



**InterSafe**  
Protecting People



**8Steps**<sup>TM</sup>

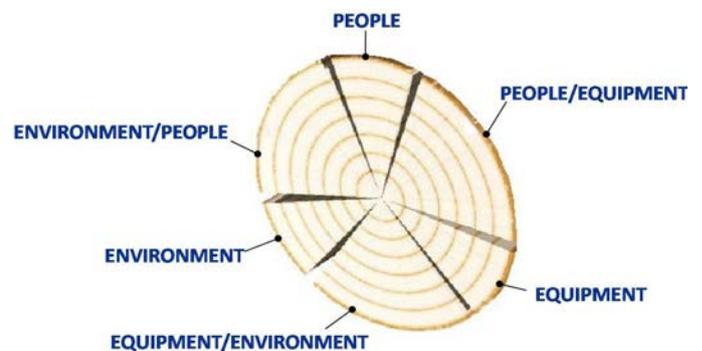
**OF EFFECTIVE INCIDENT  
INVESTIGATION**

## Essential Factors<sup>TM</sup>

### Essential Factors<sup>TM</sup> is our investigation model for understanding and analysing an incident

It is an ergonomic model and seeks to find those factors that were present in, or absent from, an incident sequence and were essential for the continuation of the sequence. Every essential factor provides for the investigator a potential point of control to prevent future incident sequences. This model was developed in the 1980s by Geoff McDonald.

Utilising the Essential Factors<sup>TM</sup> model in your organisation will allow investigators to identify a range of potential controls, other than the common administrative controls, that other investigation models may not produce. It provides you with an improved opportunity to prevent the recurrence of future incidents.



The Essential Factors<sup>TM</sup> model is not a cause-based model but a control-based model. Cause-based models seek to find 'the cause' or thing that triggered the incident sequence to exist. Often 'the cause' of the incident is regarded as an unsafe act or unsafe condition and the root or prime cause is regarded as something the organisation failed to do while planning and organising the work.

Cause-based models are egocentric models in that they typically conclude that the cause was 'human error'. This way of thinking often results in the addition of more administrative controls in an attempt to prevent humans making errors. Opportunities to do something better may have been missed.



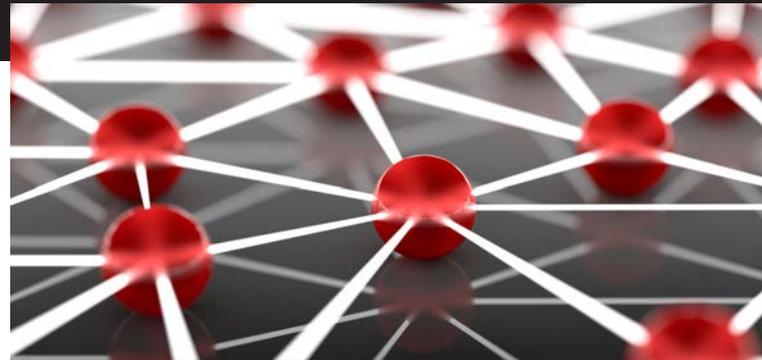


**OF EFFECTIVE INCIDENT INVESTIGATION**

A control-based model looks for the contribution of people, equipment and the working environment to the incident sequence. It is a balanced, objective model because it does not judge the contribution as safe or unsafe as this requires a value judgement which is not the basis of scientific analysis. Each contribution, if essential, then presents an opportunity for control. The model then assesses each contribution for how effectively it can be controlled. The aim is to optimise control not focus on cause. This model can initially appear counter-intuitive but is powerful and effective.

The Essential Factors™ model can be used as the basis for all your investigations or can be used to complement your existing analysis model.

Please contact us if you would like to discuss an Essential Factors™ course.



**Next Steps**

If you would like to discuss an **Essential Factors™** course or how InterSafe could assist you, please contact one of our team on:

**+61 7 3895 8111**

or [enquiries@intersafe.com.au](mailto:enquiries@intersafe.com.au)

‘Essential Factors™’ The InterSafe Approach	‘Cause and Effect’ Others Approach
<ul style="list-style-type: none"> <li>• 100% / 100% / 100% paradigm:               <ul style="list-style-type: none"> <li>• 100% of incidents include ‘people’ factors</li> <li>• 100% of incidents include ‘equipment’ factors</li> <li>• 100% of incidents include ‘environmental’ factors</li> </ul> </li> <li>• Clear process of description and analysis</li> <li>• Focuses on what ‘is’ / what ‘is not’</li> <li>• Lists essential and contributory factors</li> <li>• Lists all observations and does not make value judgement of ‘rightness’ or ‘wrongness’ of what was observed</li> <li>• All essential factors are of equal significance with respect to incident outcome</li> <li>• Factors are considered different with respect to controllability</li> <li>• Change for the future</li> <li>• Describes what people did / did not do</li> <li>• Describes what features of equipment / environment were present / absent</li> <li>• Uses ergonomic model –interaction of people with equipment in an environment</li> <li>• Strong base using well established concepts of hypothesis forming and modelling</li> </ul>	<ul style="list-style-type: none"> <li>• 80% / 20% paradigm:               <ul style="list-style-type: none"> <li>• 80% of incidents are ‘caused’ by human error / unsafe acts</li> <li>• 20% of incidents are ‘caused’ by the equipment of environment / unsafe conditions</li> </ul> </li> <li>• Tends to blur line between description and analysis</li> <li>• Focuses on ‘causes’ and ‘effects’</li> <li>• Lists causes of accident</li> <li>• Can require ‘value’ judgement of cause / root cause before information is recorded e.g. list of unsafe conditions</li> <li>• Factors are not considered equal with respect to causation</li> <li>• Ranks causes without a clear definition of ‘cause’. Is cause the most easily recognised factor? The most easily corrected factor? etc.</li> <li>• Blame for past</li> <li>• Lists cause/ root cause / prime cause</li> <li>• Has egocentric bias – unsafe acts / behaviours</li> <li>• Less scientific and often does not reflect the significance of hypothesis forming and modelling</li> </ul>

**Who is InterSafe?**

InterSafe specialises in incident investigation to Engineer Safer Workplace Solutions. InterSafe has assisted our clients in effectively controlling the future through preparation of more than 10,000 comprehensive incident reports (dealing mostly with fatal/permanently disabling occurrences) throughout 60 years of collective experience.

This experience has led to a unique way of thinking about, investigating and preventing incidents. InterSafe shares these powerful and effective investigation models and techniques through a range of courses and services.



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