

“From EHS to the CFO: Ergonomics and ROI”

by Earl Hagman, PhD, MSEE, MBA (Pub. Facility Safety Management magazine)

Workplace injuries and illnesses cost the nation an estimated \$250 billion each year. When put in context with the costs of other major diseases, the costs of occupational injuries are staggering. For example, the annual cost of AIDS in the US is estimated at \$30 billion. \$250 billion is of the same magnitude as the costs for cancer or cardiovascular disease, and is also more than the combined annual profits of the 20 largest companies in America. Viewed from a bottom-line standpoint, safety in the manufacturing workplace should be a primary preventive management concern. The trained, problem-solving human being is one of the most valuable and expensive devices on earth. The last thing an employer ought to do is place them in an unsafe, counterproductive work environment. Industrial workplace ailments include sprains, strains, joint dislocation, carpal tunnel syndrome, tendonitis, and lower back pain. These types of injuries lead to decreased productivity, defective products, lost workdays, poor morale, and increased employer medical and workers' compensation costs. Workers' compensation payments are skyrocketing, and becoming a budgetary black hole. The U.S. Department of Labor estimates that these claims cost businesses over \$60 billion annually. According to the National Council on Compensation Insurance (NCCI), just one category, back injuries, account for more than 50% of these costs. The Bureau of Labor Statistics estimates that more than one million workers are affected by work-related back injuries each year. These injuries are extremely costly to treat. In addition to compensation, the estimated value of time-lost per injury is \$26,000. Therefore, a workplace solution that prevents just a single injury can save more than enough to pay for the ergonomic equipment by itself.

Utilizing ergonomic workplace philosophy will limit workplace injuries, reduce workers' compensation costs, and lower Lost Workday case incidence. That is bound to please the company's Environmental, Health, and Safety officers. But ergonomics offers other, perhaps equally profound gains that will impress the CFO. While the safety benefits of ergonomic factory installations are known to industry professionals, the concomitant productivity gains are less familiar.

The average industrial worker is actually productive only 70 to 85 percent of the eight-hour workday. That means that between 1.2 and 2.4 hours a day is spent doing something other than the job. Equipment

that hinders, distracts, irritates, or fatigues a worker will often lead to frequent breaks, chronic absenteeism, and poor attitude. Ergonomic equipment also allows the worker to stay focused on task without distraction or interruption, which are common when tasks are accomplished by off-balance, encumbered, or awkward operators.

By upgrading the workplace to adaptable, easily operated devices that eliminate awkward or uncomfortable work positions and reduce fatigue, employees will stay on the job longer with better morale. **By producing five minutes more “productive time” per worker per day, a company with 100 workers making an average of \$12.00 an hour, will produce a bottom line return of \$50,000 annually.**

So an ergonomic factory floor has two tangible bottom-line effects: increased productivity and decreased health and workman’s compensation costs. These factors are easily measurable, and have been proven time and again in real-world testing.

The value of this approach can be demonstrated by the increasing presence of on-site environmental health and safety engineers, proactively designing a safer workplace and increasing the job satisfaction of valuable, highly trained employees.

By selecting ergonomically designed equipment and integrating it strategically, management will be rewarded with lower disability costs, insurance premiums, and absenteeism, increased productivity, higher product quality, enhanced employee morale and worker satisfaction. Although the initial cost of installing ergonomic manufacturing equipment may be marginally higher than purchasing “standard” equipment, it is clear that the tangible and intangible benefits will quickly dwarf the initial investment. Thus, ergonomic factory engineering is easily justified from “Return On Investment” viewpoint. To put it another way, the people most familiar with ergonomics are probably industrial safety engineers, but almost any industrial CFO would be wise to study this science as way to increase profits and decrease HR and health care expenditures.

Earl Hagman, PhD, MSEE, MBA, has a doctorate in Ergonomics and Occupational Health. He is the President of Ergotech Incorporated, which designs and manufactures ergonomic manufacturing equipment which increases operator safety and productivity. www.ergotechinc.com