

# PULP & PAPER

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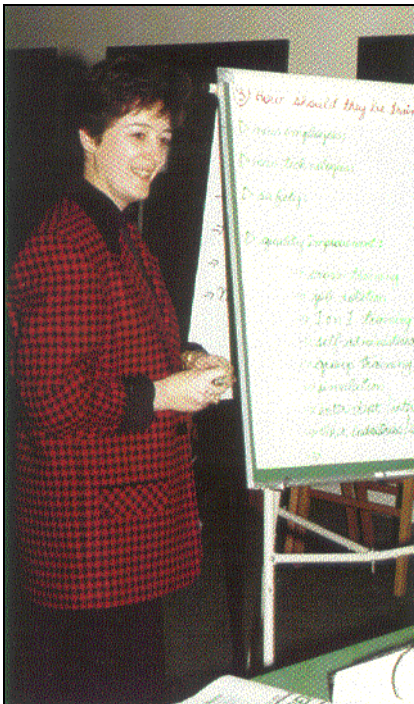
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■ Canadian mill develops a new training process with help from a consultant, then takes the reins to upgrade employee knowledge

# Abitibi's Iroquois Falls Mill Flies Solo with New Learning System

**A**T ABITIBI-PRICE INC.'S PAPER mill in Iroquois Falls, Ont., labor and management agreed that a new training system was needed to improve productivity and effectiveness. The agreement would help us stay competitive. However, our training requirements were extensive, since everyone in the plant had to be trained to move up the line of progression—to do the two jobs above them—to fill in for people on vacation or for other absences.

We also needed training on new technology, including waste treatment and thermomechanical pulping processes to enable us to produce higher-quality pulp. Our system of on-the-job training (OJT) was inadequate to meet these needs. It was inconsistent. In many areas, an employee learned only as much as he or



The author, Jocelyne Guinard, conducts a training session at Abitibi-Price's Iroquois Falls, Ont., mill. Guinard is human resources associate and heads up training and development at the mill.

## FEATURE

BY JOCELYNE GUINARD

### Training

she wanted to learn or as much as the teacher wanted to teach.

The mill needed an approach that would ensure consistency, identify training needs, measure progress, and provide training records. Most important of all, we needed to be flexible. The plant operates 24 hours/day, seven days/week. It was necessary to work around this schedule and use our limited training resources wisely.

A training advisory committee—representatives from management, the plant's five union locals, and advisory help from a government agency—conducted a search for a consulting firm that could provide a training tool—a system—that would enable Abitibi-Price to identify training needs and develop our people into writers and trainers, as well as learners and problem-solvers.

We investigated three consulting firms and selected Manufacturing Technology Strategies (MTS) based in St. Louis, Mo. Other firms had more technical expertise in the pulp and paper industry, but we already had plenty of that. MTS specialized in installing its training system so that the plant would become a learning organization. That is exactly what we wanted.

**NEW SYSTEM OVERVIEW.** The MTS approach, which has been developed and refined for more than 30 years, is a highly systematized approach to func-

tional training based on accepted principles of adult education. The system has been adopted by 150 companies in 800 separate projects.

Functional training teaches a job, rather than a subject like in conventional training. The content is determined by the technology and tasks people have to perform with that equipment to get their jobs done. Functional training is site specific, customized to meet specific needs and objectives of individuals. Progress toward meeting these objectives is demonstrated on the job by the employee.

We installed the system in three phases, which is the typical process MTS recommends, including the following:

**Design.** In this phase, we analyzed our plant's technology and calculated the scope of the project and the design of the training. The data developed in this phase determined the skills, tasks, and knowledge required to operate each relevant step of operation, which is an independent unit of the process.

The analysis of each process was conducted through the application of 10 investigative questions—for example, "What is the process?," "What is it for?," "What does it do?," "What does it consist of?"

**Documentation.** In this phase, we took the data generated for the design and developed training manuals using a format developed by MTS. Typically, we documented each step of operation in a separate manual. Where necessary, we developed manuals for maintenance of the equipment used in each step of operation. Where equipment was generic, we often had the option of using off-the-shelf manuals available from MTS.

The manuals were written by employees who were trained to be writers. They used the format developed by MTS and used essentially the same 10 investigative questions that were used in the



**Fred Nolan, a papermaker and operations training coordinator, handled all operations training for the Iroquois Falls mill.**

design phase to build on the data developed in that phase.

*Training.* In this phase, we transferred to the employees who needed it the documented information about the technology and how to use it. The instruction for each employee and job was determined by a Training Needs Analysis sheet (TNA), which is both a needs and job analysis that lists in the form of a matrix all the knowledge, tasks, and skills necessary to safely run, understand, and troubleshoot each piece of equipment in a process.

The TNA functions as a curriculum that each employee is responsible for completing. Each box on the matrix rep-

resents a skill, task, or knowledge component necessary to do a given job. As the training proceeds and the employee demonstrates mastery of each element, that progress is noted on the TNA by a supervisor, trainer, or team member.

At the beginning of the process, a new employee who knows nothing about the job will start with a TNA with every box on the matrix filled with a “2,” which indicates full training is required. At the end of the process, all these “2s” will have been converted to “0s,” which indicates no additional training is necessary. If the employee has some knowledge of the task or skill but needs more training, that will be indicated by a “1.”

The TNA is very flexible because it is naturally adapted to the needs of individual employees. Thus, the TNA for an individual who has been on a job for 20 years would show mostly “0s” and “1s,” while the TNA for a new employee would contain mostly “2s.”

Employees at Abitibi-Price who needed to be trained to do jobs up to two levels above them in the line of progression generally already knew how to do much of that work because of experience, observation, and overlap with their current jobs. In all cases, the TNA was customized to meet the needs of each employee for each job.

**LEARNING TO FLY SOLO.** Since one of Abitibi-Price’s prime objectives was to become independent—or “fly solo”—we needed to transform the plant into a learning organization. Personnel within the plant had to learn how to use the system as learners, writers, trainers, consultants, and administrators.

This initially became the responsibility of a core group of five individuals selected from among the employee population by plant management and the training committee. These included representatives from the areas that were to be trained—a paper mill operator, a pulp room operator, a power system mechanic, an electrical specialist, and a human resources specialist.

Working under direction from MTS, our first job was to complete the design

**Pat Devine, electrical training coordinator at Iroquois Falls, works with Renald Gauthier, a trainee on the thermomechanical pulp (TMP) plant.**



phase. We had to describe all the technology in the plant and produce a training tool that would describe the procedures, formats, and manuals that we would need to develop.

I still remember my first day. My job was to identify the technology in finishing and shipping, and I told Keith Acland (the MTS operations manager) that I did not know anything about it. "Good," he said, "you have a great day ahead of you."

He was right. Everyone I asked was delighted to share their knowledge with me. The fact that I knew nothing left me free to ask anything. Employees found it refreshing.

**MANAGEMENT SUPPORT.** After an intense six weeks, the core group completed the design phase and presented the results to general management and received the go-ahead to move to the documentation phase. The responsibility for this phase continued to be carried forward by the core group, now reduced from five to four, who focused on three areas where training had top priority—the paper mill, the power system, and a new secondary waste treatment process. Training for the fourth project, a new thermomechanical pulping process to replace the existing groundwood and sulfite processes, was also planned.

The first step was to train the core group to be writers, and in the case of the three technical people, to become trainers of writers. Since I was not a technical expert, I did not learn to train writers, although I observed the process closely.

This part was accomplished in a week-long workshop where the core group learned to use the documentation format developed by MTS. In structuring and developing the material, we used the same 10 investigative questions used in the design phase. As the technical people in the core group mastered the approach, they began to train employees in how to produce training manuals with coaching help from MTS.

Four papermakers, two power system employees, and two maintenance employees were the first staff to be trained as writers. The initial eight manuals—four documenting steps of operations for the mill's No. 1 and No. 7 paper machines, two documenting the power system, and two for mechanical maintenance procedures—took four to six

weeks to complete, depending on their length and complexity.

As the organization and writers gained experience, the amount of time to write a manual was reduced from four to two weeks. So far, 28 employees have been trained as writers, and fifteen separate manuals have been completed for the paper mill and secondary waste treatment projects.

It is often difficult to provide employees time for writing. We have to negotiate with each department and keep our activities flexible to accommodate the needs of the production line. We believe it is important to bring many people in as writers because we want to expand skills throughout the organization.

Ultimately, writing will take a year and will result in between 40 and 50 manuals for the training projects currently underway or planned. Of course, with that capability in house, writing will go on indefinitely as new training is contemplated and completed training is updated.

We produce the manuals in house on two document converters—PCs with 20-in. color monitors and MTS software. As writers complete handwritten notes and drawings, the data is entered into the document converters and transformed into a unified documentation format. The materials are then reviewed, revised, finalized, and produced onsite as finished manuals.

**TRAINING BEGINS.** The third phase of the project—training—began as the writing was underway. Similar to the writing phase, the core group was trained and coached to be instructors and trainers of instructors. We learned to facilitate a class and create lesson plans. In one instance, for example, we developed a lesson plan on how to read a micrometer to four decimal places and then presented it to the class.

MTS teaches that everyone has an individual learning style that the instructor must adapt to. If a trainee hates reading but likes to learn by doing, you don't tell that individual to read something. Instead, you have them go out on the job and work it out through hands-on application.

Instructors also learn to use the primary training tool—the TNA sheet discussed above—that lists the equipment, steps, and tasks for each particular job.

The TNA defines the tasks and skills for each job in terms of measurable performance objectives—what will be accomplished on the job, how long it will take, and how well it must be done.

Each employee, along with a supervisor, trainer, or both, creates an individualized TNA with "2s," "1s," and "0s" to indicate how much or how little training is required for the employee to be able to demonstrate competence on each task. In many instances, supervisors were also trainers, but whether that was the case or not, all supervisors were trained as instructors because they had to understand the system and use the TNAs.

Similarly, all trainees participated in a two-day workshop called "Learning How To Learn," which taught them how to use the MTS system. They also learned about themselves and especially about how they learn best.

Training began in the paper mill. After the trainers and supervisors in that operation were trained, initial pilot training was completed so that MTS could finish certification of the core group as trainers or instructors as well as trainers of writers.

With that certification, MTS handed over the project to Abitibi-Price. It was now our responsibility to carry the system forward. The process took six months, but the training at Abitibi-Price will continue into the indefinite future. Some organizations have been using the MTS system for 20 years, which is a benchmark we plan to shoot for.

"We'll conduct a yearly audit and provide additional assistance that the organization needs," says Acland. "But for all day-to-day matters, the transference of the learning system to Abitibi-Price is complete. Not all organizations want to fly solo, and we can accommodate their needs. But for Abitibi-Price the benefits are great. They are now a learning organization with the flexibility to work at whatever pace the company wants to meet their training needs into the foreseeable future." ■

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