

Personal Damage Occurrence Investigation

Analysis Reference Tree-Trunk Method of Personal Damage Occurrence Investigation (Developed by Geoff McDonald)

I have used this technique for ages and believe it produces very high quality investigations. I have been trained in a few other investigation methods and have read widely on the topic, I still keep coming back to A.R.T.T. For a number of years I used to teach a 2 day course on this method and some excellent investigations resulted. The course also allowed people to challenge the more common beliefs about safety.

Essentially the personal damage occurrence is represented by a tree-trunk lying on the ground, at the end of the tree-trunk you have Person elements, Machine elements and Environment elements, along the length of the tree-trunk you have 6 time zones and the annular or growths rings of the tree represent a number of Ergonomic elements. The idea is to look for essential factors where the various categories of the model above intersect.

The model is very easy to use and usually at least 30 essential factors will be found in each personal damage occurrence. This widens your options for control over some other methods of personal damage occurrence investigation.

The term accident is an emotionally laden term that automatically infers blame. Accident investigation sees people inevitably focusing of the person in the event and this means they miss vital machine and environment factors .Instead of the term accident use personal damage occurrence.

There are many reasons why we investigate personal damage occurrences but there is only one objective-The control of damage

Reasons why we investigate personal damage occurrences include-

Statutory requirements

Corporate policy

Aid to common law actions

Aid to industry based safety initiatives

To maintain employee relations

Change for the future NOT blame for the past

Cause is an emotionally laden term that automatically infers blame, cause has no place in modern investigations. When approaching investigations we must look for “essential factors” rather than causes. An essential factor is one without which the final damage could not occur. Because of their definition it can be seen that all essential factors are equal. Every personal damage occurrence has 3 types of essential factors-

Behavioural-PERSON

Design-MACHINE

Environment-ENVIRONMENT

If you are having trouble identifying essential factors there are 4 basic questions you should ask yourself-

- 1 What was done that was essential to the final damage?
- 2 What was not done that was essential to the final damage?
- 3 What factors were present?
- 4 What factors were absent

When seeking essential factors rather than causes one does not focus mainly on the Person and one will usually find a number of Machine and Environment factors. You will always find more essential factors than causes. The benefits of this increase include-

Wider options for control

Increased flexibility

Permits better development of short and long term action

Permits an examination of cost effectiveness

Time Zones

Any personal damage occurrence can be broken into a time sequence. Generally it is not important to be able to measure the time elapsed in any time zone, but rather to recognise time zones exist and use that information for better understanding.

The time zones are-

Development of pre-disposing conditions

In this time zone we focus attention on why factors involved in the personal damage occurrence existed, how they developed and why they were not altered beforehand.

Situation commences

Attention here is focused on how and when this sequence departed from that sequence of events which is known to have a desirable outcome.

Control can be regained

Within this time zone it is possible for the total damaging energy exchange to be avoided or minimised by appropriate action eg. Control a small fire, regain control of a vehicle in a skid.

Completely out of control

The event has gone beyond the point of no return. No matter what is done the damaging energy exchange will take place.

Damage being done

This time zone commenced with the onset of damage and continues until all the energy has been expended. ie the damage has been done.

Recovery

This time zone begins after the damage has been done and continues until the damage has been repaired. Emergency services have a part to play in minimising further damage.

Like many things in business, personal damage occurrence investigation is often better done in teams. The team members must be trained.

The personal damage occurrence investigation process

Provide first-aid and medical care to injured persons and make the site safe

Ensure Emergency Response Plans are activated

Conduct a risk assessment to determine level of notification, investigation and reporting

Report the event as required by local regulations and site procedures. Many organisations have a matrix outlining what types of incidents are reported to various company officers. Workplace Health & Safety Qld and the Police may have to be notified

Secure the site until the organisation's and D.W.H.S. investigation is complete.

Notify next of kin

Investigate and report essential factors.

Sources of information include original design, design specification, drawings, operating logs, purchasing records, previous reports, maintenance logs, procedures, verbal instructions, inspection and test records, alteration or change of design records, job safety analysis, records of previous training and job performance of the employees and supervisors involved. Never make assumptions, it is appropriate to develop a hypothesis and test it against available evidence.

Have relevant persons sign a written statement

Use open questions.

Take heaps of photos from many angles

It may be appropriate to develop a sketch or diagram

Take samples, tag & preserve them

Do not move evidence

Identify the people involved and isolate and separate them. Interviews at both the scene and a quiet place will probably be required. It is essential to put those being interviewed at ease

It may be necessary to recreate the incident with due regard to safety

Report the findings

Develop a plan for short- and long-term corrective action using Haddons 10 countermeasures

Disseminate key learnings to stakeholders

Implement the corrective action plan

Obtain sign-off by management

Evaluate the effectiveness of the corrective action

Make changes for continuous improvement

Notify other sections of the organisation and your industry about the circumstances of the incident.

PERSONAL DAMAGE OCCURRENCE INVESTIGATION KIT (To be left in vehicle)

Digital camera with spare batteries

Micro cassette recorder with spare batteries & tapes

Tape measure (up to 50 metres)

Specimen containers

Number of sealable plastic bags

Clipboard & writing paper

Copies of accident report forms

Disposable gloves

High visibility barrier tape

4 cans Florescent spray pack paint(various colours)

Dolphin torch & spare battery

Stanley knife

Marking pens

Biros

Statutory declaration forms

2xPortable flashing yellow lights

6xWitches hats

P.P.E. and high visibility, reflective vest

First-aid kit

Water

Identification tags

Compass

Lock-out padlock may be needed

Magnifying glass

Paper towelling

Danger & Out of Service tags

*Work sheets need to be expanded to fit onto a A4 page

	1 Development of pre-disposing conditions	2 Situation commences	3 Control can be regained
Person			
Machine			
Environment			

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	4 Out of control	5 Damage being done	6 Recovery
Person			
Machine			
Environment			