

CIF 380

MRF Lighting Retrofit Project

Final Project Report, April 16, 2013
Ottawa Valley Waste Recovery Centre
CIF # 380

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1. Executive Summary

This is the final report of a project implemented by Ottawa Valley Waste Recovery Centre on February 17, 2012. The project objective was to increase the brightness of the lighting in the MRF and decrease the maintenance required in replacement costs by installing new high output light fixtures.

The original budget cost to complete the project was \$25,000. The Ottawa Valley Waste Recovery Centre was approved up to \$9,674 in funding from the Continuous Improvement Fund and the estimated return on investment for the total project was 5 years. The actual project cost was \$21,750 and after 12 months of operating it is apparent the estimated return on investment will be achieved. The total annual savings is estimated at \$4,069 or a pay back of 3 ¼ years taking into consideration the funding we received. This is a very reasonable payback for lighting projects considering most lighting projects payback usually exceed 10 years.

2. Background Information and Project Objective

The Ottawa Valley Waste Recovery Centre operates a dual stream MRF with container and fibre lines. The MRF runs a two shift operation, days and afternoons, five days a week. Normally one line operates per shift but during busy periods, both lines will run during the dayshift which is called a double-line day. The lighting requirement is significant requiring over 4,000 operational hours per year.

The project objective was to decrease the maintenance costs related to replacing the light fixtures. The other main objective was to increase energy efficiency with new brighter high efficiency light fixtures.

3. Monitoring and Reporting

3.1 Budgeted Costs versus Actual Costs of Installation

The budget costs versus the actual costs of installation are shown in the table below.

Budget item	Budget Cost	Actual Item	Actual Cost
1. Labour and Material to install 42 Hi-Bay light fixtures	\$25, 000	1. Labour and Material to install 42 Hi-Bay light fixtures	\$21,750
Total	\$25,000	Total	\$21,750

3.2 Maintenance Requirements

To date there have been no maintenance issues with the lighting fixtures. Although a couple of lights have burnt out they are being replaced under warranty by Rondeau Electric, the contractor who installed the light fixtures.

3.3 Health and Safety

There have been no health and safety issues with respect to the lighting fixtures. In fact, the lighting has been positive in several ways:

Previous Issue	Solution
Dark areas for equipment operators to move material on the floor	The lighting is far superior to the previous generation of lighting. The lighting is brighter and spans into areas that previously created dark zones or spots.
Dark areas for individuals walking on the MRF floor	Anyone who is walking on the MRF floor has better lighting to ensure that all forklifts are visible from the other end of the MRF.

4. Summary

4.1 Cost Savings

- Operating energy costs in the MRF have decreased over 7% per year;
- Lower regulatory charges on our Hydro One bill, as regulatory charges vary with consumption; hence lower consumption, lower regulatory charges;
- Increased visibility lowering potential H&S incidents;
- Decreased maintenance costs in replacing fixtures, the new fixtures have a longer kWh life;
- Total estimated cost savings in first year of operation - \$4,069;
- Total return on investment taking into consideration the funding is 3 ¼ years.