

DEVELOPMENT OF AN ERGONOMICS PROGRAM MODEL

FOREST INDUSTRY HEALTH RESEARCH PROGRAM

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The *Forest Industry Health Research Program (FIHRP)* has completed a review of how ergonomics is being utilized within the pulp and paper industry. Case study examples of ergonomic programs are provided and a generic model for an ergonomic program has been developed. A report is now available titled "*Development of an Ergonomics Program Model for FIHRP*". To request a copy, contact **Agi Lee** at the Pulp and Paper Employee Relations Forum at (604) 777-1533, send a fax to (604) 777-1567 or email alee@paperforum.com. Non-members of the Forum may be charged for the reports.

The purpose of this FIHRP study was to ascertain how ergonomics was being utilized within the pulp and paper industry and to what extent risks can be reduced using an ergonomics framework.

In 1991, the Forest Industry Health Research Program (FIHRP) published a report identifying ergonomic concerns in the pulp and paper industry [British Columbia Research Corporation (BCRC), 1991]. The report indicated that the risk of injury to tradesmen (millwrights, welders, mechanics and other construction trades) was 2.5 times greater than other pulp mill workers due to heavier job demands, poor lifting aids, problems with access to equipment, inadequate tools and awkward postures. Statistics from WCB on injuries from 1990 to 1994 revealed that, in general, a need for ergonomics intervention in the pulp and paper industry still exists. Over the past five years, overexertion injuries represented approximately 30% of all injuries in the pulp and paper industry.

In order to provide a comprehensive view of how ergonomics applies to the pulp and paper industry, the B.C. Research team completed:

- a review of literature regarding ergonomic programs within industry;
- a survey of FIHRP mills ascertaining present and past ergonomics initiatives;
- determination of international approaches to ergonomics within the pulp and paper industry;
- consultation with pulp and paper mills within Canada which are actively pursuing ergonomic programs;
- development of a generic model for the pulp and paper industry from which to apply ergonomic principals.

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This report has eight sections. Section 1 and 2 outlines introduction and methodology. Section 3 outlines background information on the ergonomics process. This section describes when ergonomics should be applied and the benefits that should be anticipated. Key concepts of participatory ergonomics include: labour and management commitment; worker driven processes; and inclusion of everyone from plant manager to hourly workers. Through participatory efforts, more industries are ensuring buy-in to their program from workers and management and seeing the ergonomics process work for them. The literature review summarizes a variety of approaches and identifies the core components of successful participatory ergonomics programs.

In Section 4, results from a survey of FIHRP mills is presented. The results indicate that there are several ergonomic programs in place, varying in their level of formality and structure. Companies have processes in place with a strong emphasis on risk identification, engineering, education, stretch breaks, early return to work and job redesign.

Although more than 20 international sources were contacted to obtain information on the extent of ergonomics within the pulp and paper industry; information received in English was limited. However, internationally, there have been ergonomic initiatives undertaken by a variety of organizations, using participatory approaches. As their processes are also highly mechanized, the majority of their injuries occurred among in maintenance workers. This is similar to the Canadian Experience (BCRC, 1991; Farmilo, 1991).

Case studies are provided by Mr. David Coates, Ergo Risk Management Group, on Elk Falls Pulp and Paper mill, and by Dr. Jean Anne Farmilo of Quno Pulp and Paper mill (Sections 7 and 8), and they exemplify successful methods currently used in the industry to implement ergonomics programs. These participatory ergonomics programs, although inherently different in structure, both keep the worker as the central focus of the program.

Based on the research and information acquired throughout the project, a comprehensive six-step generic ergonomics program model was developed by BCRI. The model integrates the general principles of ergonomics with the concepts and ideas on participatory ergonomics from the pulp and paper industry as well as other industries. The information provided in this report outlines applied ergonomics approaches which can be integrated into new and existing programs in pulp and paper mills.