



Special Edition!

HUMAN ELEMENT FACTORS COST OSBIE MEMBERS \$MILLIONS

At the November, 1998 OSBIE Risk Management seminar, David Beal, Risk Management Co-ordinator, opened the plenary session with statistics linking Human Element Factors to OSBIE losses.

So, what are human element factors? Generally speaking, Human Element Factors (HEF) are any actions or inactions of a single person or group of persons which:

- ◆ increase the chance of a loss
- ◆ directly cause a loss to occur, or
- ◆ contribute to increasing the severity of a loss.

These factors can be as obvious as careless smoking or a wanton disregard for safety rules, or as subtle as the misunderstanding that turning off a sprinkler system is necessary to minimize water damage during a fire. These factors are usually related to a lack of understanding, improper training, or a poor awareness of policies and procedures. Correcting human element factors is usually accomplished by changing procedures or education programs, and rarely involves major financial expenditures.

Under OSBIE's insurance programs, there are human ele-

ment factors at work that are unique to Liability, Property and Automobile loss exposures. Since OSBIE's inception in 1987, OSBIE has incurred claims totalling more than \$82 Million under Liability resulting from 5,236 injury claims. Since 1990, incurred claims of more than \$24 Million have been paid for 1,044 building and contents losses.

Since "human element" is usually not documented as the cause of a loss under the preceding claims categories, the full effects of these factors are not known. However, upon analysing the claims, and by comparing them with the site loss inspection information we receive from both the Insurers' Advisory Organization (IAO) and the property reinsurer (Factory Mutual), we are able to see that human elements figure very prominently in school board risk profiles for each line of insurance.

Every employee is a risk manager, whether in their personal life or on the job. Everyone identifies risk, selects and implements a risk management strategy, and monitors the results of their actions on a daily basis for either personal safety or to protect personal property. By increasing the awareness of how these same steps apply to work-related sit-

uations, each employee can make a contribution to help protect themselves, students and their employer from a loss.

Knowledge is power. Based on this philosophy, we have dedicated this Special Edition of



"The Oracle" to raising your knowledge about how two of the most inherent human characteristics - carelessness and not following procedures - are causing needless injuries and property losses within YOUR school boards.

LIABILITY HUMAN ELEMENTS:

Although not complete, the following list gives some examples of human element factors that relate to Liability loss exposures:

- careless attitude
- poor judgement
- failing to follow policies and procedures
- failing to properly document activities
- failing to provide proper supervision
- poor morale

These "elements" are at work in schools across Ontario every day. Over the past 12 years, OSBIE has conducted over 2,000 site inspections through

the Insurers' Advisory Organization. From the top ten list of most frequent recommendations made to school boards, the two which have accounted for over \$16 million in claims costs since 1987 were both Human Element Factors - not following salting and sanding procedures and failing to properly maintain and inspect playgrounds. Although not reflected in the "top ten" list, another area where human elements are of growing concern is in the Technological Studies area. Since 1987, OSBIE has paid out \$1.9 million in shop class claims - usually the result of human element factors.



SLIP & FALL – *Salting/Sanding Procedures*

So, how do Human Element Factors work to cause slip and fall claims in the winter?

Any one or more of the previously mentioned factors can either set the stage for an accident to happen, cause the accident itself, or worsen the results of the occurrence.

The Three most common elements at work in these types of claims are:

(1) Failing to Follow Procedures

Maintaining your premises requires a high level of manual labor. Recent constraints on school board budgets often result in fewer staff to perform the same amount of work. This can result in staff either not being properly trained or not being aware of the board's policies and procedures. Preventing slip and fall injuries during winter conditions requires maintenance staff to regularly check the condition of walkways, stairs and parking lots and to document their actions with respect to salting/sanding or snow clearing. Fewer resources often means competing priorities, which result in time pressures that lead to "cutting corners" on well-defined procedures. By skipping a couple of checks of the walkways, other tasks can be completed, but a dangerous condition may be developing that can lead to an injury.

(2) Failing to Document

This element is usually the product of both time constraints and inconsistent poli-

cies and procedures. Many boards continue to leave it up to the individual school custodial staff to develop their own internal maintenance policies and procedures. This means that, within the same school board, there will be a range in the quality of documentation procedures from very poor to excellent from one school to the next.

If left to the discretion of individual schools, there is a higher probability that with budget and resource rationalization, the need for proper documentation will not be seen as a priority. If there is no importance placed on this activity, the limited time available will be diverted to seemingly "more important" activities.

(3) Careless attitude or poor judgement

This factor is often the product of the management culture in place at the school board. It is often said that safety and risk management come from the "top down". It is proven again and again that if the trustees and senior administrators do not adopt and practice the principles of sound safety and risk management, the rest of the employees will not do it on their own. Although poor attitudes can be the product of labor disputes, the majority are the result of low commitment from senior administrators.

If senior administration does not take risk management seriously, then the product is a group of employees who will follow the example set by management and who will not

make risk management a priority. More effort towards staff education and awareness of good risk management procedures will result in better decisions being made by well-informed employees.

TECHNOLOGICAL STUDIES

The primary Human Element Factors involved with accidents occurring in auto or wood shop environments are:

(1) Failing to follow procedures

This can be either students or teachers who ignore safety procedures. Failing to wear safety equipment, horseplay, not following safety rules and using machines with defective or missing guards are the common causes of student injuries.

Students moving or starting vehicles is the most frequent source of accidents in auto shops.

Failing to provide proper supervision, failing to inspect equipment regularly, failing to lock-out defective equipment, and failing to follow safety procedures increases the risk of injury.

(2) Careless attitude

This element can be present in either students or teachers, and can appear as poor house-keeping practices, a propensity for high-risk activities, and wanton disregard for rules and regulations.

Technology labs contain dangerous equipment, hazardous materials or involve the movement of motor vehicles. This is usually where careless attitudes toward safety procedures intersect with injuries.



The aftermath of a student's failure to follow instructions. After the forward motion of the vehicle pinned a student between a work table and the wall and impaled his leg with a metal piece of the table, 3 more students were injured when the vehicle was reversed and wedged against the hoist.

PLAYGROUND MAINTENANCE

Many of the same concepts outlined under the preceding section on Slip and Fall also prevail in Playground Maintenance.

The Canadian Standards Association released CSA-Z614-98 standard on playground equipment in March, 1998. Although formalized as a standard in March, 1998, the same principles have been in place as formal guidelines since 1990. The specifications defined by the standard contains MINIMUM requirements for equipment design, ground cover depth, inspection and maintenance and must be followed.

(1) Failing to Follow Procedures

School boards are expected to take all possible steps to protect students from being injured. Playgrounds are the source of over 50% of the incident reports received by OSBIE every year. Many of these injuries are the result of falls onto poorly maintained ground surface.

(2) Failing to Document

A requirement under the playground standards is to retain documentation on all inspection and maintenance activities for playground equipment. Once again, as budgets and resources are cut back, documentation will be seen as a low priority. Documentation is necessary to ensure that equipment is being properly inspected and maintained.

PROPERTY HUMAN ELEMENTS:

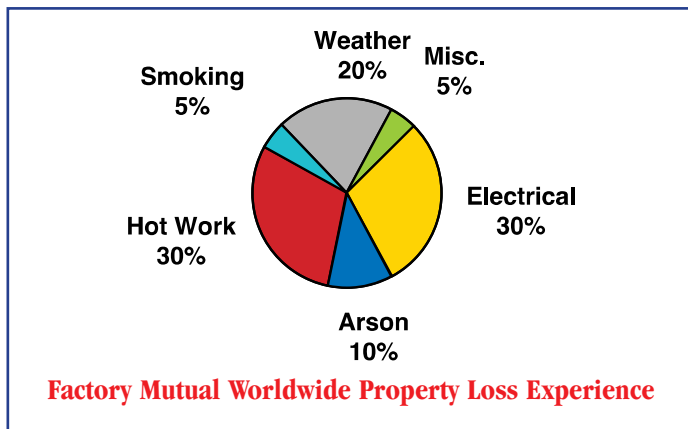
It is quite clear that Human Elements are present in causing situations which lead to bodily injury. But do they contribute to loss or damage to your board's equipment, materials or buildings?

In a word, "Yes". In fact, many of the same elements identified as increasing the liability risks are also linked closely to the most common causes of property losses.

According to OSBIE's property re-insurer, Factory Mutual Insurance, approximately 70% of their



Fire damage to a school in November, 1998. Careless smoking is suspected.



world-wide property losses involved or were the result of Human Element Factors. The chart shows the break down of these losses according to the cause of the actual loss:

(1) WEATHER -

The first question is probably "How is a weather-related loss the result of a Human Element Factor?" The answer is that it is often the lack of planning which determines if a weather phenomenon is a temporary inconvenience or a major disaster.

The Human Element factors associated with weather-related losses are mostly related to failing to develop an effective Emergency Response Plan, and of course, failing to follow that

procedure properly. The latter is usually the result of poor communication and/or lack of training, which, of course, is a Human Element as well.

(2) SMOKING -

Careless smoking accounts for about 5% of property losses. Since most school boards have "No Smoking" policies in effect, it would be easy to draw the conclusion that this should not be a problem in schools. However, as the photograph indicates, as recently as November, 1998, careless smoking continues to cause serious property losses to school property.

The problem with "No Smoking" policies is usually in the enforce-

ment of it. If senior administration does not commit to enforcing the policy, the risk of loss from this source continues to be present.

(3) HOT WORK -

Almost 1/3 of the property losses related to Human Element Factors were the result of welding, cutting, open torch heating, grinding and soldering processes. According to Factory Mutual statistics, the average cutting and welding loss is \$1.4 million, and 50% of hot work losses were caused by outside contractors. The lack of a proven safety system for hot work, or failing to follow those procedures are the two Human Elements which contribute to this significant cause of loss.

All buildings require maintenance that will include hot work at some time or another. A Hot Work Permit System which is being strictly followed is critical in reducing the potential for losses from hot work.

(4) INCENDIARY (ARSON)-

Arson accounted for about 10% of the Human Element losses,

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(4) Arson
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based on Factory Mutual statistics. The factors at work here are:

- Inadequate premises security procedures;
- lack of a Controlled Access System which requires all visitors to sign in and out and to wear authorized visitor badges while on site.

(5) ELECTRICAL -

The Human Element factors behind electrical losses are often related to poor workmanship and lack of preventive maintenance. With restrictions on school budgets and generally fewer resources, most minor electrical work is being delegated to unqualified staff, and there is little opportunity for preventive maintenance.

According to the Ontario Electrical Code, all electrical work requires a permit and must be conducted by a qualified electrician, and inspection of the work must be done by a certified inspector prior to energizing the system. Organizations, such as school boards, can subscribe to the Ontario Hydro Continuous Safety Services (CSS) program, which permits all maintenance work to be conducted by a qualified employee and properly logged at each location. Ontario Hydro will conduct annual inspections of the maintenance work in accordance with the Ontario Electrical Code.

Subscribing to the CSS program provides an effective and economical means of conducting electrical maintenance programs in compliance with the Ontario Electrical Code and can reduce exposure to both injuries and property losses.

HUMAN ELEMENT RISK MANAGEMENT TIPS

The following Risk Management tips can assist with reducing loss exposure from Human Element Factors that have been discussed:

Develop and follow a school board Emergency Response Plan which includes the following elements:

- The Plan identifies an Emergency Co-ordinator;
- The emergency team meets at least semi-annually;
- The Plan identifies who is to call the Fire Department, and who will be stationed at the sprinkler shut-off valve (if applicable);
- The Plan identifies who is to call an ambulance or arrange transportation to a medical facility;
- The Plan includes procedures for fire, medical and weather related emergencies.

Implement the Factory Mutual Hot Work Permit System, or equivalent.

Conduct and document monthly inspections of all fire doors and fire extinguishers.

Maintain good housekeeping practices.

Do not store combustible materials in mechanical or electrical rooms.

Implement and enforce a strict "No Smoking" policy on all school board premises.

Subscribe to the Ontario Hydro Continuous Safety Services program for electrical maintenance.

For any buildings with sprinkler systems:

- ensure shut-off valves are locked in the "open" position;
- conduct and document weekly visual inspections of the valves;
- conduct and document quarterly tests of sprinkler flow alarms;
- use the Factory Mutual Red Tag Kit system for circumstances where sprinkler valves must be turned off;
- submit plans for new construction, occupancy or fire protection changes to Factory Mutual Engineering for review prior to beginning construction.

Develop, implement and enforce a school board policy that requires compliance with the CSA-Z614-98 playground equipment standard including the following:

- all new equipment and installations must meet the standards;
- protective surfacing must meet or exceed the standard;
- establish a plan to systematically upgrade/replace non-complying equipment to meet the standard;

- conduct and document a maintenance program in accordance with manufacturer's recommendations and the CSA standard;

- conduct and document weekly, monthly and annual inspection programs as required by the standard.

Develop, implement and enforce a board-wide policy on sand/snow/ice removal that includes the removal of snow and ice build-up on roof areas and frequent inspections of walk-ways and driveways. Accurate log books detailing completion of these procedures are essential.

Develop, implement and enforce a board-wide policy on safety procedures for Design Technology Programs which include:

- procedures for conducting and documenting equipment inspections, defective equipment lock-out, and mandatory use of safety equipment;
- retain signed safety procedure certificates for each student.

Develop, implement and enforce a Controlled Access System for visitors to all school board buildings.

ONE FINAL WORD.....

No matter what the task, in order for any employee to do the best job possible, they need the proper tools and a good support network in place to back them up and to reinforce the goals of the organization.

Remember that every employee in your organization is a risk manager in some way. Help them to do the best job that they can - give them the tools and support they need!

**BE A RISK
MANAGER!!!**