

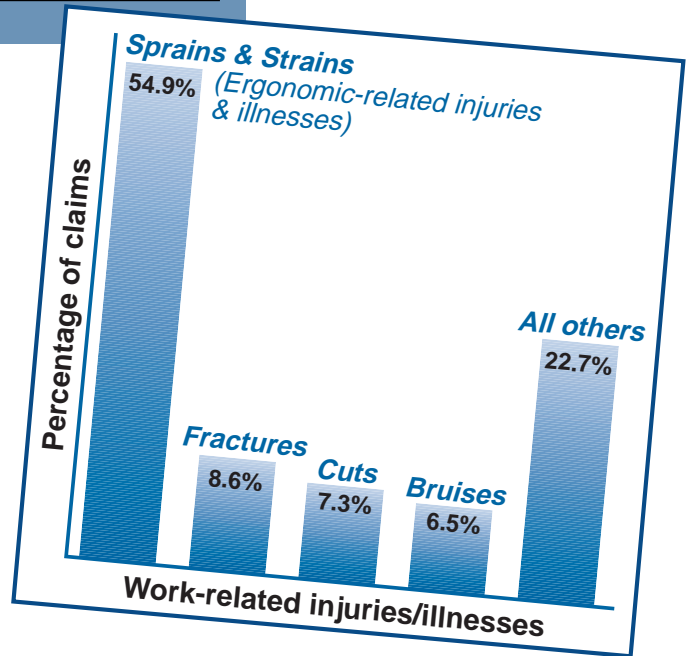
RESOURCE

Spring 1997

Oregon OSHA renews its efforts to reduce ergonomics injuries

What is ergonomics and why should employers be concerned? Ergonomics is a way of designing workstations, work practices, and the work flow to accommodate the capabilities of workers. Ergonomic design reduces risk factors known to contribute to occupational ergonomic injuries and illnesses, such as sprains and strains and cumulative trauma disorders (CTDs).

Work-related ergonomic problems are those where musculoskeletal disorders (MSDs) have resulted or may result as part of an employee's work activity. MSDs are injuries or illnesses of the muscles, tendons, ligaments, peripheral nerves, joints, cartilage (including intervertebral discs), bones, and/or supporting blood vessels in either the upper or lower extremities or back, which are associated with certain workplace risk factors and which are not the result of acute or instantaneous events (e.g., slips or falls). Classifications include, but are not limited



to, CTDs, repetitive motion disorders, repetitive strain injuries or illnesses, repetitive motion injuries and illnesses, and repetitive stress injuries or illnesses. These injuries may cause pain and suffering, disability, and other employee problems, including but not limited to,

Please turn to "Ergonomics" (page 2)

Safety is Number 1 at GOSH Conference

The place to be March 3-6 was the Oregon Convention Center in Portland, at the 25th Biennial Oregon Governor's Occupational Safety & Health Conference. The popular event, co-sponsored by the American Society of Safety Engineers (ASSE), Columbia Willamette Chapter, and Oregon OSHA, enticed health and safety professionals throughout Oregon and adjacent states to come together for several gray, rainy days to share ideas, network, and learn more about how to make their workplaces safer and healthier. More than 130 educational sessions (360 hours) on occupational safety and health topics for all levels were presented by 215 speakers. Sessions were offered on numerous topics, including: accident investigation, agriculture, computers and safety, confined space, emergency preparedness and response,

Please turn to "GOSH" (page 4)

What's inside . . .

Safety is Number 1	1
Administrator's message	2
Publication spotlight – Printing industry	3
Conference awards	4
Safety training available on-line	5
Employer Alert—Rebar Covers	5
Work related fatality rates announced	6
Safety Notes – Quarry	7
Ergo facts sheet	8
Design of a powered vinyl hinge applicator	9
Publication spotlight – Pulp & paperboard mills	10
Future conferences	11
Subscription form	11



Administrator's Message



Peter De Luca

The last few months have been both busy and productive. My public speaking schedule has finally begun to slow down, leaving me time to visit a number of worksites. In the past three weeks I have been on three different worksite visits. The first was a logging worksite. I went out with Safety Compliance Officer Bruce Lawson when he inspected two different logging operations. One of the sites was fully mechanized and was being logged by two men running

equipment. One of the men ran a machine that cut trees, topped them, and removed their limbs. The other man ran a piece of equipment which picked up the logs and moved them to the road to be loaded on trucks. I was amazed at how efficient and environmentally friendly this thinning operation was. The second logging site was a traditional operation with logs brought up

Please turn to "Administrator's Message" (page 3)

"Ergonomics" (from front page)

production loss, increased workers' compensation costs, and decreased morale.

Musculoskeletal disorders (MSDs) have consistently been the most frequent cause of serious injury and illness to employees in Oregon. Sprains and strains are in excess of 50% of all reported injuries and illnesses. Most important though, is the fact that most MSDs can be prevented by the implementation of an effective ergonomic program consisting of the following four basic elements:

1. Worksite analysis, including a review of records starting with the OSHA 200 log. This will help identify trends in MSD cases and high-risk areas and tasks.
2. Hazard prevention and control involving possible job modifications. Procedures should be established to correct MSD hazards using appropriate engineering and work practice controls.
3. Medical management involving a health care provider(s). This is an important step to help prevent and/or provide treatment for MSDs. Early reporting and treatment of symptoms is vital to an effective program.
4. Training and education. Training and education should be provided to all employees, supervi-

sors, managers, and engineers, so that they understand MSD hazards and are aware of the methods available to eliminate them.

The increased rate and high cost of ergonomic injuries and illnesses such as carpal tunnel syndrome, tendonitis, and MSDs cut across all industries and occupations. Some of the hardest hit are manufacturing, retail, and service industries. The direct cost of an ergonomic-related workers' compensation claim averages more than \$10,000.

Often the cost of prevention and control of ergonomic risk factors in the workplace are cost-free or a fraction of the cost of a single claim. In smaller companies, one ergonomic-related claim can mean the difference between being above or below the profit margin. In addition, federal OSHA is actively working on a set of rules which will require employers who have high rates of ergonomic injuries and illnesses to take action.

Recently approximately 5,000 Oregon employers received a letter from Oregon OSHA (OR-OSHA) informing them that it will be "more active in the investigation of musculoskeletal disorders (MSDs) as a part

of its enforcement inspection procedures." The letter was sent to companies which may have a process or processes that pose potential risk to employees as it relates to MSDs. This was based on a review of statewide injury and illness rates, field experiences with ergonomic hazards, and the Standard Industrial Classification (SIC) codes.

Receipt of a letter does not

necessarily mean that a company can expect an inspection. Any investigation would occur as part of planned, referral, and/or complaint inspections and would

follow normal procedures.

OR-OSHA will use existing rules which have always covered these types of injuries.

OR-OSHA encourages employers to contact their workers' compensation carrier or OR-OSHA's Consultative Services Section for assistance in preventing MSDs. The section has a recognized team of trained professional ergonomics consultants with a variety of backgrounds and many years of experience providing ergonomic services. Areas of experience include working with both small and large companies in industries such as electronics, pulp and

Please turn to "Ergonomics" (page 4)

The direct cost of an ergonomic-related workers' compensation claim averages more than \$10,000.

“Administrator’s Message” (from page 2)

to a deck area by means of cables. There were a number of people on this site: a shovel operator, a hook tender, a chaser, some choker setters, and the yarder operator. I was greatly impressed with the sheer size of the operation and with how quickly large trees were moved from the forest floor to the deck to waiting trucks.

Another worksite I recently visited was the Tri-Met Westside Light Rail Tunnel Project. It had been a while since I had seen this project and I was amazed at the amount of concrete that had been poured in the tunnels, in the station under the zoo, and in the shafts that connect the zoo to the station, is nearly 400 feet underground. The work involved in this project has been truly monumental.

Finally, and most recently, I toured ESCO Corporation’s steel foundries in Portland. I watched as metal was melted and steel was made and poured. We grow up taking steel for granted. But to see it in its liquid form being poured into molds is an eye-opener.

These trips gave me a wide variety of new experiences. Each job site was filled with potential dangers and hazards. Yet, in each job site, I observed employees making serious efforts to observe safety rules and procedures and to work safely. These worksite visits were primarily an opportunity to observe safe work practices firsthand. I have often said that, in Oregon, we have the best and most effective occupational

safety and health program in the country. The statistics we generate prove that to be the case. But statistics on a piece of paper are far different from observations in the workplace. Each of the worksites I visited represents a different sort of dangerous heavy industry. It is in workplaces such as these that our good statistics are generated.

So this is the other side of the coin. Oregon has the most effective occupational safety and health program in the nation because business and labor have formed a partnership with government to make it happen. It does not happen on a piece of paper. It happens in workplaces all over the state – in workplaces just like the ones I visited. ■



RESOURCE

The *Oregon Health and Safety Resource* is published quarterly by the Oregon Occupational Safety and Health Division, Department of Consumer & Business Services.

Information requests should be directed to: Jani Johnston, Editor, at (503) 378-3272 (V/TTY) or 1-800-922-2689.

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Occupational Hazards Common to the Printing Industry

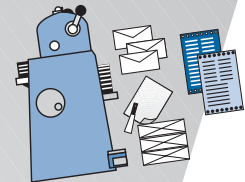
Printing operations and related processes can present a variety of hazards or potential hazards that range from machine guarding to airborne chemical contamination to entry into confined spaces. This self-inspection checklist has been developed to assist employers in identifying and controlling hazards common to the printing industry. A few of the subject areas covered are: employer posting, recordkeeping, safety committees, eyewashes and deluge showers, walkways, portable power-operated tools and equipment, and machine guarding.

To receive a free copy of this manual, call OR-OSHA’s Resource Center at (503) 378-3272 or 1-800-922-2689 (V/TTY) or fax your request to (503) 373-7014. ■

Publication Spotlight

Occupational Hazards Common to the Printing Industry in Oregon

Self-inspection Checklist



“GOSH” (from front page)

ergonomics, fall protection, hazard communication, hazard identification, industrial hygiene, lockout/tagout, personal protective equipment, safety committees, transportation and vehicle safety and violence in the workplace.

A feature at this year’s conference was the expanded Professional Development Day. 22 day-long workshops on subjects such as “Radiation Safety Officer Training” where participants were allowed an opportunity to work with actual equipment and radioactive sources and “Office Workstation Boot Camp” where attendees participated in an intensive, hands-on, skills training program, were presented. The workshops were well-attended and received excellent marks from both teachers and students.

The exhibit hall flourished, drawing conference attendees in to see everything from rubber gloves to safety decals and signs. More than 160 companies filled 186 booth spaces, including for the first time a “Consultant’s Corner.” Seven special interest exhibit areas featured demonstrations.

The conference ended with what has been dubbed the “awards luncheon.” It is a celebration of Oregon’s collective successes; employers, safety professionals, teams, and individuals were recognized for their outstanding contributions to occupational health and safety. More than 78 nominations were received in various categories. For winners, please see the box, right.

“Ergonomics” (from page 2)

paper, secondary wood products, retail grocery, food processing, health professions, office environments, public transportation, municipalities, school districts, higher education, and state government. There are no direct out-of-pocket costs to Oregon employers. OR-OSHA’s consultative services are already paid for through the assessment all Oregon employers pay to the workers’ compensation fund. It is also important to note that OR-OSHA’s consultants work confidentially with employers and legally cannot divulge information relating to the consultations to OR-OSHA’s enforcement program. ■

Conference Awards

Small Employer Award (up to 30 employees)

North American Energy Services Company, Rainier, Oregon

Medium Employer Award (31 to 99 employees)

Pacific Western Extruded Plastics Company (PWPipe), Eugene, Oregon

Large Employer Award (more than 99 employees)

Entek International LLC, Lebanon, Oregon

Public Employer Awards (two awards) (governmental agency or unit)

Estacada Rural Fire District #69, Estacada, Oregon

Marion County Juvenile Department, Salem, Oregon

Safety Committee Award, Medium Employer

Pacific Western Extruded Plastics Company (PWPipe), Eugene, Oregon

Safety Committee Award, Large Employer

Boise Cascade Paper Division, St. Helens, Oregon

Safety Professional Award

Clint Van Arsdall

Team Award

North American Energy Services, Tom Terrell

Individual Award

Clayton R. Jones III

Industrial Hygiene Award

Carol Petty, MSPH, CIH

Labor Representative Award

Lee Sawyer

Life Saving Award

Mark Weitman

Association Award

Association of Western Pulp and Paper Workers (AWPPW)

Special Recognition Award

Temp Technology, INC.

Oregon OSHA and ASSE gratefully acknowledge the many Oregon employers who encouraged and allowed more than 200 employee volunteers to help plan the conference and/or work at the conference. Their support is appreciated. ■

To request a no-cost ergonomic consultation call the OR-OSHA office nearest you:

Salem Central (503) 378-3272

Salem Field Office (503) 373-7819

Portland (503) 229-6193

Eugene (541) 686-7913

Bend (541) 388-6068

Medford (541) 776-6016/6017

Pendleton (541) 276-9175

Safety training available on-line

The Department of Consumer & Business Services, Occupational Safety & Health Division (OR-OSHA) now offers no-cost basic occupational safety and health education and training to Oregon employers and employees via the Internet World Wide Web. Courses currently available are: Safety and Health Management (OR-OSHA 100), Safety Committee Operations (OR-OSHA 101), Accident Investigation Procedures (OR-OSHA 102), and Safety and The Supervisor (OR-OSHA 112). Each course consists of a number of modules, each of which may be completed on-line in about an hour, or may be printed and completed off-

line. Each module requires the student to read material, answer questions, analyze case studies, and take a short quiz. Each student is assigned an Oregon OSHA trainer who will respond to the coursework submitted by the student. Upon completion of a course, Oregon OSHA will send the student a certificate. Completion of these courses also applies toward the Oregon OSHA Training Services Certificate of Completion, currently awarded to students who complete at least 30 hours of classroom training. On-line enrollment is available at <http://www.cbs.state.or.us/external/osha/educate> to all interested Oregon employers and employees. No preregistration is required. All information necessary to complete the above courses is available at this Internet location. ■

EMPLOYER ALERT

Mushroom-style Plastic Rebar Covers Should Not be Used for Protection Against Impalement

Oregon OSHA recently issued a warning to remind the construction industry that mushroom-style rebar caps are not sufficient to eliminate the hazard of impalement. Recent testing indicates that the standard mushroom-style plastic rebar covers **DO NOT** provide any protection from the hazards of impalement, even from a short fall of three feet. Therefore, the mushroom caps do not meet the “guarded” requirement of 1926.701(b).

Tests designed and conducted by California OSHA entailed dropping sand-filled canvas bags onto rebar protected by standard mushroom caps. Weights of the bags ranged from 140 to 160 pounds and the bags were dropped from three, five, and seven feet. The mushroom caps provided absolutely **NO** protection.

Manufacturers of the mushroom caps agree that those caps were designed to provide **SCRATCH PROTECTION ONLY** and were never intended to prevent impalement, even at grade.

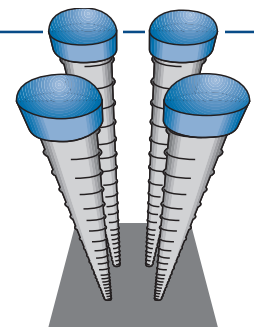
The mushroom cap is the current method of protection considered by

most to be the industry standard to guard from the hazard of same-level impalement. Based on the above tests, the mushroom caps cannot be used as protection from same-level impalement. Employers must use alternate methods to provide adequate worker protection when employees may be exposed to unprotected reinforcing steel. These methods may include, but are not limited to: bending the reinforcing steel over, if specifications allow; use of steel reinforced reinforcing steel caps designed for employee protection; building wooden troughs to cover the exposed reinforcing steel; or providing engineering controls to limit or eliminate employee exposure to exposed reinforcing steel.

In Oregon, a moratorium on citations with penalty amounts will be in place until August 3, 1997, to allow the implementation of these changes in industry work practices. This simply means that during the moratorium employers will receive a hazard letter the first time the issue is addressed at a worksite. If mush-

room caps are being used for impalement protection on subsequent visits to the worksite during the moratorium, a citation with penalty will be issued. Employers will still be held accountable for employee safety and will be strongly encouraged to provide adequate worker protection.

The mere presence of mushroom caps at a worksite will not necessarily warrant a violation of the rule. It must be shown that a hazard of impalement exists before a citation can be issued. ■



If you have any questions or need additional information, please contact Oregon OSHA, Technical Services, (503) 378-3272 or toll-free, in Oregon, 1-800-922-2689 (all numbers are V/TTY), or via the Internet World Wide Web at: tech.web@state.or.us

Work-related fatality rates announced

Oregon's work-related fatality rate per 100,000 workers remained essentially flat in 1996, rising slightly but still remaining the second-lowest rate on record. State safety and health officials point out, however, that there are sobering numbers behind the big-picture statistics: 54 Oregonians died from work-related injuries or illnesses in 1996. That is up from the record low of 48 fatalities in 1995, although still less than the previous record-low set in 1994.

"There's no such thing as an acceptable margin of error when it comes to workplace fatalities," said Kerry Barnett, director of the Department of Consumer and Business Services (DCBS). "We can take some satisfaction in the fact that the overall rate of workplace fatalities is remaining relatively steady, but each death is a tragedy, and most of them could have been prevented."

The largest number of fatalities, 30, were transportation accidents, which include collisions, overturned vehicles, or workers being struck or pinned by a vehicle. Included in this number are 10 workers who died in aircraft accidents (two accidents resulted in three deaths each), and five workers who were pedestrians struck by vehicles. Nine workers were killed when they were struck by or against objects, and another five workers died from falls. In 1996 there were no fatalities resulting from workplace violence, compared to three in 1995.

Professional and managerial occupations accounted for eleven fatalities and ten fatalities occurred in forestry and logging.

Two of the fatalities were women. The youngest worker killed was a 22-year-old teacher who died in a transportation accident, and the oldest worker was a 68-year-old mechanic who died from a fall from a ladder.

The new fatality statistics follow the announcement that Oregon's overall workplace injury and illness rates set a new record low again in 1995

for the private sector and remained level for the public sector. This continues a downward trend that began with the state's push to reform the workers' compensation system, cut costs, and improve safety beginning in 1987. Overall lost workday case incidence rates due to injury and illness between 1988 and 1995 fell 16.2 percent for the public sector and 26.8 percent for the private sector. Data for 1996 is not yet complete.

"Oregon has made great strides in workplace safety and health in recent years," said Pete De Luca, administrator of the Occupational Safety & Health Division (OR-OSHA). "Working in cooperation with employers, workers, and the legislature, we've developed a program that goes well beyond enforcement and includes opportunities for consultation and training for employers and employees alike. But these new fatality numbers illustrate again that safety must be an on going, daily commitment and an integral part of the way Oregonians do business at all times."

In order to help address safety concerns, OR-OSHA places a priority on safety inspections for employers in high-risk industries like transportation and construction and also targets employers who have a history of recent workers' compensation claims.

As part of its mandate from the Oregon Legislature, OR-OSHA makes a concerted effort to inform employers of their rights and responsibilities for workplace

Please turn to **"Work Related Fatalities"** (back page)

Number of Work-Related Fatalities by Industry Type

Industry	1995 Total	1996 Total
Agriculture, forestry, fishing	3	1
Mining	1	2
Construction	14	5
Mfg: Other Manufacturing	3	4
Mfg: Sawmills	0	2
Mfg: Logging	3	9
Mfg: Other wood products	0	1
Transportation/public utilities	8	10
Wholesale trade	2	4
Retail trade	4	3
Finance, insurance, real estate	2	1
Services	8	7
Government	1	5
TOTAL	48	54

Source: Research & Analysis Section, Information Management Division (IMD), Oregon Department of Consumer & Business Services

SAFETY NOTES

Department of Consumer & Business Services
Oregon Occupational Safety & Health Division
Salem, OR 97310

Fatality Report

Accident Summary

Accident type Struck by heavy object/ head injuries
Industry Quarrying and crushing rock
Employee job title Foreman/master mechanic
Age/gender 54/male

Description of fatal accident

In March 1993, at a rock quarrying and crushing company, several employees were working on a self-propelled vibraroller that the company had recently purchased. The company welder and the foreman/master mechanic were manufacturing a special portable shaker screen assembly. About 15 minutes prior to the accident, the foreman, with the help of the welder, lifted and secured the motor mount in place. The motor mount, weighing about 50 pounds, was C-clamped to two conveyor legs at the top of the shaker screen, using two angle iron brackets. The foreman tack-welded

the angle iron brackets to the motor mount legs with a wire welder, applying a 1/4-inch weld on each of the two legs.

The victim was the foreman/master mechanic. There were no witnesses to the actual accident. The victim was last observed standing on the catwalk attached to the front of the shaker assembly at the point nearest the truck cab. The catwalk was eight feet above the ground and the motor mount attachment point was 14 feet above the ground. The victim was found lying on the ground on his right side, just in front of the truck's rear drivers. The motor mount was found on the

ground about four feet beyond the victim and about eight feet from the truck's rear tires. The victim succumbed to head injuries consistent with being struck by a heavy object. Based on information gathered at the site, it appears that either the mount assembly broke loose and hit the victim or the victim accidentally stepped off the unguarded catwalk and grabbed the motor mount assembly for balance, breaking it loose at the tack welds. The victim fell backward striking the ground on his right side. The motor mount followed, striking the victim on the left side of the head.

Accident Findings

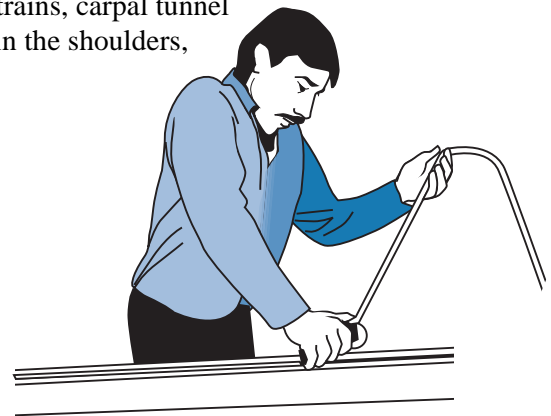
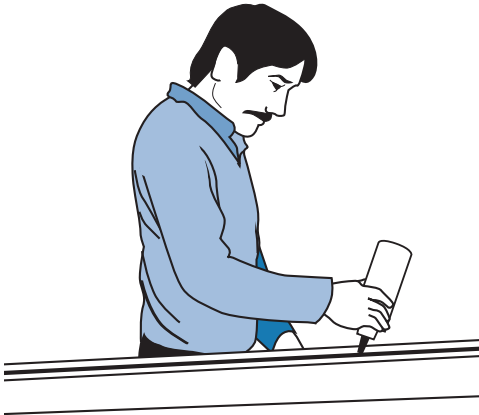
The investigation revealed that the employer had not developed any safety programs, policies, or procedures. Employees interviewed indicated that they had not been given any specific job or safety training. There was no fall arrest equipment (i.e. belts, lanyards) in use to protect employees working from an elevated platform at the time of the accident. Additionally, there were no barricades or guardrails in place on the catwalk. The size and position of the catwalk, in relation to the motor mount, provided little or no step-back room. The motor mount did not have a safety strap or tie-off to prevent it from falling and the tack welds were of insufficient size or strength. The victim probably would not have suffered fatal injuries if these safety measures had been in place. ■

Ergo Facts Sheet

Design of a Powered Vinyl Hinge Applicator

Problem

This case study involves a work station where a vinyl hinge is manually glued and pressed into panels when manufacturing accordion doors. The critical workplace ergonomic problems inherent with this task are the heavy force and repetitive use of the shoulders, arms and wrists, as well as the deviation of the wrists and constant pressure on the palm of the hands from the hand tool. Over a period of five years, eight workers' compensation claims occurred, three of which were disabling. The types of injuries stemming from this workstation were back, shoulder, and wrist strains, carpal tunnel syndrome, and tendinitis in the shoulders, elbows, and wrists.



Solution

Through a worksite redesign grant project, a prototype machine was designed and built to press and glue the vinyl hinge into each panel of the accordion doors. The machine was designed to eliminate the heavy forces and repetitive use of the shoulders, arms, and wrists. It was also designed to eliminate the deviation of the wrists and constant pressure on the palm of the hands from the hand tool. This machine did not replace the worker, who still needs to inspect and sort the wood panels and place them into position.

The success of the redesign was based on whether the machine could apply the vinyl hinge at the desired production rate, while eliminating the repetitive use and force required by the wrists, arms and shoulders.

Editor's note: Woodfold-Marco Manufacturing, Inc. recently completed the Worksite Redesign Program's first grant project. Kevin Emerick, Environmental Health and Safety Manager at Woodfold-Marco provided the following project report. See also the "Ergo Facts Sheet" on the facing page.

Design of a powered vinyl hinge applicator

Background

Woodfold-Marco Mfg., Inc. was formed in 1957. Woodfold produces accordion folding doors, interior wood shutters, roll-up doors, and a line of hardwood kitchen components. Woodfold has always considered its employees to be its most valued resource and with its recent conversion to an employee-owned company, this philosophy is ingrained even deeper.

The company has always made it a practice to return employees to light duty work as soon as possible from injuries or illnesses. Following this practice the company has made use of the Employer-at-Injury Program and for more permanent disabling injuries, has utilized the Preferred Worker Program (PWP). Both programs are administered through the Department of Consumer and Business Services, Workers' Compensation Division (WCD).

These programs, in addition to helping employees get back to work as quickly as possible, have made the company more ergonomically aware.

Case study

This case study involves a workstation where a vinyl hinge is manually glued and pressed into a panel when manufacturing accordion doors. The critical workplace

ergonomic problems inherent with this procedure are the heavy force and repetitive use of the shoulders, arms, and wrists, as well as the deviation of the wrists and constant pressure on the palm of the hands from the hand tool used. The ergonomic problems were identified by Oregon OSHA consultants, Workers' Compensation Division consultants, and the physicians of injured employees.

In the past five years, the company experienced eight workers' compensation claims, three of which were disabling. The injuries resulting from this procedure were back, shoulder, and wrist strains, carpal tunnel syndrome, and tendinitis in the shoulders, elbows, and wrists.

Loss control efforts

Woodfold has made accordion doors for more than 40 years. During this time, it continuously evolved and implemented various loss control strategies. In 1981, an unsuccessful attempt was made to build a machine to apply the vinyl hinge.

Over the next 15 years, several engineers approached the company claiming they could build an effective machine. But after experiencing its first automated failure, Woodfold was reluctant to allocate additional resources, and no engineer would commit to building a machine without being paid in advance.

In 1988, it was discovered that heating the vinyl hinge made it more pliable and easier to apply. In 1990 changes to the profile of the vinyl hinge again made it easier to apply. As the company became more aware of ergonomics, it began to utilize the

expertise of insurance consultants and consultants from Oregon OSHA.

In 1991, Woodfold invited an Oregon OSHA consultant to its facility. Pursuant to the consultant's recommendations, the company adjusted the height of the workstations and rotated employee tasks. It was also recommended at that time to install a power-assisted tool, designed to eliminate the required force needed to apply the vinyl hinge.

In 1993, Woodfold contracted two occupational hand therapists to train employees on proper hand stretches, hoping this would help reduce the number of injuries associated with applying the vinyl hinge. Despite these efforts, the trend showed a minimal decrease in the number of injuries; some requiring surgery and therapy and resulting in time loss.

The grant application process

Woodfold's search to eliminate the ergonomic problems associated with this type of workstation led it to the Worksite Redesign Grant Program. Woodfold invited Mary Hoskins to its facility to look at the troubled workstation. She agreed that it would be a good project for a grant application.

Next Woodfold invited five engineering firms to submit proposals to design and build a prototype machine to press and glue the vinyl hinges into the panels of the accordion doors. After selecting one of the proposals, the process of preparing the grant application was started. The prospect was overwhelming. But in working through the grant application, it found that it was really only a matter of organizing information already gathered. Any questions that came up were quickly answered by the reemployment assistance staff at WCD. The application was completed and

Please turn to "Powered Vinyl Hinge" (page 10)

“Powered Vinyl Hinge” (from page 9)

submitted early to allow time for review and additional recommendations.

Conclusion

The process of developing a prototype machine brought some surprises and was very educational. First, the project took twice as long as was initially projected. Second, even spelling out as many parameters as possible, the machine required a great deal of redesigning to meet production needs. Woodfold was told this is to be expected when building a prototype.

The success of the machine was based on whether it could apply the vinyl hinge at the desired production rate, while eliminating the repetitive use and force required by the wrist, arms, and shoulders. The results have

been satisfying. However, conclusive results regarding the reduction of injuries will not be available until machines have been in place at all workstations for one to two years.

Project Communication

The project results, a video, and equipment drawings are available through the Oregon Worksite Redesign Program.

The Oregon Worksite Redesign Program is a joint effort of the Workers’ Compensation Department (WCD) and Oregon Occupational Safety and Health (OR-OSHA) divisions of the Department of Consumer & Business Services (DCBS). The program offers research and development grants to Oregon employers and employer groups. Grants are awarded to develop and implement solutions to workplace ergonomic problems that lead to on-the-job injuries and illnesses and that can’t be solved with readily available equipment and technology. For a full text of the rules adopted by WCD, refer to Oregon Administrative Rules (OAR), Chapter 436, Division 115, rules 0001 through 0105. To request a grant application packet, call WCD at (503) 945-7585. To ask questions about the program or the application materials, call WCD at the above number, or call OR-OSHA at (503) 378-3272. We encourage early discussion with program staff to assure the best possible grant applications. ■



Oregon Safety Guide for Pulp and Paperboard Mills

In October 1993, OR-OSHA convened a Pulp and Paper Code Advisory Committee comprised of labor and industry representatives to produce an updated safety and health standard for the pulp and paper industry. The committee developed OAR 437-02-312, Div 2/R, which became effective January 3, 1995. This guidebook summarizes the requirements of OAR 437-02-312, but goes beyond a summary of rules and regulations. It also offers safety guidelines on new equipment and work processes not covered in the existing standard. Requirements and guidelines are organized by chapter, with cross-references to make finding information easy.

To receive a free copy of this manual, call OR-OSHA’s Resource Center at (503) 378-3272 or 1-800-922-2689 (V/TTY) or fax your request to (503) 373-7014.

Publication Spotlight



Future Oregon Occupational Safety & Health Conferences

Stay up to date with the latest in occupational safety and health.
Remain on the cutting edge of your industry!



Central Oregon Occupational Safety & Health Conference
September 10-12, 1997 • Central Oregon Community College, Bend

Snake River Occupational Safety & Health Conference
September 30, October 1 and 2, 1997 • Four Rivers Cultural Center, Ontario

Southern Oregon Occupational Safety & Health Conference
October 14-16, 1997 • Smullin Center, Medford

Oregon Pulp & Paper Workers Safety & Health Conference
December 2-5, 1997 • Eugene Hilton, Eugene

Worker & Supervisor Safety & Health Conference
March 3-5, 1998 • Eugene Hilton, Eugene

Questions?

Call the Conference Section at 503-378-3272 (V/TTY).
Visit the Oregon OSHA web site at <http://www.cbs.state.or.us/external/osh>

RESOURCE

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New subscription

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Return to: Oregon OSHA, 350 Winter St. NE, Room 430, Salem, OR 97310-0220

“Work Related Fatalities” (from page 6)

safety, and to help them meet those responsibilities. The division reached almost 19,000 workers and employers last year through approximately 500 education and training workshops and conferences conducted all over the state.

OR-OSHA experts conducted 1,846 consultations with businesses in 1996, helping employers recognize and manage workplace hazards and develop comprehensive safety and health programs. Use of OR-OSHA’s no-cost consultative and training services will not lead to a compliance inspection or other enforcement action. To find out more about what OR-OSHA can do for you, call the office nearest you. ■

Questions?

OR-OSHA has field offices across Oregon. If you have questions or need information, call us toll free at 1-800-922-2689 or phone one of the offices listed below. (All phone numbers are V/TTY).

Portland

9500 SW Barbur Blvd.,
Ste. 200
Portland, OR 97219
(503) 229-5910
Consultations:
(503) 229-6193

Eugene

1140 Willagillespie,
Ste. 42
Eugene, OR 97401
(541) 686-7562
Consultations:
(541) 686-7913

Pendleton

721 SE Third St., Ste. 306
Pendleton, OR 97801
(541) 276-9175

Medford

1840 Barnett Rd., Ste. D
Medford, OR 97504
(541) 776-6030
Consultations:
(541) 776-6030

Salem

DAS Bldg. 1st. Floor
1225 Ferry St. SE
Salem, OR 97305
(503) 378-3274
Consultations:
(503) 373-7819

Bend

Red Oaks Square
1230 NE Third St.,
Ste. A-115
Bend, OR 97701
(541) 388-6066
Consultations:
(541) 388-6068

Salem Central

350 Winter St. NE,
Rm. 430
Salem, OR 97310
(503) 378-3272
Fax: (503) 378-5729
or 373-7013

Visit us on the Internet World Wide Web at:
<http://www.cbs.state.or.us/external/osha>



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350 Winter St. NE, Rm. 430
Salem, OR 97310

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