

**High Tech Training
of a High Tech Workforce
in the Forest Industry**

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The general population perceives that occupations associated with timber harvesting in the Province of Newfoundland and Labrador are low skill in nature. However, when you truly examine the skills required by forest industry workers they are required to and indeed have a level of skill that surpasses the majority of skilled labor positions in this Province.

As the Forest Industry continues to grow with the introduction of high technology, environmentally friendly, timber harvesting equipment requires skills that will also continue to grow.

Since 1991 Corner Brook Pulp and Paper Woodlands have come from an operation where all timber was harvested by conventional methods to an operation where in the year 2000, 75% of the timber harvest will be by high tech mechanical harvesters. Why did Corner Brook Pulp and Paper mechanize its operations, is a question that is frequently asked by the general population. Some people perceived that because of mechanization there would be substantial job losses, others felt that big machines would destroy the environment, our forest would be harvested quicker and the forest industry would go the way of the cod fishery.

All these perceptions were inaccurate. No unionized employee has lost his or her job due to mechanization of harvesting. Seasonal job losses have occurred in some non-union locations. However for 2000 and beyond, mechanization will be increased with the natural attrition of the conventional logger at Corner Brook Pulp and Paper. Mechanical jobs are safer with less exposure for accidents to our employees. The modern high-tech mechanical harvester may look intimidating but it actually has a soft footprint when operated properly by a skilled forest worker. The high-tech mechanical harvester isn't harvesting anymore timber than the logger with a chainsaw did in 1999. The amount of fibre required by the mill doesn't change with the change in the harvesting system. Actually because of mechanical harvesting we are leaving less fibre in the woods, this increased utilization of timber stands harvested actually means we harvest less trees for the same volume.

The mechanization of timber harvesting occurred at Corner Brook Pulp and Paper because our organization must remain cost-competitive and provide fresh quality fibre to the mill. The success

of the mill is a direct benefit to our Province, our owners and more importantly for our employees and families who depend on our organization for their livelihood.

How does an organization with 800 employees go from a high labor-intensive method of timber harvesting to a high technology method of timber harvesting and where do they get the skilled operators to operate this high tech equipment. At Corner Brook Pulp and Paper these high tech operators came from power-saw operators in our workforce. Some would view having to use older power-saw loggers as a weakness. Some people felt that you couldn't teach an old dog new tricks, an intensive operator training/familiarization program has made the move to mechanical harvesting very effective and very interesting. Corner Brook Pulp and Paper's switch to mechanical harvesting began in 1991, with the introduction of one Cut-to-Length system and two Full Tree systems. With the introduction of these systems a training program consisting of classroom and field sessions complete with a set curriculum and objectives was established.

Mechanization and the associated training continued at a gradual pace since then and in October 1999, with the signing of a new labor agreement the move to mechanization intensified. With an immediate demand for 29 new operators, Corner Brook Pulp and Paper's training program had to be redesigned to meet the need. The goal of the training/familiarization program was to produce operators for the high-tech harvesting equipment in as short a time period as possible.

To meet the goal of training the required high tech operators Corner Brook Pulp and Paper looked to high technology to make it happen. In October 1999 Corner Brook Pulp and Paper acquired a Simlog 3-D mechanical harvester simulator that is helping to prepare operators for their subsequent training on the real machine. Prior to the acquisition of the Simulator, the only way to train was on a real machine, in a real work environment – all under the supervision of an experienced operator, with all the associated cost. In this setting students must confront the full complexity of the machine right from day one, because they have to focus on as many as 40 possible functions at the same time they learn slowly. Also, the cost of equipment maintenance at this stage can be extremely high, if a new student operator makes the wrong move on the real thing thousands of dollars in damage can occur. If that happens you have more than a repair bill, you have a production loss and you have a student who is not learning because the equipment is being repaired.

With the acquisition of the simulator the students are put in front of a 3-D screen with joystick controls similar to a real harvester. Key concepts of operating a harvester are demonstrated in step-by-step modules where the operators learn basics and move on to greater challenges as they progress. The student operators are learning in a controlled environment by “doing”, which has always been recognized as an excellent way to learn.

The simulator actually models the physics of how objects behave in the real world, in real time. For example, the joystick controls move the simulated harvester boom and head with the same speed and over the same distance, as real actuators do in real machines. This gives students a realistic feel for the machine's controls and provides essential pre-requisite skills necessary for the eventual operation of a real mechanical harvester in the real forest.

The simulator acquired by Corner Brook Pulp and Paper is the 9th harvester simulator manufactured by Simlog. The first 8 simulators are located in training schools in Quebec. To the best of our

knowledge, Corner Brook Pulp and Paper is the first Woodlands operation in Canada to purchase a harvester simulator for training. This makes our company and our province a leader in the training and development of our forest workers.

Student operators complete a minimum of 30 hour's simulator time prior to moving on to phase two of the training program. Phase two of the program consist of 30 hours of hands on training using a tracked excavator. The purpose of this component of the program is to give student operators some experience travelling a piece of equipment on forest terrain and the operation of a real boom prior to operating a real harvester. The boom controls of a harvester and tracked excavator are the same and this gives the simulator-trained student a chance to put his newly acquired skills and knowledge into use.

Excavator training is conducted at The College of the North Atlantic in Stephenville. The college has a reputation of being a leader in the training of Heavy Equipment operators and the instructors are used to dealing with adults in a learning environment. The student operators are introduced at this time to basic equipment safety and maintenance as well as operating skills.

With the completion of the simulator and excavator portion of the training the student operators are ready to be introduced to the high tech harvester in a real work environment. As the equipment becomes available the student operator is placed with a contractor for the final and most intensive portion of the program. The final portion of the program consists of a six-week training and evaluation process. During this period the student operator is provided with hands on instruction, with an evaluation of his progress on a weekly basis. Student operators are expected to be at a level of production that is 60% of what a trained operator in that classification and on a similar piece of equipment is producing after the six-week period. For example if a regular operator is producing 100 trees per hour than the student operator should be producing 60 trees per hour after the six-week period.

Since October 1999, 34 employees have been through the simulator portion of our training program. The results have been excellent to date with the average in woods production for student operators exceeding our expectations. The student operators who were expected to be at 20 trees/hour during their first week of in woods training actually started with 40 trees/hour and on the average after six weeks were in the range of 80 trees/hour. The student operators who have completed the program are very enthusiastic about the training and have high praise for the simulated learning environment. They feel that without the simulator their level of comfort and confidence would not be the same. The amount of damage done to equipment while operators were training has been minimal; student operators and contractors attribute this to the simulator and the approach to training.

To further enhance our training program a training committee was established consisting of representatives from Corner Brook Pulp and Paper and Local 60N of the CEP. The training committee made recommendations on how the training would be conducted and what would be expected of the trainees in a set period of time.

Training chainsaw operators, without prior experience operating heavy equipment, to become efficient harvester operators is an interesting challenge for Corner Brook Pulp and Paper and the

employees being trained. Some people would not be receptive to the concept, thinking that it would be better to train younger people for the jobs. The chainsaw operators that we train to become harvester operators, however, do have advantages that some people would overlook. The employees that we train are employees that have been with our organization for quite some time, some as long as 25 years. A major advantage that these employees have is that they know a lot of what the job entails. They know what it means if a machine is down, they understand quality requirements, they have an excellent work ethic and look forward to work each day. Our employees who become harvester operators are happy to have a chance to change occupations mid way through their careers and look forward to the challenges and overcoming any obstacle. The employees we are training can appreciate the investment that Corner Brook Pulp and Paper is making in them. The 8-week program represents an approximate investment of \$15,000 in each employee who partakes in the program.

The approach to high tech harvester training at Corner Brook Pulp and Paper is an approach that puts Corner Brook Pulp and Paper and its employees, and our province in a leadership role for others to learn from. This training program is one of many things in the Newfoundland Forest Industry that we should all be proud of.