

**Investigating Accidents in an Industrial Setting: Traps, Pitfalls and Other Un-Natural
Determinants in Accident Causation Outcomes
(Applied Snakes and Ladders to Accident Investigation)**

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1. Introduction

It has been said that; 'in the land of the blind, the man with one eye is King'. Upon some reflection (making allowance for the gender bias), it can also be stated that; 'in the land of the industrial accident investigation, he who knows all of the facts is ... probably in denial'. Whereas it is conceivable, to have in ones possession information which presumably resembles the facts, at the end of the day there will always be some doubt in the form of unanswered questions and those niggling little loose ends. Into the mix, introduce the part time investigator (PTI), one who is rarely given the resources or time to complete the investigation and who must simultaneously maintain his 'day job'. Moreover, these same investigators must preserve the scene, control the job site, interview the witnesses and enter evidence into the official record; all the while compiling that most elusive of holy grails ... the conclusive and definitive report.

This paper will explore the world of the industrial accident investigation, as experienced by the two authors, who collectively have the unenviable distinction of a 360-degree view of the matter. We would like to explore if not explode some common myths prevalent in industrial accident investigation.

2. The myth of Spontaneous Enlightenment

...investigators are born, not created...

One can not overstate the importance of going into an investigation with team members, who can separate themselves from their day to day roles, suspend disbelief for a while and behave as 'investigators'. In our view, too much weight is put on the process of inquiry and not enough on the accountability of the investigators for the integrity of that same process. Collecting of evidence, taking statements and analysis of data are not as mechanistic or impersonal as the detective novels would have us believe. Upon completion of the industrial accident investigation, the investigating team will have to live, work and socialize with the same people that are the subjects of their inquiry.

Too often, the investigators are thrown into the inquiry without benefit of training, guidance or preparation. The investigation team should be provided with a mandate that is communicated to the

work place by a recognized authority (preferably a CEO) which will explicitly clear the way for a dedicated and focused investigation.

3. The myth of Sanctity of Experience

... He would be a good guy to have on the team ... he has worked here for 22 years...

When putting together an investigative team, it is tempting to choose candidates with seniority and a wealth of experience in the type of work under scrutiny. However, there is a tendency that this same experience will compromise the process of inquiry. In many instances, an investigator knowing little or nothing about the facility or process under scrutiny, is more effective by virtue of the fact they will take nothing for granted and are likely to be exhaustive in terms of their understanding of the events leading up to the accident.

4. The myth of Mutually Opposing Interests

...there is no way we are going to work with them - they could have prevented this accident...

Permit us to be blunt, an accident causing the loss of life is no time to practice politics. The investigation provides for a relatively small interval of time for the clear headed, the objective and the non-partisan to gather evidence and to observe what transpired in the accident. In our view, this is the time for the work place parties to rally under the common interests of determining causation, putting in place remedial measures and ultimately, the prevention of injury. The only opportunity, within the context of industrial accident investigation, which may create the *perception* of opposing interests, is if the investigative report includes a section detailing contraventions of legislation and recommendations for prosecution.

5. The myth of Operational Urgency

... accident investigation is a sprinting event...

One of the most common impediments to the process of investigation is the pressure and expectation put upon the investigators to 'get on with' the investigation and conclude the process of inquiry within prescribed and often arbitrary time frames. The investigation is rushed, the quality of analysis suffers and the commitment to following up on recommendations wanes even faster than would normally be the case. The authors cannot offer a solution to this controversial dilemma; only some tips which may ease the intrepidation on both sides of the issue. First, on the part of the sponsors, bear in mind that any operational inconvenience or losses are a direct result of the conditions of the work place prevailing at the time of the accident. More pointedly, the event causing the accident is the sole source for your current anxieties, not the investigation nor its participants. In other words, the opportunity for prevention of overtime claims, process upsets and unbudgeted expenditures existed prior to the accident, not subsequent to it. Having said that, it is reasonable to ask for progress reports and approximate date and times for things like: release of the accident scene, completion of testing of equipment, first and final drafts of the investigation report. Do so with good humor and respect for the process and it will be forthcoming; the investigators want to get back to normalcy as much as you do.

Next, on the part of the investigators, bear in mind that one of the great anxieties of the sponsors is uncertainty and the feeling of lack of control in the process. Whereas little relief can be afforded in the latter matter, considerable accommodation can be made in the former by use of frequent briefings and progress updates. These 'briefings' can be as formal or as informal as the investigators are comfortable with, but the key is that they are conducted without compromising the integrity of the inquiry. That is, provide information as to where you are within the investigation, what lines of inquiry you are pursuing and any resource requirements you may have. Avoid any statement of conclusion, releasing information taken under confidence or making promises you can't keep. Above all, make it a team effort and prepare your presentation so as to project competence, professionalism and again - good humor.

6. The myth of Obvious Outcomes

...let us complete this \$%!!*& report and we will be finished...

While an accident investigation can serve a lot of purposes, the factual determination of causation and the prevention of reoccurrence are the most critical. Yet it is amazing how often they are unfulfilled at the end of the day. It is easy to become seduced by the processes of; evidence gathering, causal analysis, interviewing and report writing and become overly identified with the documents that physically represent these processes. All the more reason therefore, to have an investigating team that consists of a cross section of workplace parties and can therefore add credibility and weight to the declaration of cause. All the more reason therefore, to clearly and without prejudice, weigh the evidence and establish a direct cause and effect relationship between that evidence and your causation model.

7. The myth of Singular Causation

...this is a clear case of insufficient training...

Save, but for the hand of god, there can never be a single cause to an industrial accident. In all respects, accidents are a product of the people, materials and environment in which they occur and rare is the instance in which there was no opportunity for prevention - or intervention for that matter. Yet, it is not uncommon for the PTI to overstate the case, to understate the obvious and to reach for conclusions that support ones own prejudice. Regardless, we all tend to do it and it is therefore, incumbent upon the investigation team to suppress this tendency with all vigor; partly by multiple eyes but as well as by an exhaustive process of inquiry, supported by tools that help the investigator to avoid succumbing to premature conclusions or over simplification of their causation model.

8. The myth of Evidentiary Relevance

...don't worry about collecting that evidence ... its not relevant...

The amount of evidence associated with even a simple event is often overwhelming and what constitutes evidence less than obvious. The PTI is challenged not with the collection of evidence but rather in the determination of which evidence is perishable, which evidence is transportable and which evidence is 'insitu'. The worst oversight in regards to evidence is the breaking of the chain

of custody of evidence. Most often, chain of custody is questioned when evidence is not logged correctly or not secured from tampering, intentional or not.

If chain of custody is the worst oversight then lack of context would be the most common. Lack of context for physical evidence can be thought of as any time evidence is connected with an event or accident but the investigators fail to establish the relationship or in fact, establish an incorrect relationship with the accident. This occurs most often in the form of witness statements and documents.

9. The myth of the Fault Free Investigation

...don't worry about anything you tell us, this is not a fault finding exercise...

Many investigations are conducted on the premise or assumption that, it is a fact finding exercise and that no fault will be connected with any persons concerning the accident or inquiry in question. Whereas the former is most certainly true, the latter cannot and is not under the power, control or mandate of the investigation. Some things to bear in mind while writing the investigative report that will soften its impact on persons in connection with the accident are:

- i) do not impugn motivation or draw conclusions in connection with actions taken by individuals.
- ii) introduce all individuals formally by their given and surnames and thereafter refer to them by their surnames in capital letters.
- iii) do not include the statement verbatim within the investigative report. Summarize the relevant findings and enclose the statements within a sealed envelope or store in a secured file outside the report.
- iv) avoid using the name of individuals more than once for the record.
- v) refer to incorrect actions of individuals as errors of commission or errors of omission rather than mistakes, failures or neglect.

10. The myth of Investigative Infallibility

...at all cost don't admit that you don't know...

Many investigations contribute to a culture of investigative infallibility by being exclusionary in terms of the team compliment or less than forthcoming regarding investigative process, disclosure of progress or distribution of the final report. Most of all however, investigative infallibility is to be suspected when there is obvious 'filling in the blanks' within the investigative report with information which does not make reference to physical evidence, witness statements, expert opinion or analysis somewhere else in the report. Some rules of thumb that can be applied to the process of investigation and will help reduce the introduction of error into an already bad situation are:

- i) The majority of witness statements contain information which can not be relied upon to be true.
- ii) The most likely accident scenario is generally the more simple one.
- iii) Leave it to the discretion of the reader of the report any speculation concerning the actions of others (i.e. 'it is left to the discretion of the reader as to why ...).

- iv) If there is any doubt as to which of any number of scenarios might be true, state for the record that fact and only then venture which one is the more likely on the basis of balance of probabilities.
- v) Never present any information as fact unless it can be substantiated by at least two, preferably three sources.
- vi) If the evidentiary record or process of analysis does not support a causal mechanism, there is no shame in stating for the record that the evidence is inconclusive.
- vii) Have an unbiased, objective but informed third party review and comment on the investigative report for flow, logic and clarity.

11. The myth of Misdirected Deference

...it must be a cause because it was in one of the MOL orders...

Very often, there will be more than one investigation ongoing respecting any given event or accident. Equally frequent, there will be experts and authorities present that provide information or direction concerning the inquiry as a matter of legislative requirement or contract service. Whereas, their advice and insight is valuable within the context of their line of expertise; considerably more credit is often extended to them in attempts to be courteous and respectful ... credit that all too often enters into the evidentiary record inappropriately. In the case of technical experts, they will many times offer a determination of cause of an accident when all is wanted is a mechanism of failure. The police, Ministry Of Labor officials, on the other hand are compelled to discharge their fiduciary responsibilities by leaving directions or orders concerning contraventions observed in connection with the accident which may or may not have anything to do with causation. Such orders or requests for information does require compliance but may not have any relevance in terms of evidence.

13. The myth of 'I'

...it must be true, I wrote it...

We leave the best to last. The myth of 'I' transcends the entire investigation process. All too often investigators fall into the trap of becoming overly affiliated with their subject matter, which can manifest itself in a number of ways; the investigator that is unwilling to consider all of the evidentiary record; or the investigator that somehow internalizes the accident to the extent that he is partly the reason for the accident. In either case the investigator is too close to the subject of inquiry and in either case the process of investigation will be compromised. It is paramount that in the industrial accident investigation, the integrity of the process be jealously guarded and that we leave no footprints in our journey in search of truth.

We will leave with the readers the opening image of the harried part time investigator, an image that could easily be a video bite in an Excedrin commercial. We do so in the hopes that we might promote the rallying of resources for the industrial accident investigator, on the part of would be sponsors as well as industrial safety associations.