

Fraud & Waste Investigation – Case 2020-28312
Control Weaknesses Related to Specialized Copper Wire

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Introduction

On May 12, 2020, the Director of Transportation Operations & Maintenance alerted the City Auditor of a possible fraud and waste at the Traffic Operations Centre (TOC). Specialized copper wire and some other potentially reusable materials, such as signs in new or nearly-new condition, had been scrapped in dumpsters at this location.

The Director stated in a recent internal review, Management reported that almost 17,000 meters of copper wire was missing (approximate value \$52K). The Director speculated that the scrapped copper wire could be the wire that was missing. The Director wanted to know why the wire had been discarded in dumpsters accessible to City staff; and how such a large quantity of copper wire could be missing. The Director also wanted a current count of the inventory at the Traffic Operations Centre to compare to the December 31st, 2019 year end inventory count, and a review of TOC's inventory control process.

This report only focuses on the missing wire. A report on the updated inventory count and the inventory control process can be found as Appendix "A" to Report AUD20008.

Preliminary Investigation and Initial Findings

The Office of the City Auditor (OCA) initiated a preliminary investigation. With the assistance of the Management, the OCA discovered that in January 2020, two Team Leads made the decision to scrap the wire found in the dumpster hopper as part of the outdoor compound clean up at the TOC. Four large spools of rubber sheathed copper wire cable had been stored outside in the TOC compound for a long period of time. As this type of copper wire cable had not been used by TOC for a long time, it was deemed obsolete. When questioned, the two Team Leads indicated that it was the practice at the Traffic Operations Centre to scrap obsolete parts by tossing them into the hoppers. Physical observation of the wooden reels shows that they were weathered, suggesting that they had been exposed to the elements for a long time. This lent to the credibility of the Team Lead's rationale. TOC inventory identifies this type of copper wire as part number TRSG1966. The December 31, 2019 Year End Inventory count describes this part as CABLE: COMM. WITH RUNNER 19 AWG FIGURE 8(6PR). It shows that 2,000 meters of this wire was in inventory at a cost to the City of \$5,049.

In early June 2020, the OCA interviewed the Management who had alerted the Director of missing copper wire. They explained that as of the end of April 2020, there was a discrepancy between Hansen and the physical inventory at the Traffic Operations Centre. This discrepancy was almost 16,800 meters of copper wire. The December 31, 2019 Year End Inventory identifies this wire as three different part numbers:

- TRSG1967 CABLE: 14-4 CONDUCTOR NO RUNNER
- TRSG1970 CABLE: 14-7 CONDUCTOR NO RUNNER; and,
- TRSG1990 CABLE: 14-14 CONDUCTOR NO RUNNER.

The OCA confirmed that the missing 16,800 meters of the three wires represents a dollar loss to the City of approximately \$52K.

On June 10, 2020, the OCA, with the assistance of the Management, performed an inventory count of all the copper wire at the TOC. The review noted that there was about 25,300 meters of various copper wires on site with a combined value of approximately \$61.5K. The most valuable copper wires in inventory were:

- TRSG1967 CABLE 14-4;
- TRSG1970 CABLE 14-7; and
- TRSG1994 CABLE 14-14.

Collectively, these three wire classes represented almost 60% of the dollar value of Traffic's copper wire inventory. TRSG1994 CABLE 14-14 is especially valuable, as its average cost to the City was approximately \$6.73 per meter in 2020.

The system currently used at the TOC accurately tracks the amount and the cost of all copper wire **purchases**. However, copper wire **usage** and the amount **scrapped** are poorly tracked. This makes it difficult to accurately determine the ending copper wire inventory and why copper wire may be missing.

Vulnerability #1: Careless Disposal of Copper Wire

The copper wire that was deemed obsolete, was disposed of in a way that could have been misappropriated as it was tossed into an open dumpster at the TOC. This dumpster is accessible to any City staff, at any given time, as some staff use the gas pump at the TOC to fuel their City vehicles. As noted above, this material was listed in the 2019 Year End Inventory report as part number TRSG1966, 2,000 m of copper wire valued at approximately \$5K. However, the value noted on the inventory report reflects the cost of the item to the City, rather than the scrap value of the item. The two Team Lead's who decided to scrap this wire because it was deemed obsolete did so without giving thought to the potential value of this asset.

Recommendations

It is recommended that the process of disposing of assets be consistent with that outlined in the Procurement Policy section 4.16 (1) the Disposal of Surplus and Obsolete Goods. That is, the Director of the client department shall:

- a) declare a good as surplus or obsolete to the needs of the City before it may be disposed; and,
- b) recommend the appropriate disposal methods, which are cost effective and in the best interest of the City, for the declared surplus or obsolete good.

It is recommended that when disposing of assets containing copper wire, the Traffic Operations Centre Management work together with the Manager of Procurement and the City's Director of Financial Services & Corporate Controller in a manner consistent with Procurement Policy section 4.16 (2) to obtain the best scrap value and/or wholesale value for the item(s) being disposed.

It is recommended that all scrap metals be kept under constant surveillance to guard against theft and to ensure that they are disposed properly.

Management Response for this Section

Agreed. A full review and training on the Procurement Policy is underway. The Transportation Operations and Business Initiatives sections will coordinate with Corporate Security to ensure appropriate disposal methods of copper wire. The definition of a returned material policy will be in alignment with the construction of standard operating procedures in recommendation #1 from Appendix B.

Anticipated completion date: Q4 2020.

Vulnerability #2: Inadequate Tracking of Copper Wire Usage

The amount of copper wire used is not tracked adequately. The copper wire spools known as part numbers TRSG1967, TRSG1970 and TRSG1994, are stored in the garage near the staff trucks. At the start of their work day, the staff pull the length of different copper wires needed from these spools and load it onto their work trucks. The amount of wire taken is neither recorded by these staff nor by the clerical staff as the copper wire spools are not located in the main stockroom.

When the staff finish their job, they complete the Daily Activity Sheet (DAS) and indicate the quantities of materials used. At the end of their shift, the staff return to the Traffic

Operations Centre and discard any scrap copper wire left over from the job into the dumpster, located at the back of the TOC. The staff submits their DAS to the Team Lead. On the DAS, the Team Lead can see the amount of wire reportedly used by the TSS. However, the amount of wire scrapped by the staff is not reported. Therefore, a reconciliation cannot be performed to ensure that the amount of wire loaded onto the truck, corresponds to the amount of wire used on a job and the amount that is scrapped upon return to the TOC location at the end of the shift. In addition, third party contractors working on City projects will sometimes come to the Traffic Operations Centre and pull out lengths of copper wire from the spools in the garage themselves, without TOC staff or management knowing the amount of wire that was taken.

Recommendations

It is recommended that the spools with the copper wire part numbers TRSG1967, RSG1970 and TRSG1994 are stored in a location where they will only be distributed by the clerical staff.

It is recommended that the staff, at the end of their work day, return any waste or unused copper wire to the clerical staff instead of disposing of the wire themselves.

It is recommended that clerical staff maintain a log showing the amount of copper wire pulled off the spools; to whom the wire was issued (including third party contractors); and the amount of wire returned to be scrapped at the end of the day.

It is recommended that Team Leads perform spot checks on a regular basis by comparing the amount of wire issued to the amount of wire used (as indicated on the DAS), and the amount of wire returned for scrap. Management should also investigate whenever the amount of wire issued exceeds the sum of that used and that returned for scrap.

Management Response for this Section

Agreed. Management will undertake the risk-based assessment of storage and complete a Kaizen event to optimize the inventory structure and breakdown. Copper wire stock will be moved into primary stock location as part of the reorganization of the facility.

Anticipated completion date: Q2 2021.

Vulnerability #3: Errors Recording Copper Wire Usage in Hansen

The data entry of copper wire usage into Hansen is prone to errors. Upon receiving the TSS Daily Activity Sheet, the Team Lead reviews and authorizes the DAS. The authorized DAS are forwarded to the clerical staff. The clerical staff enter the activity into Hansen including the amount of wire used. Since this is a manual process, there will sometimes be a difference between the amounts recorded in the DAS and the amounts keyed into Hansen.

The OCA compared the copper wire usage reported on the DAS to what was keyed into Hansen over the past four years (2017 to 2020). The OCA noted that the variance was greatest for copper wire TRSG1994 CABLE 14-14; the most expensive of the three copper wires in this review. In 2019, the usage reported by Daily Activity Sheets was 724 m less than that reported by Hansen. The value of this discrepancy totalled approximately \$4,900.

Recommendations

It is recommended that periodic reconciliations be performed to ensure that the quantities of materials used by staff, as reported on the Daily Activity Sheets, are accurately recorded in Hansen. A record of such reconciliations should be retained for at least three years.

It is recommended that management investigate and implement a method to automate the uploading of the actual quantity of materials used by staff in the field from the Daily Activity Sheets into Hansen.

Management Response for this Section

Agreed. The associated changes to the roles and responsibilities for inventory adjustments will be outlined in the operational plan and standard operating procedures related to inventory adjustment. Staff corporate policy training to be completed in Q4 – 2020, as per recommendation in Vulnerability #1.

Anticipated completion date: Q1 2021.

Vulnerability #4: Inadequate Safeguarding of Copper Wire Assets

The 2019 Year End Inventory report indicated that a total of 14,394 m of copper wire (part numbers TRSG1967, TRSG1970 and TRSG1994,) with a combined value of \$52.6K, was stored in the compound outside of the garage. That is, when the inventory

count was taken in late December 2019, these wires were stored in the outside yard. Here, they would have been accessible to different City staff that use the TOC gas pumps to fuel their City vehicles after regular business hours. When questioned, both management and the clerical staff stated that this type of copper wire has never been stored in the compound outside the garage. However, they could not produce any documentation showing who counted this inventory and where the copper wire was stored while being counted.

The three wire cables have indicators placed at regular intervals on the rubber sheathing covering the copper cable. These indicators show the amount of wire remaining on each spool. It was not possible to validate that these indicators were used to calculate the amount of wire remaining in inventory.

TOC Procedures indicate that periodic cycle counts are usually performed on inventory items with high value or those that cycle in and out of inventory quickly. Yet, despite their high value, part numbers TRSG1967, TRSG1970 and TRSG1994 were not included in the cycle counts in 2019 or 2020.

Recommendations

It is recommended that management re-organize the storage and inventory of all copper wire at the Traffic Operations Centre to ensure that all copper wire is stored in a secure location, safeguarded from potential theft.

It is recommended that periodic cycle counts performed throughout the year include all copper wire and that the indicators on the rubber sheathing be used as a quick way to gauge the amount of wire in inventory.

Management Response for this Section

Agreed. Copper wire stock will be moved into primary stock location as part of the reorganization of the facility. Management will create a schedule for inventory counts.

Anticipated completion dates: Q2 2021 for relocation of copper wire. Q4 2020 for cycle counts (to align with Rec. #19 and 20 in Appendix B).