

NO: **R134**

COUNCIL DATE: **June 25, 2012**

REGULAR COUNCIL

TO: **Mayor & Council**

DATE: **June 21, 2012**

FROM: **General Manager, Engineering**

FILE: **3807-001/11**

SUBJECT: **Street Light System Copper Wire Theft**

RECOMMENDATION

The Engineering Department recommends that Council receive this report as information.

BACKGROUND

Copper wire theft is a significant problem not only for the City of Surrey but also for most cities and other companies that rely on copper wire infrastructure in the lower mainland and across North America. Since 2005, the City of Surrey has experienced a dramatic increase in copper wire theft from the City's street light systems, as evidenced by the information contained in the following table.

Table 1 – Annual Street Light Wire Theft Repair Costs (Calendar Year)

Year	Wire Theft Repair Costs	Average Copper Price (\$/lb.)
2005	\$15,718.38	\$1.65
2006	\$215,696.80	\$3.25
2007	\$1,235,822.68	\$3.40
2008	\$1,168,381.74	\$3.75
2009	\$145,684.60	\$2.30
2010	\$1,268,529.95	\$3.05
2011	\$2,819,392.19	\$3.85

Based on the first 5 months of 2012, losses will be in the \$3,000,000 range for 2012. The table also demonstrates the variability of wire loss from year to year in correlation with the fluctuations in the market value of copper.

DISCUSSION

Several wire theft mitigation measures have been implemented by staff to deter wire theft; however, due to the size of the City, the expansive network of street lights and the high price of copper, protection of the City's copper wire assets has been challenging.

Current Wire Theft Mitigation Initiatives:

Engineering Department Operational Initiatives:

The following describes the initiatives that have been undertaken to date to mitigate wire theft.

1. For the last year, all new street light conductor wire that is installed in Surrey is labeled on the insulation jacket with the words "Property of the City of Surrey" and is date coded so that it can be identified for prosecution purposes if it is stolen and then recovered.
2. New street light installations are fitted with lockable hand hole covers and "baffles" within the pole that make street light wire removal more difficult.
3. Since 2006, over 4,000 of the City's 29,000 street light poles have been fitted with locking or security bolt hand hole covers at locations where theft has been prevalent. This has had limited success.
4. Movable CCTV cameras were placed at high theft locations with a view to capturing images of the thieves and having evidence with which to prosecute them. This has had limited success.
5. Currently, where copper conductor wire is stolen from the street light system it is now being replaced with aluminum wire. In this regard, since May of last year 11,000 metres of aluminum wire has been installed. No significant wire theft loss has been experienced at locations that have been retrofitted with aluminum wire.

Crime Reduction Strategy Communication Efforts

1. The City chairs an Inter-Agency Wire Theft Committee with representatives from Surrey RCMP, TELUS, BC Hydro, Cobra Electric (the City's street light maintenance contractor), the Ministry of Justice – Police Services, Ministry of Transportation and Infrastructure, Surrey Crown Counsel, Canadian National Rail Police, Rogers, Shaw and City departments and divisions including Crime Reduction, Legal Services, Engineering, Fire Services, and the By-law Enforcement Section. The Committee has focused on 4 pillars to success:
 - i. Education and Awareness;
 - ii. Law Enforcement;
 - iii. Legislation and Monitoring; and
 - iv. Engineering Solutions.
2. The City along with other stakeholders were successful in motivating the Provincial Government to enact legislation (Bill 13) to better regulate scrap metal dealers. This legislation will be in full effect on July 23, 2012 and will make B.C. the first Canadian province with legislation that targets scrap metal transactions. This legislation requires dealers to record and report details about any metals purchased. They also must record details on the seller's personal information, which can then be used as evidence if stolen metal is discovered at scrap metal dealer premises.
3. TELUS and BC Hydro partnered with the City in the development and funding of a "Community Response to Metal & Wire Theft" educational flyer. In 2011, 10,000 copies of the flyer were distributed to the public, including at key events such as Canada Day and Fusion Festival (at educational booths). Similar distribution is planned for 2012. The RCMP "E" Division – Community Programs Division used the Surrey pamphlet as a template for a similar pamphlet that is now distributed by RCMP at detachments across all of B.C.

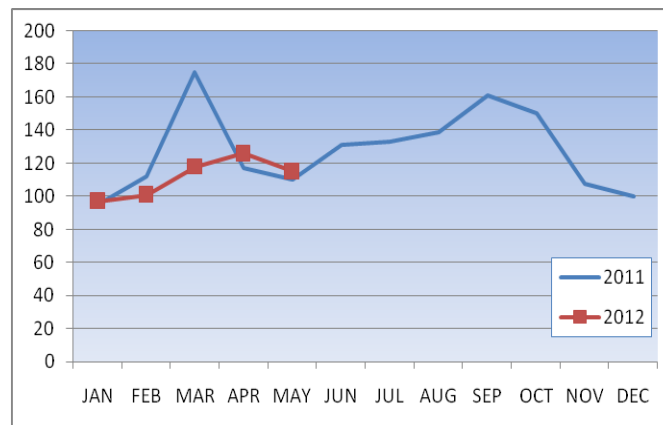
4. Focused efforts designed to educate the public on the importance of becoming involved in deterring wire theft by recognizing and reporting wire theft activities is ongoing. Information has been printed in the Safe Homes Safe Communities RCMP newsletter which is available at all detachments as well as distributed to over 1000 Block Watch captains and co-captains. Teams of volunteers are working with the District 3 RCMP Community Safety Officer to deliver Wire Theft education materials to residents and businesses throughout the Newton district, which is experiencing the highest prevalence of wire theft in Surrey. Another volunteer team is delivering educational pamphlets to wire theft “hot spots” throughout the City. Awareness efforts also include social media communications.
5. A training session, entitled “Taking Action on Metal and Wire Theft”, was developed by the RCMP, Telus, Hydro, Cobra Electric and the Crime Reduction Strategy office. This one-hour training session includes segments on the overall problem and costs/risks to society, what to look for, who to call, and how to preserve evidence. To date, training has been given to: RCMP officers, RCMP volunteers, By-law officers and Surrey Crime Prevention Society volunteers. Future training is planned for South Fraser Community Services Society staff, Surrey Firefighters, RCMP Operations Control Centre staff and Scrap Metal Dealers.
6. In November 2011, a panel consisting of representatives of the RCMP, Telus, BC Hydro and the City of Surrey Crime Reduction Strategy Office presented on the topic of wire theft to over 70 delegates at the BC Crime Prevention Association’s Annual Training symposium held in Burnaby.
7. In April 2012, the City organized a Truck Inspection operation involving over 40 officers from Surrey’s commercial vehicle enforcement unit, B.C.’s Transportation Ministry, WorkSafe B.C. and RCMP police officers from New Westminister, Delta and CN Rail. All vehicles entering scrap metal yards were inspected for safety issues as well as for stolen metal. This activity not only received excellent media attention but resulted in a series of charges against several individuals. Coordinated and covert joint operations initiatives will continue.
8. Work is underway with Crime Stoppers for a Province-wide campaign designed to increase public awareness about metal theft. These efforts are designed to provide the public with several reporting options, including the ability to remain anonymous, as well as to report through FACEBOOK, by text or by email.

Provincial Initiatives

1. As mentioned above, Bill 13, the Metal Dealers and Recyclers Act, will come into effect on July 23, 2012 and will affect the more than 60 scrap dealers and recyclers in B.C., as well as the people who sell them metal.
2. The Inter-agency Wire Theft Committee is working with the Province in developing an electronic reporting system that will enable the police forces to effectively monitor and analyze the information that is collected by scrap metal dealers for suspicious activity.

Enforcement/RCMP Initiatives

1. Surrey RCMP has made 35 arrests for wire theft in 2011 compared to 6 in 2010. In 2012 there have been 7 arrests to date related to wire/metal theft as of May 31. The RCMP is also reporting that they are receiving more public tips on wire theft that are leading to arrests.
2. Surrey RCMP are doing their best to ensure that arrested individuals are being held prior to court and that Victim Impact Statements, outlining the seriousness of the problem, are accompanying the accused to court.
3. RCMP Crime Analysts have incorporated these crimes in an intelligence-led “hot sheet” to better coordinate the efforts of front line police members. The report identifies up-to-date targeted crime areas to focus police patrols to these areas.
4. Additional crime analysis data shows that for 2012, District 1 (North Surrey) and District 3 (Newton) continue to be the areas suffering the largest incidence of reported metal/wire theft.
5. Surrey plainclothes RCMP officers are targeting crime groups involved in metal theft, resulting in the dismantling of their systems, and disrupting their influence.
6. RCMP members and By-law Enforcement staff are undertaking more intensive monitoring of metal recyclers in relation to their receipt of stolen wire and to confirm compliance with City By-law requirements in relation to the receipt and storage of materials.
7. The Ministry of Justice has hired an Enforcement Officer who is working with the City’s By-law Enforcement Officers who are assigned to monitor scrap metal dealers, along with the RCMP wire theft team.
8. RCMP Crime Analyst data as illustrated in the following table shows a slight decrease overall in the number of reported incidences of metal/wire theft to date in 2012 compared to the same period in 2011.



By-Law & Licensing Initiatives

1. By-law Enforcement staff undertake regular inspections of the metal recyclers to review metals that have been received at each local scrap metal business including review of Sale and Purchase records.

New Wire Theft Initiatives under Review:

1. Staff is finalizing a review related to the replacement of all copper wire remaining in the City's street light system with aluminum conductor wire, including a full business case analysis. A report will be forwarded to Council as soon as it is ready with recommendations regarding the efficacy of such an approach. As background:
 - Aluminum wire has been shown to be a technically reasonable conductor option to copper wire.
 - Aluminum wire has only 10% of the value of copper on a weight basis in relation to selling it through recyclers.
 - Where aluminum wire has been installed in place of copper wire over the last year, the City has not experienced any significant recurring theft of wire in those areas.
 - Replacement of all of the copper street light wire across the entire system would be a major project with substantial cost in the order of \$10 million to \$12 million.
2. Staff is reviewing technology that can monitor street light circuit voltage drops to enable more timely notification to the RCMP of "in process" wire theft so that the police response can be extemporaneous to the incident (i.e., catching the thieves in the act).

FUNDING IMPACTS

Over the course of the last 5 years the City has spent approximately \$7 million in repair costs due to wire theft not taking into account the salaries of City staff, by-law enforcement officers and police officers who have been spending significant amounts of time on this crime issue. By way of comparison, \$7 million is the equivalent to the capital cost of constructing 3 new artificial turf fields.

SUSTAINABILITY CONSIDERATIONS

Clearly, wire theft undermines the achievement of the objectives of the City's Sustainability Charter. The actions identified above that are focused on deterring wire theft will assist in achieving the objectives of the Charter, including the following action items:

- EC3: Sustainable Infrastructure Maintenance and Replacement Practices;
- EC4: Sustainable Fiscal Management Practices; and
- EN9: Sustainable Engineering Standards and Practices.

CONCLUSION

Significant effort to combat wire theft has been expended by Surrey City staff, the RCMP and many others to combat wire theft crime but theft is continuing at a monthly cost to the City of about \$250,000. The Engineering Department is studying the merits of replacing all of the copper street light wire in the City's street light system with aluminum wire. The results of this study will be reported to Council complete with recommendations as soon as it is completed.

The City, its staff, the RCMP and other service delivery agencies remain strongly committed to solving this crime issue on behalf of Surrey residents.

Vincent Lalonde, P.Eng.
General Manager, Engineering

JB/WL/CK/brb

g:\wp-docs\2012\admin\cr\06181323jb (md) jb.docx
BRB 6/21/12 1:25 PM