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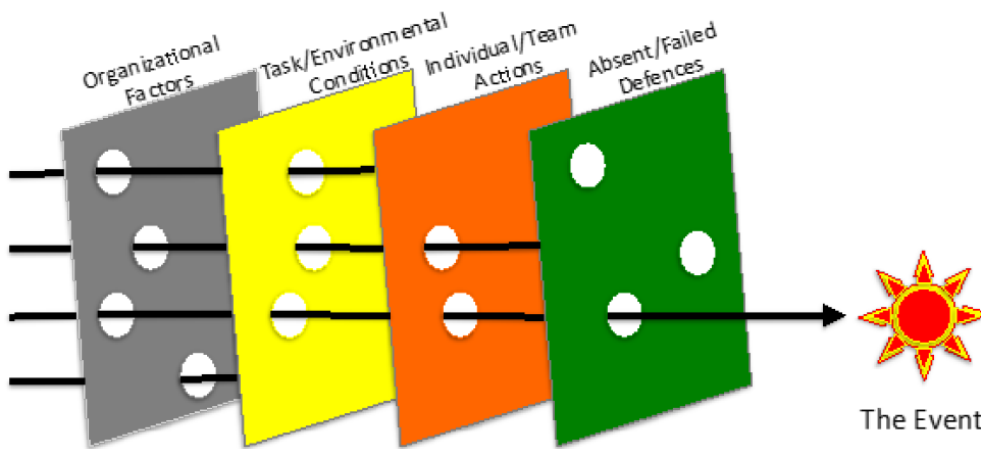
1. OBJECTIVE

To provide guidance as to the approach taken at RMIT to investigate incidents to uncover root causes and take action to prevent recurrence.

2. PROCEDURE

2.1. The ICAM model

RMIT utilises the Incident Cause Analysis Method (ICAM) model to investigate incidents classified as either Level 3 or 2. The ICAM model is based on the Swiss Cheese model of incident causation.



2.1.1. Organisational Factors

After identifying all of the Task/Environmental Conditions we need to contemplate where they came from. Who created those Task/Environmental Conditions that encouraged people to make 'poor' decisions and 'erroneous actions'? Where did they come from? The answer of course is "The Organisation". The Organisation could be a department, a school, or the RMIT itself.

The Organisation created the rules that tell us how to write the (complex) procedures. It tells us how we purchase things and how we supply tools and equipment et cetera. It also tells us how to do risk assessments and assess the impact of changes in the workplace. It is these systems that are not working quite as well as we expected them to if they have produced Task/Environmental Conditions that have encouraged people to take Actions (that we later call errors or violations) in the absence of good defences that could have resulted in a severe injury.

In order to identify these Organisational Factors, we look at each Task/Environmental Conditions and ask ourselves:

- Where did we go wrong as an organisation?
- Where did our systems fail?
- How did we manage to set up a work environment or task that encouraged or promoted errors or violations?

It is often at this point that we really need to ensure we have the right people in the ICAM team. Organisational Factors are often strategic, high level, issues and so we need to ensure the right level people are involved in the discussions around Organisational Factors at the time.

2.1.2. *Task/Environmental Conditions*

There are factors that contribute to us making 'errors'. There are many things at work that encourage (or promote) errors or violations of procedures and in the ICAM, they are described in a group called Task/Environmental Conditions.

These can range from giving people procedures that are too complex and cause confusion or simply are not able to be followed, through to poor communication, inadequate task allocation to planning, weather conditions, PPE etc. These are things that are setting our people up to fail in their tasks.

Giving them the wrong tools, telling them to hurry up, giving mixed messages about what to do, all increase the likelihood that they will make mistakes and not follow the procedures. Often they simply can't.

2.1.3. *Individual/Team Actions*

We should look at the Individual/Team Action slice of the cheese first, which represents the concept of Human Error, upon which the model is based. This slice of cheese represents the actions that either individuals or teams took just prior to the event.

We should think of it as actions that people did that did not result in the outcome that was expected. It could be an action that goes against what is required in a procedure, or a rule. It could also be the omission of a step in a task that is required to be done in order to complete a task.

The word "action" here is important. In order to qualify as an Individual/Team Action, an action must be observable. A great way of think about that it must be possible to take a photo, or a video of the action. It cannot be a thought or a decision. It must be something someone did (or did not do).

2.1.4. *Absent/Failed Defences*

To ensure that people are not hurt at work as a result of a mistake or slip or a lapse that they may make at work, we need to provide Defences to protect them. Examples could be ABS or Traction Control in a vehicle to help avoid an accident. Seat belts, airbags and roll over protection are other examples.

As you can see, Defences can either be designed to prevent an event from occurring or for minimizing the consequence of an event after it has happened. After all, a seat belt cannot stop you having a car accident.

Our job in an ICAM is to establish which defences were missing or did not work. These are called Absent/Failed Defences. We ask questions such as:

- What could (or should) have been in place to prevent this event from happening but was not in place?
- What was in place to prevent this event from happening but did not work?
- What could (or should) have been in place to minimise the consequences of this event but was not in place?
- What was in place to minimise the consequences of this event but did not work?

2.2. *The high-level incident investigation process*

The following table provides high-level guidance on the steps to follow when conducting incident investigation and analysis. The level of the incident will determine the scale and complexity of the investigation.

Step	Stage	Actions
1	Assemble the investigation team	The responsible person as defined above determines the make-up of the investigation team, which must include manager with direct responsibility for the site where the incident occurred. Others who may be involved include the supervisor, HSW Professional, HSW Committee member and relevant Subject Matter Experts (either internal or external).
2	Plan the investigation	For Level 3 and 2 category incidents, an investigation plan should be developed that includes considerations of: Level of incident investigation and analysis required Identify what each team member will need to do Who will be interviewed and when What documents and records are to be examined Reporting timeframes The plan is to be developed by the Senior HSW Advisor and the responsible manager in the work area where the incident occurred.
3	Examine the scene	The aim is to form an impression of the physical conditions that applied at the time of the incident and to assess the degree of damage caused by the incident. The investigator is required to take photos of the incident scene.
4	Examine the people	It is important that witness evidence should be gathered as soon as practicable. You are required to interview those directly involved in the incident and any witnesses. Each person may have a different understanding of the actual sequence of events and their collective recollections are needed. Questions must be 'open' ended (e.g. avoid 'yes/no' questions where possible) – the answer must not be indicated in the question. Ask "What happened next?" rather than "Did you then turn off the machine?"
5	Examine documents and records	The investigation team is required to compile relevant process documents and records that may provide an indication as to what should have occurred and what <u>actually occurred</u> . These could include: risk assessments and safe work documents, maintenance and inspection records, training records, hours of work records, HSW management system processes. The investigator should compare what <u>actually happened</u> against what should have happened per the documents obtained.
6	Analyse the information	Once all the information has been obtained, the investigator is responsible for analysing the information without any preconceived view as to what <u>actually occurred</u> . He/she must objectively analyse the documentation, witness statements and other related information to draw conclusions. He/she must challenge the information being provided and not accept it on face value. RMIT relies on the investigator to uncover the root cause to assist with the development of corrective actions to prevent recurrence. The investigator should, once the root causes are identified, consult with other member of the investigation team to test his/her findings.
7	Write the investigation report	Investigations must be documented on the Incident Investigation Report template. Reports should be circulated in draft form to key stakeholders to allow correction of any matters of fact.

The key to successful incident investigation is to gather information (photos, copies of documents, etc.) and hold interviews as early as possible, ideally at the time of the incident or at least within 24 hours of the incident. Once all information is gathered it is necessary to collate and analyse the information and data to determine root cause.