

Effective Investigation and Analysis of Major Incidents in an Industrial Setting That Will Produce the Most Valuable Outcomes

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Initial Field Investigation

- Talk to lower levels of personal (i.e. contractors, suppliers, designers, project manager teams, etc.)
- Gradually move up the “tree” in all of these types.
- “Preservation of evidence” will help set the priority.
- Position, People, Parts, Paper.

Accurate Gathering of Evidence

- Deeper investigation into design intent, project planning, research data, similar incidents, and other “like” sites or companies, etc.
- Do not forget to interview the surviving victims. (Opinions may be shaded by their emotions)

Effective Interviewing Techniques

- Set a climate of trust with each individual or team, emphasis on not placing blame, benefit all of “us” and everybody in the industry.
- Oil Refinery English/French.

Risk Assessment Techniques

- People
- Environment
- Assets
- Production

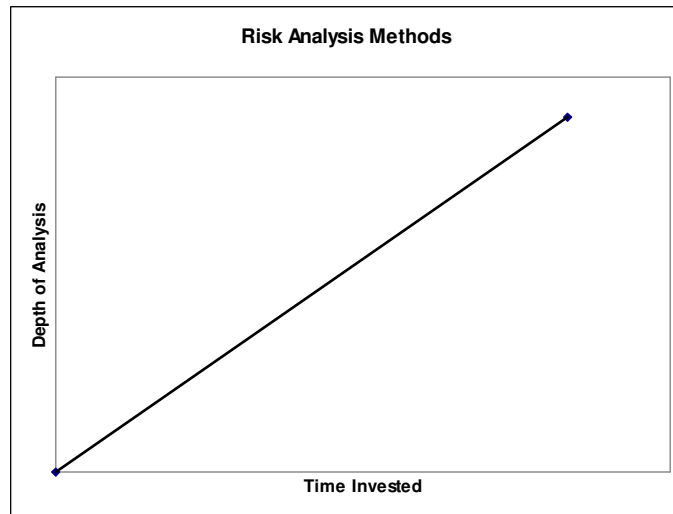
Proper Use of Risk Assessment Techniques

- Make a list of types of risk assessment/risk analysis.
- Always use the simplest/least effort techniques to weed out the most obvious problems (engineers tend to pick the most complex methods)

Risk Categories	
	High Risk - Requires immediate risk controls.
	Medium Risk - Risk controls to be considered.
	Low Risk - Risk is acceptable

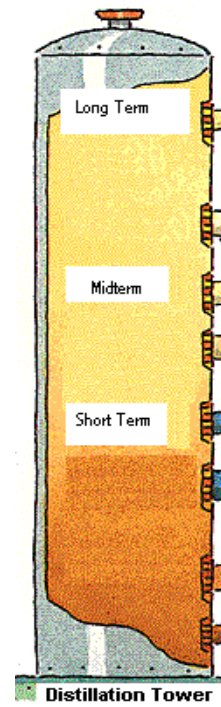
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Types of Risk Assessment Methods



Distillation of Information to Provide the Best Results

- Layout the information in a logical fashion.
- Prioritize your information using a well informed team.
- Allow the team and its leadership to make the key recommendations so that the investigation does not drag on.
- There will be short term, midterm, and long term recommendations.



Implementing A Plan to Ensure Similar Incidents Do

- Decide on who the key audiences in the company, industry, government, etc. Then fashion clear cut recommendations with references that will meet all of the above stake holders.

Summary

- Initial Field Investigation
- Accurate Gathering of Evidence
- Effective Interviewing Techniques
- Proper Use of Risk Assessment Techniques
- Distillation of Information to Provide the Best Results
- Implementing A Plan to Ensure Similar Incidents Do Not Occur



Air France Concorde Flight AFR
4590

Incident Summary

- Initial damage occurred during takeoff.
- Concorde ran over metal debris on runway.
- Tire ruptured and debris punctured fuel tank.
- Leaking fuel caught fire.

Incident Summary Cont.



- Fire caused loss of engine thrust and destroyed critical control surfaces.
- Concorde crashes into a hotel.
- 113 people died, 6 people injured.

Conclusions Reached by Investigators

- Management wants to be interviewed first, but as Laird mentioned previously it was people working directly in the field that provided the key starting information that led to the final conclusions being made.

Recommendations Made by Investigators

- Once investigative data was gathered the team processed the information and developed a series of recommendations. These recommendations were in the categories of short term, mid term and long term.

References

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