

## Eastern Protein Foods Limited

2005 Case Study

Kentville, Nova Scotia, Canada

This secondary poultry processing facility is part of ACA Cooperative Ltd., an Eden Valley Farms subsidiary. The plant is a processor of both chicken and turkey. The plant operates on a staggered shift basis normally spanning 19 hours per day, 5 days per week. In the spring of 2004, Eastern Protein Foods undertook an Opportunity Assessment as part of the Eco-Efficiency Program for Manufacturers. The Program is a two-step incentive program that is designed to stimulate implementation of cost efficient opportunities within small and medium sized manufacturers (SMEs). Based on the results of the Opportunities Assessment, the company proceeded with an Implementation Plan/Feasibility Assessment. The assessments were conducted by Wentzell Engineering in association with Janis Rod Environmental Consulting.

### The Process

Whole birds and components are received from the primary processing plant and are further processed and packaged. The process also includes cooking, packaging and freezing. The plant is a significant user of electrical energy for its freezers, cooking, lighting and warehousing. Significant quantities of effluent are discharged into a settling tank prior to release into the municipal sewage collection system.



### The Assessment

The Opportunity Assessment identified 23 potential opportunities for improvement involving water and wastewater, energy, solid wastes and recycling, raw materials, monitoring and control as well as policy and management. Several of the opportunities were deemed to be actionable by company personnel while others appeared not to be practical or would not generate an acceptable return on investment. The following opportunities became the subjects of detailed analysis in the Implementation Plan/Feasibility Assessment:



1. improve cleaning methods
2. control/reduce the use of cleaning products
3. further improve power factor
4. reduce lighting energy cost
5. reduce operating cost of quartz defrost heaters

The assessment also recommended the establishment of a Pollution Prevention Team and a complete monitoring and evaluation program.

## Assessment Results

The assessment estimated \$29000 per year in potential savings for the various opportunities assessed with paybacks ranging from 2 months to just over 2 years.

|  |                      |            |
|--|----------------------|------------|
| Potential energy savings                             | 469 GJ/yr            | \$5888/yr  |
| Potential demand savings for power factor correction |                      | \$13000/yr |
| Potential water savings                              | 4687 cubic meters/yr | \$2766/yr  |
| Reduce wastewater emitted                            | 4687 cubic meters/yr |            |
| Reduce use of cleaning chemicals                     | 2.3 cubic meters/yr  | \$7500/yr  |

Scott MacGregor, who coordinated the project for Eastern Protein Foods said, "We are pleased to have participated in the program. It has highlighted several key areas of potential energy/cost savings. The company intends to proceed with many of the opportunities as outlined in the Feasibility Assessment. We have established a Pollution Prevention Committee, the committee convenes on a regular basis and will monitor the progress of these projects and will also promote environmental awareness throughout the plant."

The Eco-Efficiency Program for Manufacturers is working for Eastern Protein Foods. It is demonstrating that there are significant opportunities for improving environmental performance and at the same time improving the bottom line for the company.

The Eco-Efficiency Program for Manufacturers is aimed at small and medium sized manufacturers (SMEs) in Nova Scotia and is designed to increase awareness for pollution prevention and eco-efficiency and to stimulate implementation of cost-efficient opportunities. The cost of hiring a qualified consultant to identify eco-efficiency and pollution prevention opportunities is offset by the program. There is a cost shared arrangement with the program contributing 75% and the participating company contributing the 25% balance. The program is also intended to help build capacity in the consulting community throughout the province.

Cooperating agencies and program sponsors for the program have been Environment Canada (Atlantic Region), Atlantic Canada Opportunities Agency, Natural Resources Canada, Nova Scotia Department of Environment, Nova Scotia Economic Development, Nova Scotia Department of Energy and Nova Scotia Power Inc. The program is delivered by Dalhousie University's Eco-Efficiency Centre - a university - based extension service established to enhance the efficiency of individual businesses while encouraging the cooperative and collective efforts of groups of companies.

Phone: (902) 497-6562

Fax: (902) 860-2887

Email: [g.archibald@dal.ca](mailto:g.archibald@dal.ca)