

POB: THIS WOULD BE
GOOD FOR SHAC?

MR
Monsanto

JUNE, 1984

LOSS PREVENTION

comment

Robot Kills Man... ...man tried to do the machine's job.

The deceased was asked to climb up to get parts because a five story machine designed to retrieve the castings from the shelves had apparently been giving workers erroneous information on the number of parts on the shelves.

The robot manufacturer lost \$10M in a Michigan Court.

Don Chaffin, Director of the University of Michigan Institute of Ergonomics, said "Safety and production are compatible **IF** one approaches the problem recognizing that there always will be a human around the robot. You have to design the machine to consider the human operator or service person."

For some robot design considerations refer to Tecfact 38 — **ROBOTIC TECHNOLOGY IN MONSANTO.**



SLEEPINESS AND ACCIDENTS

People who have night sleeping problems plus excessive daytime drowsiness have 350 percent more **ON-THE-JOB** accidents than "normal" people, and their accidents tend to be more serious. This was among the findings of a two-year study of more than 1,500 people conducted by Professor Peretz Lavie, head of the Sleep Diagnostic Laboratory at the Technion Institute of Technology in Haifa, Israel.

His investigation of a cross-section of Israeli society found that 5 percent of the population suffer excessive daytime drowsiness, and 3 percent also have problems falling asleep or staying asleep at night. One common cause he found was the so-called "SNORING DISEASE". The victims, who are usually overweight, suffer between 40 and 600 incidents of arrested breathing every night. "Each time they resume their breathing, they must reawake, sometimes once or twice a minute," Lavie said. "They don't know it, but they actually don't sleep at all." He said

the breathing problem can be eased by medication or an operation — or simply by losing weight.

Traffic Safety, March/April 1984

Floor Grating Slips Man Falls in Hole

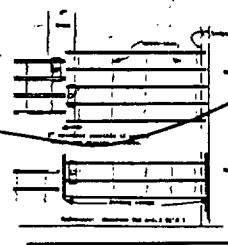
This is happening all too often on Monsanto property. The result can be a few cuts and bruises as occurred recently at Port Plastics or a fatality which occurred at one of our plants in Europe a few years ago.

At Port a shift superintendent fell into a cooling tower sump containing 6 feet of cold (January 25th) water when the grating shifted off a 1 inch ledge and preceded the employee into the cavity. As Dave Krawczyk says, "...the consequences could have been very severe if this grating were on top of a silo or an elevated structure."

Per Monsanto Std A4.3 Std 1, Welding grating in position is preferred, saddle clips are acceptable (they can work loose) but regardless —

3.3 Banding: All grating sections must be banded at bearing bar ends.

This applies to existing as well as new grating. **SURVEY YOUR PLANT!!**



PLAINTIFF'S EXHIBIT

MON-1551

GROUND RULES ARE CHANGING

In Illinois, a \$545,000 verdict was awarded to a railroad brakeman-switchman who claimed his right knee was injured on-the-job. The injured stepped onto a discarded set of push cart wheels lying among the weeds in the Burlington-Northern's Centralia yard.

Remember when — per Workmens Compensation Law an employee could not bring suit against the employer for a work-connected injury?

Exchange of useful news and comments on every phase of employee safety and loss prevention. Issued by **SAFETY AND PROPERTY PROTECTION, CORPORATE ENGINEERING DEPARTMENT, MONSANTO, ST. LOUIS, MISSOURI.**

THAT'S INCREDIBLE

A *petrochemical* plant in Texas set a duPont safety record by completing 401 days, 6,187,254 hours without an OFF-THE-JOB lost time injury.

The 1,500 employees have CONSIDERABLE EXPOSURE to off-the-job injuries, particularly on the highway and in recreational activities. Employees drive to and from work from distances of up to 50 miles and many travel weekends to Houston, Corpus Christi and San Antonio. Deer and game bird hunting is popular and a high percentage of employees participate in water sports. Some employees farm and ranch part time.

SAFETY PEOPLE ON THE MOVE

Baxley - Stewart Martin (new to Monsanto)
Campinas Research (Brazil) - Ramiro L. Don Silva
Corporate Research - David Gross
Dalton - Hank Bollwerk
Dayton Lab - Darrell E. Sevy
Kuala Lumpur - Ramli Ismail
Marshalltown - Ron L. Allen (from Trenton)
Rozelle (Australia) - A. Pete Millard
St. Peters - Lonnie Baldwin
Trenton - Cort M. Dial (from Delaware River)
West Footscray (Australia) - Mike J. Phelan
- Bill Carroll (retired)

SLIDE TRAINING PROGRAMS from Delaware River

INJURIES AND CHEMICAL BURNS TO THE EYE - A 27 minute talk explaining the anatomy and functioning of the human eye. Examples of chemical burns and injuries. The effectiveness of this talk depends upon capturing the interest of the viewer and subtly weaving in safety protection without "preaching". (35 mm slides and cassette)

FIRST AID FOR CHEMICAL BURNS TO THE EYE - A 14 minute presentation tailored to the first aid setting and short "tailgate" safety meetings. (35 mm slides and cassette)

CHEMICAL AND THERMAL BURNS TO THE SKIN - A 20 minute program explaining the basic anatomy and burn physiology of the skin along with vivid illustrations of burn problems. Again, first aid and safety protection are stressed. (35 mm slides and cassette)

FIRST AID FOR CHEMICAL EXPOSURES TO THE SKIN - A 16 minute presentation emphasizing first aid and prevention. (35 mm slides and cassette)

PREVENTION OF LOW BACK PAIN - A 26 minute discussion and illustration of the causes and prevention of low back pain. This talk is one of the most widely used presentations in Industry. (35 mm slides and cassette)

ELECTRIC SHOCK AND ELECTROCUTION - A 33 minute program on many fundamental factors in electrocution that are poorly understood by many people. Important principles of resuscitation are covered. (35 mm slides and cassette)

Cort Dial

FEEDBACK...

from Paul Walle of Fayetteville on an article appearing in the February LPC specifically regarding duPont's management philosophy that ALL INJURIES CAN BE PREVENTED prompts an additional comment: "When was the last time any of us paid attention to an accident report involving an injury which required only first aid treatment?"

Over twenty-five year ago, a book titled *INDUSTRIAL ACCIDENT PREVENTION* was published by a couple of respected Loss Prevention professionals. From a case study of some 5,000 accidents they discovered that a 300-29-1 ratio emerged. That is, for every group of 330 similar accidents occurring to the same person, 300 resulted in no injury, 29 produced minor injuries and 1 caused serious injury. Expressed another way, about 90% of all accidents produced no injuries, 9% resulted in minor injuries and about 0.3% involved serious injury.

It's difficult to ignore the fact that during 1983, there were 300% more WORKERS COMPENSATION CLAIMS throughout Monsanto than Recordable Injuries. With the spotlight so clearly on TRR performance, perhaps we are overlooking something in the shadows? If we ever hope to close on duPont's lead in Loss Prevention we'll need to focus on *all injuries* rather than just those which satisfy the definition of Recordable."

BAD NEWS

Of the 16 Major Injuries suffered by Monsanto employees year-to-date, 5 have resulted in AMPUTATIONS OF FINGERS and 2 more have resulted in FRACTURED FINGERS (40%). In ALL of 1983 we only had 3 amputations.

GOOD NEWS

Thru May 12, 1984 Monsanto has recorded 16 Major Injuries as compared to:

27 in 1983
29 in 1982

What are we going to do about the Bad News?

SAFETY CONSIDERATIONS When TESTING FIRE HOSE

Every year hundreds of fire fighters are injured, some of them seriously, while service-testing hose. Why?

The SINGLE MOST IMPORTANT POINT TO REMEMBER when performing a service test is to remove all air from the hose and appliances before raising the pressure above hydrant or fill pressure.

1. Fill the hose carefully. Use gauges which are calibrated annually.
2. Never pressurize the hose through an opening larger than 1/4 inch — a hole drilled in a gate valve. The hose can be filled through a larger opening.
3. Never test hose of any size in lengths of more than 300 feet.
4. Always secure the hose at both ends to prevent movement in case of bursting. Attach test caps or nozzles at the end away from the pressure source. Never use a blank cap on the end.
5. With the hose test cap or nozzle open, slowly raise the pressure to 50 psi. Let the water flow at least two minutes to be absolutely sure no air is left in the line.
6. Slowly close the test cap or nozzle and the hose test gate. This will apply pressure only through the 1/4 inch opening and reduce the chance of surges.
7. Mark couplings so slippage can be detected.
8. Clear all personnel from the test area.
9. Slowly raise the pressure on the hose to about 250 psi. Thirty seconds is fast enough.
10. After four minutes into a five minute test, send one man in full protective clothing to check the hose for leaks, coupling slippage or irregularities. Never step over or straddle hose lines under pressure. Fifteen feet is close enough to see any problems.
11. Reduce the pressure slowly after five minutes at test pressure. Slowly close the discharge gates and open the test cap.

Tag defective hose and record all hose test data. Prominently mark defects so they can be easily found later. Woven jacketed hose must be drained and dried prior to reloading; rubber-covered hose can be reloaded in the hose bed. An improperly executed service test could be injurious to both men and equipment.

Injuries can be prevented by following the guidelines of NFPA 1962, Care of Fire Hose.

Fire Command, February, 1984

DIFFERENT Industries SAME Hazard Controls

from the February, 9, 1984 OSHA Reporter

Grain Elevators

Enforcing good housekeeping dust control practices "is probably the single most important factor" in reducing effects of secondary explosions.

- Daily clean-up of floors, ledges, etc. plus at least once per year shut-down and wash-down.
- U.S. Department of Agriculture claims that if grain dust is not returned to the mainstream, a significant reduction in the magnitude of explosions would occur.
- For Hot Work, NIOSH recommends a permit procedure obtaining written authorization from a supervisor.

Oil Wells

- Falling objects are leading cause of death on rigs (25%). Further down the list are fatalities resulting from rig fires, mud pumps exploding, or when tanks containing oil and gas residues explode during cleaning.
- Preventative Measures include:
 - Establish and enforce work practice to eliminate accidents which frequently occur.
 - Enforce safety procedures — including protective equipment
 - Increase training and education
 - Improve supervision
 - Strengthening and modifying existing standards
 - Providing information to employees.

Tire Rim Wheels

When inflating single or multi-piece rimmed tires — injuries usually are caused by sudden release of pressure which can send an employee flying across the workplace or cause the rim wheel (or parts thereof) to hit an employee.

In addition to *restraining devices* and *barriers*—need TRAINING because

- service personnel not aware of the dangers
- high turnover of employees
- most injuries are result of not following industry-accepted procedures.

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CLARK'S FORKLIFT RESTRAINT SYSTEM



- "Powered carriers" account for 1.2% of all industrial accidents
 - In 1980 in California 8 of the 11 forklift deaths were result of the operator being thrown from the vehicle.
- Fork trucks begin to turn over very slowly. But when the load's center of gravity passes the wheel line, the truck falls more rapidly. An operator trying to scramble free is likely to be struck by the overhead guard — Ironically, the device introduced some years ago to protect workers from objects falling from above.
- Enclosures seemed the logical choice at first to provide operator restraints — BUT enclosures reduce visibility and therefore make pedestrians more vulnerable.
- After EXTENSIVE, THOROUGH, SYSTEMATIC study sponsored by Clark the final design for operator restraint;
 - the WINGED BACK SEAT combined WITH LAP BELT.
- Keeps drivers in seats (during overturn) without their heads becoming "flyswatters".
- Clark will retrofit, FREE OF CHARGE, all its existing forklifts, models C300 and C500 in the 2-10,000 pound capacity range, now in use around the country with a seat belt and winged seat attachment designed to prevent forklift drivers from being ejected and injured in the event of an overturn.

Call toll free (800) 221-7854 for more information.

RECENT S&PP PUBLICATIONS

SAFETY ALERT - Fire from Acetylene Cylinder Failure (2/17/84).

Each location needs to visually inspect its inventory of acetylene cylinders for rust and other defects, especially under the foot ring. Call Air Products or (215)481-4911 for specifics.

MEMO - Advisory on Cracking In Deaerator Vessels (Ostroff 12/14/83)

Several recent ruptures in industry and two incidences of serious cracking in Monsanto plant deaerators have been brought to our attention.

Deaerators should be internally inspected for cracks in welds and adjacent heat effected zones as soon as possible, using fluorescent magnetic particle method.

PROPERTY LOSSES - Halon - The Clean Extinguishing Agent? (February 1984)

"Upon entering the room (after Halon discharge and extinguishment of small cardboard box fire) it was apparent that the Halon entered the room at 'about hurricane force'. Anything that wasn't nailed down was pretty well scattered around the room. Soot was everywhere."

GENERAL MEMO - Safety and Health Reviews of Waste Site Clean-Up Projects (2/23/84)

A "not all inclusive" list of 14 items to be considered for hazardous waste clean-up projects.

SAFETY ALERT - Robertshaw Air Capsule — Leakers (3/23/84)

An update on the fact that within the past year some Monsanto locations have experienced an increasing number of 5 Minute Air Capsules that have not retained designed air pressure — and what the manufacturer has done and suggests.

SAFETY ALERT - Defective Smoke Alarms (4/10/84)

A voluntary recall by Electric Signal Lab, Inc. (800-225-8632) of defective home smoke alarms. Brand names and serial numbers listed.

SAFETY ALERT - Respirator Users Warning (4/6/84)

Potential cylinder rupture of 4500 psi Hoop-Wrapped aluminum cylinders manufactured by Luxfer USA Ltd, Riverside, California.

SAFETY ALERT - May 30, 1984 Moon Eclipse of the Sun (4/30/84)

It's over — but some good tips are presented as to the safe and unsafe way to view an ECLIPSE.