

Discussion Paper: The Lost time Injury Frequency Rate

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Quotable Quote

"A health & safety problem can be described by statistics but cannot be understood by statistics. It can only be understood by knowing and feeling the pain, anguish, and depression and shattered hopes of the victim and of wives, husbands, parents children, grandparents and friends, and the hope, struggle and triumph of recovery and rehabilitation in a world often unsympathetic, ignorant, unfriendly and unsupportive, only those with close experience of severe permanent disability have this understanding"

Personal damage not accidents

You will notice throughout this discussion paper I refer to personal damage and do not refer to accidents. The term accident perpetuates the belief that the damaging event could not be predicted and was largely the result of personal failure by the damaged individual. While such beliefs are emotionally appealing they are unhelpful and they cloud objective analysis of the damaging event.

Author's basis for this discussion papers claims

The comments below are based upon the following-

A Some years in junior & senior safety roles with companies that were doing a poor to good job of managing safety

B Tertiary study in OHS, Adult & Workplace Education, Management of Organisational Change and wide reading in the area of safety management

C Experience investigating fatalities and other instances of serious personal damage

D Through a process of critical reflection developing a well-founded perception that many of the traditional approaches to safety management are less than effective.

E Having the safety theory knocked out of me by working with very tough, production orientated managers in an industrially volatile industry.

F Coaching, training and mentoring in my safety career by Brisbane-based safety consultant Geoff McDonald

G Involvement in the implementation of the findings of an international OHS Benchmarking study.

H Assisting in developing, analysing and using industry taxonomies to develop prevention strategies.

I Being trained in, training others in and using the Accident Reference Tree-Trunk model of incident investigation to investigate serious personal damage.

Central theme of this discussion paper

My personal experience in safety roles in Australian industry tells me it is difficult to make meaningful progress in safety when one has a focus principally on Lost Time Injuries.

This statement may upset those with a traditional approach to safety, given the enormous cost of occupational personal damage in Australia it would be difficult for the traditionalists to point to a solid record of success with their approach .The traditional approach to safety management in Australia often has a poor record of basing actions on solid **facts**.

During my late teenage years in the Australian Regular Army they taught me not to wander onto a minefield without knowing where the mines were located. Some safety personnel and line managers frequently enter the safety minefield unaware of where the mines really are.

I am reminded of the annual report for one company that proudly proclaimed a significant decrease in L.T.I.F.R. while at the same time neglecting to mention the fact that there had been 4 fatalities in the company during the year!

The Lost Time Injury Frequency Rate impedes progress in safety

The Lost Time Injury Frequency Rate is the principal measure of safety performance in many companies in Australia. The definition of L.T.I.F.R. is the number of Lost Time Injuries multiplied by 1 million divided by the number of manhours worked in the reporting period

A Lost Time Injury is a work injury or disease where the injured party has at least 1 complete day or shift off work. Note that a fatality and a cut where a person has 1 complete day off work count the same in Lost Time Injury terms.

The following are my reasons why the L.T.I.F.R. impedes progress in safety.

1 The L.T.I.F.R. is subject to manipulation

Some safety people cheat like hell with their L.T.I.F.R. statistics encouraged by managers with an eye to keep their key performance indicators looking good. The more the pressure to keep K.P.I.'s looking good the more creative the accounting. If the same ingenuity was displayed in preventing incidents as is displayed in cooking the books we would be in great shape. All this makes inter-company comparisons of L.T.I.F.R. statistics less in value.

I am reminded of one mine I used to deal with who drove L.T.I.F.R. down so they won the inter-mine (out of 7 mines) safety award yet had significantly higher workers compensation costs per employee and a number of compensation days off cases that never made it onto the L.T.I.F.R. statistics (the vagueness of the Australian Standard for Recording and Measuring Work Injury Experience was exploited, very easy to do, particularly for back injuries).

Then there was the mine that won a prestigious Queensland government mining industry safety award and a taxi full of "walking wounded" turned up just as the award for no lost time injuries for the year was being presented. The award was subsequently withdrawn.

2 Ponderous deliberations

Safety people spend inordinate periods of time obtaining rulings on what to count and how to count it from bodies such as the Australian Standards Association. Often answers obtained are imprecise and the decisions are left to personal opinion. One is reminded of a sporting analogy where it is more important to play the game than keep the score.

3 Measuring failure

Most measures in management are of achievements rather than failures such as the number of Lost Time Accidents. There is a ground swell in the safety movement talking about Positive Performance Measures in safety (refer to the National Occupational Health & Safety Commission and the Minerals Council of Australia web-sites for a discussion on this topic) It is relatively simple to develop measures of what you are doing right in safety as opposed to using outcome measures such as L.T.I.F.R. Positive performance measures can be used to gauge the success of your safety actions.

4 Great L.T.I.F.R., pity about the fatalities

I have personal experience with a company that aggressively drove down L.T.I.F.R. to a fraction of its original rate in a space of about 2 years yet killed 11 people in one incident.

5 What does it mean

The Lost Time Injury Frequency Rate predominates discussions about safety performance. How can a company be proud of a decrease of L.T.I.F.R. from 60 to 10 if there have been 2 fatalities and 1 case of paraplegia amongst the lost time injuries? The L.T.I.F.R. trivialises serious personal damage and is a totally inappropriate measure of safety performance.

6 Accident Ratio Studies Mis-direct Efforts

My grandmother used to say “Look after the pence and the pounds will look after themselves” In the world of traditional safety there seems to be similar thinking that if you prevent minor damage you will automatically prevent major damage. Accident ratio studies (insisting on set ratios between near misses, minor accidents and serious accidents) are prominent and accepted unthinkingly. The much-quoted “Iceberg Theory” in relation to safety does not stand up to scrutiny in the real world! The “Iceberg Theory” is fine if used for statistical description but it cannot be relied upon for statistical inference.

The result of the “Iceberg Theory” focus is a furious effort to eliminate lost time injuries in the belief that all major incidents will be eliminated in the process. Certainly there are minor incidents that have the potential to result in more extensive damage(and we should learn from them) ,but personal experience tells me the majority of minor damage incidents do not have this potential. It is a matter of looking at the energy that was available to be exchanged in the incident. The common cold cannot develop into cancer, similarly many minor injuries will never develop into serious personal damage.

The concept that preventing the minor incidents will automatically prevent the major ones seems to me to be fundamentally flawed.

All organisations have limited resources to devote to safety, it seems more efficient to prevent one incident resulting in paraplegia than to prevent 20 incidents where people have a couple of days off work (some will say this comment is **heresy**)

Somewhere in the push to reduce L.T.I.'s, reduce the L.T.I.F.R. and consequently achieve good ratings in safety programme audits the focus on serious personal damage tends to be lost.

Reducing the L.T.I.F.R. is as much about introducing rehabilitation programmes and making the place an enjoyable place to work as it is about reduction of personal damage

Recommendations

In my view a concentration on the Lost Time Injury Frequency Rate has hijacked the Australian safety profession for far too long. The following are my recommendations for action.

Use positive performance measures

Incorporating positive performance measures into regular audits is a fertile area for measuring your success in safety. Many approaches to safety auditing are available. One can use one of the commercially available audit approaches (N.S.C.A.5 Star, N.O.S.A.5 Star, D.N.V., Safety Map, I.S.R.S. etc.) An alternate approach is to decide on internal standards of OHS excellence specific to the enterprise, develop auditing guidelines based on the standards, train your own personnel to participate in audit teams led by a senior manager and carryout the audits yourself with the assistance of an experienced outside OHS auditor. I would argue the latter approach builds more involvement and learning into the auditing process and if properly structured is more targeted to the real needs of the organisation (plus it lessens the auditing fees) Having a comprehensive range of safety positive performance indicators built into the performance appraisal process tends to get people's

attention focused on safety

Classifying Personal Damage

A method of classifying personal damage that seems appropriate is the following-

CLASS 1-Damage that permanently alters a persons life e.g. death, paraplegia, amputation of a leg, severe psychological damage.

CLASS 2- Damage that temporarily alters a persons life e.g. fractured leg that repairs with no lasting impediment ,deep laceration that has no underlying tissue damage and repairs without significant scarring

CLASS 3 Inconveniences a person's life

Focus on Class 1 Damage

The report of the Industry Commission 1995 indicates that safety in Australia is fundamentally a class 1 problem (87% of occurrences were class 2 with 18% of cost, **13% of occurrences were class 1 with 82% of cost**)

This report further strengthens the argument that instead of concentrating on reducing L.T.I.F.R. we should be focusing on Class 1 damage reduction. There is no shortage of computerised accident data systems in Australian industry that focus on Lost Time Injuries and completely ignore obtaining the more important industry experience of Class 1 damage. The ideal would be to have an Australia-wide system of collecting class 1 damage information

Class 1 incidents have more energy available to be exchanged than the usual Lost Time Injury and thus require a different preventative approach.

Methods of class 1 damage reduction can be found in the paper "Change For The Future-Not Blame For The Past" by G.L.McDonald.

The message about class 1 damage reduction has yet to sink in to many people's minds, many in the mining industry are attuned to this approach.

A new paradigm required

Stepping out of the Lost Time Accident paradigm and into the Class 1 Damage paradigm requires re-focusing our efforts.

Class 1 prediction requires

A Improved damaging occurrence investigation than is the norm in industry (some training in using a specific incident investigation model is required for incident investigation teams)

B External (industry preferably) class 1 taxonomy (a taxonomy can be loosely described as a collection of like) The Australian mining industry has made moves towards having a standardised industry accident investigation and recording system, there is a real need for other industries to adopt this approach.

C Internal taxonomy (class 2 & class 3 damage) Most organisations, thankfully, do not have a rich data base of class 1 damage that can be used for prediction.

D Workforce information (eg. critical incident recall-Refer to the paper "Practical Implementation of the Critical Incident Recall Technique" by this author)

E Scientific knowledge applied to safety issues eg. required co-efficients of traction to prevent slips & falls

Using the above approach is not easy but it means your safety programme is based on solid **facts** not the latest safety fad drummed up by those with vested interests.

Further discussion on the L.T.I.F.R. can be found in the paper "Focus-Don't Fiddle (The Obscurity of the L.T.I.F.R) Geoff McDonald, Coal Industry Safety Conference 1995, Qld. Mining Council.

The more I think about it the more I am inclined to the view of Geoff McDonald that there is no better basis for your personal damage reduction efforts than well researched data on class 1 damage.

Conclusion

As a nation we do not investigate incidents well, we do not collect the information well, we do not analyse it well

and we do not learn from it well (**facts** again). My belief is that the focus on Lost Time Injuries and L.T.I.F.R. has impeded progress long enough, we need to shift our focus to class 1 damage and the use of positive performance indicators.

By now you will realise I take a different view on OHS to many people practicing in the field. Please refer to my paper "What Makes a Safety Programme Fly-Mark 2" for a reasonably conventional approach to managing safety problems.

I will be disappointed if I do not promote some debate with the above. I welcome debate from people who have **facts** to back up their argument

Have a safe day

References

Industry Commission (1995), *Work, Health & Safety-Inquiry into Occupational Health and Safety*, Report No. 47, Australian Government Publishing Service, Canberra

McDonald G. (2001) *Work Damage to People* as yet unpublished manuscript, Geoff McDonald & Associates, Brisbane