



## Case Study March 2005

### Building Essential Skills in the Workplace

# Producing “Productivity through People” at Minas Basin Pulp & Power Company Limited

#### OVERVIEW

**M**inas Basin Pulp & Power Company Limited was founded in 1927 in Hantsport, Nova Scotia. From 1927 to 1946, this family-owned and operated company produced a single product: ground-wood pulp. In 1946, the company added paperboard to its repertoire of product offerings. In 1996, Minas Basin Pulp & Power introduced linerboard to its production lineup. Today, the company operates 24/7 and employs approximately 162 full-time employees in production, maintenance, administration, sales and engineering. Each day, Minas Basin Pulp & Power brings in about 250 tonnes of recycled raw material and ships out approximately 240 tonnes of linerboard and coreboard to other companies for further manufacturing.

The Education and Learning case studies examine outstanding education and lifelong learning programs and initiatives. This case study addresses best practices in developing essential skills in the workplace.

**Name of Program**  
Workplace Education Program

**Date Established**  
1999

#### **Skills Developed**

Reading text  
Numeracy  
Oral communication  
Thinking skills  
Computer use

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All of the company's production of linerboard and coreboard is based on the processing of 100 per cent recycled materials. Minas Basin Pulp & Power sends its linerboard onto Maritime Paper Products, a sister company that further processes linerboard into cardboard boxes. The company ships its coreboard to Crown Fibre Tube, another sister company, where coreboard is processed further into paper tubes for a variety of industrial purposes.

The company generates its own hydroelectric power and was the first mill in Nova Scotia, and one of the first in Canada, to fully comply with all Federal Pulp and Paper Effluent Regulations. Minas Basin Pulp & Power's commitment to safety, to quality and to the environment makes essential skills an important component of every worker's standard operating equipment.

When the company expanded its operations in 1996 and introduced a new linerboard machine, essential skills training became imperative for many workers, some of whom may have had 20 years' or more experience working for the company, but lacked Grade 12 education and the essential skills commonly associated with formal education at that level. The company recognized that bringing employees up to speed on the technical skills required to operate the new linerboard machine would require a solid foundation in communication skills. It began to appreciate that doing one's job well year after year using familiar techniques does not guarantee that someone can pick up new skills quickly or teach others effectively, especially when that person has been out of school for a long time.

The expansion of Minas Basin Pulp & Power happened quickly, and the company employed a lot of new hires. In time, the new linerboard machine enabled the company to double its production and improve its operating efficiencies. Minas Basin Pulp & Power clearly had to make a significant capital investment to bring the new machine online, but quickly realized that it needed to make a correspondingly high level of investment in improving the essential skills of its workforce. In simple terms, maximizing operating efficiencies and production gains from the expansion would be possible only when workers were able to operate and be comfortable with the new technology. This fit well with Minas Basin Pulp & Power's mission statement, "profitability through people, quality and the environment."

In order to identify and create programming to meet its essential skills training needs, Minas Basin Pulp & Power partnered with the Nova Scotia Department of Education's Workplace Education Program in 1999.

## OBJECTIVES

When Minas Basin Pulp & Power was first established, most entry-level jobs in production—where the company's largest group of employees worked—did not require a minimum level of formal education. When the mill added its new linerboard machine in 1996, it had to more than double its workforce. Most employees who came on board at that time had at least a Grade 10, if not a Grade 12, education. Minas Basin Pulp & Power realized that in order to grow and compete in the market, the company needed to raise the standard education level and improve the basic literacy and work skills of its employees. This priority became the objective of the company's own Workplace Education Program (WEP).

Minas Basin Pulp & Power's WEP aims to:

- develop effective communication skills;
- encourage participation;
- build essential math, reading and work skills; and
- foster critical thinking and enhance problem-solving skills.

Once employees' essential skills had improved, then the company could move on to provide technical training on new equipment. Minas Basin Pulp & Power realizes that in order to improve old products and bring in new ones—the key to success in the global marketplace—it must invest in employees as well as in its physical plant. Growth, not sustainability, is the company's ultimate objective. And Minas Basin Pulp & Power believes that the company can never stop learning and being better at what it does.

## TARGET GROUPS

- new employees brought in during the company's expansion
- existing employees who needed to upgrade their essential skills to be more successful in their new technical training

## ACTIVITIES

Networking with other companies involved in workplace education was the first step that Minas Basin Pulp & Power took on its journey to enhance its employees' essential skills. Through networking, Minas Basin Pulp & Power became aware in 1999 of a model for workplace education developed and supported by the Nova Scotia Department of Education.

That model, the Department's Workplace Education Program, requires organizations to partner with the Department of Education and to form a project team consisting of personnel representing union, management, the Department of Education and employees.

Once the project team has been struck, a field officer, paid by the Department, conducts an organizational needs assessment to verify workers' needs and the skills that needed improvement.

The field officer conducted interviews with a cross-section of Minas Basin Pulp & Power employees, including management, production and maintenance workers, to get their opinion on areas where they felt they needed to improve. Employees felt they were lacking in such communication skills as writing e-mails, getting their messages across in writing, and using computers. In response, the field officer identified three key skill areas that required attention: a need for basic skills upgrading and General Educational Development (GED) test preparation, basic literacy and communication skills and math skills. In due course, Minas Basin Pulp & Power worked with the field officer to develop and offer to its employees five workplace education programs:

- Essential Skills for GED Preparation/Upgrading;
- Document Literacy;
- Basic Upgrading for the Workplace;
- Using Computers; and
- Basic Math Refresher Course.

Participation in essential skills training is entirely voluntary and results are kept separate from employee training files (containing records of safety and technical training, as well as high school and post-secondary education). Ongoing employee training needs in the essential skills area are relayed to the instructor by department managers (for the 60 employees who receive

a regular performance evaluation every year when they discuss their training needs) and by department heads (for the 30 maintenance employees whose training is largely mandatory and based on safety relating to rigging and operating the overhead travelling crane).

Essential skills training at Minas Basin Pulp & Power has prepared the way for other company training initiatives that have bolstered business success. Perhaps the most significant training initiative built on the foundation of essential skills training at Minas Basin Pulp & Power has been the development and delivery of the company's in-house paper-making course. Minas Basin Pulp & Power worked for a year with the Pulp and Paper Technical Association of Canada to create a paper-making course for all staff. The course, taught by the company president, the production manager and the quality/training supervisor, provides a much more comprehensive overview of the business than the old facility tour. The paper-making course is offered in a two-day format for production and maintenance employees and in a one-day format for all other staff. Developing this course was costly and time-consuming but extremely beneficial to all employees, whose feedback has been very positive. Employees have conveyed that the course has greatly enhanced their insight into and understanding of mill operations.

## RESOURCES

### PURPOSE-BUILT FACILITY

- used Atlantic Canada Opportunities Agency (ACOA) funding to renovate a building in downtown Hantsport (a five-minute walk from the company) and convert it into a dedicated training facility (Development Centre) for Minas Basin Pulp & Power employees
- were able to move out of a cramped and noisy room they had previously occupied in their own building
- furnished a computer lab with an Internet connection and capacity for 10 people

### TIME

- personal time commitments from employees
- cost of a GED instructor fully covered by the Department of Education for the first year (shared by the company, Department of Education and the union every year thereafter)

## INNOVATIONS

- Administrative staff take a math refresher course alongside operational staff.
- A spouse attended classes in place of an employee on shift.
- A day worker from the company's computer department now teaches a computer literacy course in the evening rather than outsourcing instructors.

## CHALLENGES

- scheduling essential skills training in a 24/7 work environment, where most maintenance employees and administrative staff work eight-hour shifts and production and some maintenance employees put in 12-hour shifts—the company could not afford to put on three classes for each subject, one for each category of worker
- overcoming apprehension of employees going into a program where they have to admit they do not have a Grade 12 education
- employees being scared to go back into a classroom environment
- measuring bottom-line impacts, because soft impacts are harder to sell than hard numbers

## LESSONS LEARNED/KEYS TO SUCCESS

The success of the WEP is partly due to having an instructor who:

- is flexible, develops a good rapport with employees on a personal level (is comfortable calling employees at home when they miss class) and is able to bring out the best in people and motivate them to continue;
- goes the extra mile for people who need it;
- shows genuine concern that every student reaches his/her intended goal;
- makes people feel comfortable going back into the classroom after being out for so long; and
- treats every question as a good question.

Other factors that contribute to the success of the learning initiative include:

- having a personnel scheduler as part of the essential skills project team;
- offering the course at several different times to minimize disruption to employees' schedules and maximize flexibility;

- making participation in the WEP voluntary for employees;
- emphasizing strict confidentiality;
- providing essential skills training on site with people who know each other;
- encouraging and using internal teaching talent; and
- having mixed categories of employees in each class.

## BENEFITS

### FOR EMPLOYEES

- gain self-confidence
- are better equipped to help their children with their homework
- are more successful in job-specific training
- feel they can do anything in the way of lifelong learning in their dedicated training facility
- understand their jobs better and perform more effectively in the workplace, especially in the Shipping Department, where a new computerized labelling system was recently installed
- troubleshoot problems more effectively and improve efficiencies on the paper machines
- gain a feeling of purpose through the knowledge that they add value
- increase their chances of being promoted to other departments and jobs within Minas Basin Pulp & Power

### FOR EMPLOYERS

- encourages employees to contribute more
- creates a culture of lifelong learning that enables the company to deliver training and work skills to compete globally
- makes conditions favourable for other kinds of training
- ensures that no one feels inferior to anyone else—everyone gets involved
- builds confidence and trust between employer and employee

## OUTCOMES

- Efficiencies on the paper machine have exceeded 80 per cent every month during 2004, something never before accomplished (the average efficiency achieved in the past only reached the high-70s).

- Absenteeism has reached an all-time low at 6.9 days per employee in 2003 (previous average was 10.91 days).
- A Quality/Training Supervisor position was created in December 2001. The incumbent, who is a millwright by trade, a shift supervisor within the company, and who also has a diploma in adult education, gets lots of input from employees on the floor for course development.
- Fifty employees (almost one in three) from management, maintenance and production positions participated in computer training—communication with union executives is now transacted by e-mail.
- More than 25 per cent of Minas Basin Pulp & Power's employees have participated in workplace education programs.
- More than 75 per cent of employees who participated in GED preparation got their GED certificates or completed all five components of the course.
- All 13 employees who participated in a Basic Math Refresher Course passed the course. A graduate who had hitherto been unable to pass a math test required for promotion succeeded in passing it and filled a position in the pulp preparation department.
- The company has succeeded in lowering its accident rate, and hence the number of days lost. Its safety performance index dropped from 19.88 in August 2003 to 1.50 in August 2004 (383.5 days were lost in 2003 due to accidents, compared with 62.5 days lost in 2004)—a tremendous achievement.
- Employee retention is up. (It is hard to hire top-notch employees and the company wants to keep quality workers.)

## IMPACTS

- A training and development team comprised of union, management and employees—originally established at the beginning of the WEP—continues to sit every two or three months to review what the company and its employees have done in the way of essential skills development and what remains to be done.
- As a result, more safety training has been offered. Safety training has been migrated to the training facility originally established for the WEP in May 2002. There has been a marked increase in participation on joint health and safety committees and on the Emergency Response Team as a result of essential skills training.
- The local town office and fire department now use Minas Basin Pulp & Power's training facility.
- Employees have gone from being very uncomfortable using computers to using e-mail for 80 per cent of their communication needs.
- The paper-making course, which utilizes video shot on site at Minas Basin Pulp & Power, helped the company and its employees to prosper during a downturn in the overall market in 2003. While the company had to lay off an unprecedented 35 employees, those who remained proved that they could make the firm efficient using only one paper machine, which operates at a record 80 per cent efficiency.
- Employees unselfishly volunteer their time to tutor their peers to enable the company to accommodate classes with employees at different education levels who need personal tutoring.

## USE AS A MODEL

Metocean Data Systems' president is interested in using Minas Basin Pulp & Power's WEP as a model. Minas Basin Pulp & Power itself found out about the Nova Scotia Department of Education's Workplace Education Program model from Eastern Protein Foods, another company in the Annapolis Valley.

#### About the Education and Learning Case Studies

The Education and Learning case studies examine outstanding education and learning programs and initiatives. The case studies provide in-depth analysis of the methods used to develop, assess, implement and deliver education and lifelong learning in schools, colleges, universities, workplaces and communities. They focus on goals, activities, resource requirements, achievements and outcomes, benefits, innovations, and keys to success and challenges.

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Building Essential Skills in the Workplace Case Study Series: Producing “Productivity through People” at  
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