained by HRM staff, and represent urban suburban and rural applications. HRM's experience and service model is based on an urban application only. To consider expanding its streetlight maintenance responsibility to the entire municipality will require a detailed examination of manpower, equipment impacts on the service delivery, and how that compares to the present model. It will also require an examination of the cost of taking on the NSPI assets and possible payback options.

Timing is very important when considering this option. HRM is embarking on a pilot streetlighting project which will see 285 LED streetlights installed in the core area of the municipality. There is potential for these lights to be the future standard for street lights. They could potentially provide 40-50% energy reductions, which will result in significant improvements to the HRM carbon footprint. In addition, it is anticipated that these fixtures will be low maintenance, with bulb life expected to be as much as four times that of existing lamps. Such a wholesale upgrade of street lights could provide a number of options to the municipality, including ownership. However, if the utility is able to provide a service level that is acceptable to HRM, control of the service will not be as critical as it would be if service is not acceptable.

HRM Take Ownership of New Residential Subdivision Streetlights

An option that could be available to HRM would be for the municipality to take ownership of new light fixtures that are being installed by developers, or by the utility on behalf of developers, in residential subdivisions. These fixtures would be incorporated into the streetlight inventory, and would be maintained by the municipality. This option would fix NSPI's involvement in streetlight maintenance to its present inventory. It would also allow the HRM Street Lighting Department to

adjust to an increased scope of work for its crews, and contractors. A gradual expansion would also help better understand the incremental costs associated with expansion of service territory outside the core. The timing for this initiative could best coincide with an implementation of a common trench requirement for future residential subdivisions. This would result in the elimination of overhead wires and power poles. A stand alone system with a single connection to the utility's power supply would allow for easy isolation and access for maintenance, a problem that exists with the present street light configuration where each street light is individually connected to the overhead power lines which are owned by the utility.

CONCLUSION

Considering:

- service level improvement has exceeded NSPI's committed improvement;
- NSPI is in the process formalizing this methodology as its standard for streetlight maintenance in HRM;
- the municipality has not incurred additional costs to realize the improved service level;
- HRM and NSPI are jointly participating in an LED streetlight pilot project;
- common trench funding/ownership issues for residential subdivisions are still being reviewed,

HRM should allow NSPI to continue with the establishment of this new streetlight maintenance program for HRM, which will be based on:

- nighttime surveys to identify burned out streetlights;
- GPS technology for both identification of burned out lamps and location and repair of these fixtures;
- annual review of operational status of all streetlights in the municipality;
- a commitment to a service level of 5% outage level across all the fixtures being maintained.

In addition, HRM will continue examining the feasibility adopting a common trench approach to undergrounding of power and telecom cabling in combination with natural gas lines, in new residential subdivisions, and the technical and economic feasibility of energy efficient streetlight technologies.

BUDGET IMPLICATIONS

The base option would not have any budget implications. The utility has agreed to absorb costs associated with improvement to their existing service standard. In addition, they will implement the changes to their maintenance procedures if they are economic to do so. The purchase options would result in additional costs to HRM.

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.

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

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