



Flight or Fight SubCommittee 1

Self Escape



History suggests that in the event of an emergency escape in an irrespirable atmosphere, all coal mine workers may not succeed



Objective –

To minimise the risk of an unsuccessful escape from a mine



SubCommittee Formation

- Sub Committee 1 – Self Escape
- Sub Committee 2 – First Response
- Sub Committee 3 – Emergency Support and Research

- Involvement from Industry, Inspectorate, Unions, Suppliers and recognised content experts



SubCommittee Scope

- Other options – SCSR and breathing apparatus
- Guidelines for Training Standards
- Communication to minimise risk
- SCSR Changeover Process
- Cache standardisation
- Shortcomings of existing apparatus



SubCommittee Scope (cont)

- Communications with Surface
- Tracking SCSR batches
- Maintenance & Testing
- Considerations for low height seams



Approach

- The approach taken by the committee was based around the outcome of enabling a coal mine worker to “effectively escape”:
 - **Competent Personnel**
 - **Standard Procedures**
 - **Controlled Environment**
 - **Fit for Purpose Equipment**



Research & Resources

- Identify and review new equipment
- Establish current “good practice” within industry
- Outline training equipment and systems that are required
- Establish Communication protocols
- Outcomes of Moura No. 2, Level 1 Emergency Exercises, USA Reports



Shortcomings identified in current escape strategies

- People unfamiliar with apparatus
 - Heat of inspired air
 - Breathing resistance
 - Volume available
 - Nose clip unsuitable
- Side-breathing in order to talk
- Time to activate in contaminated air

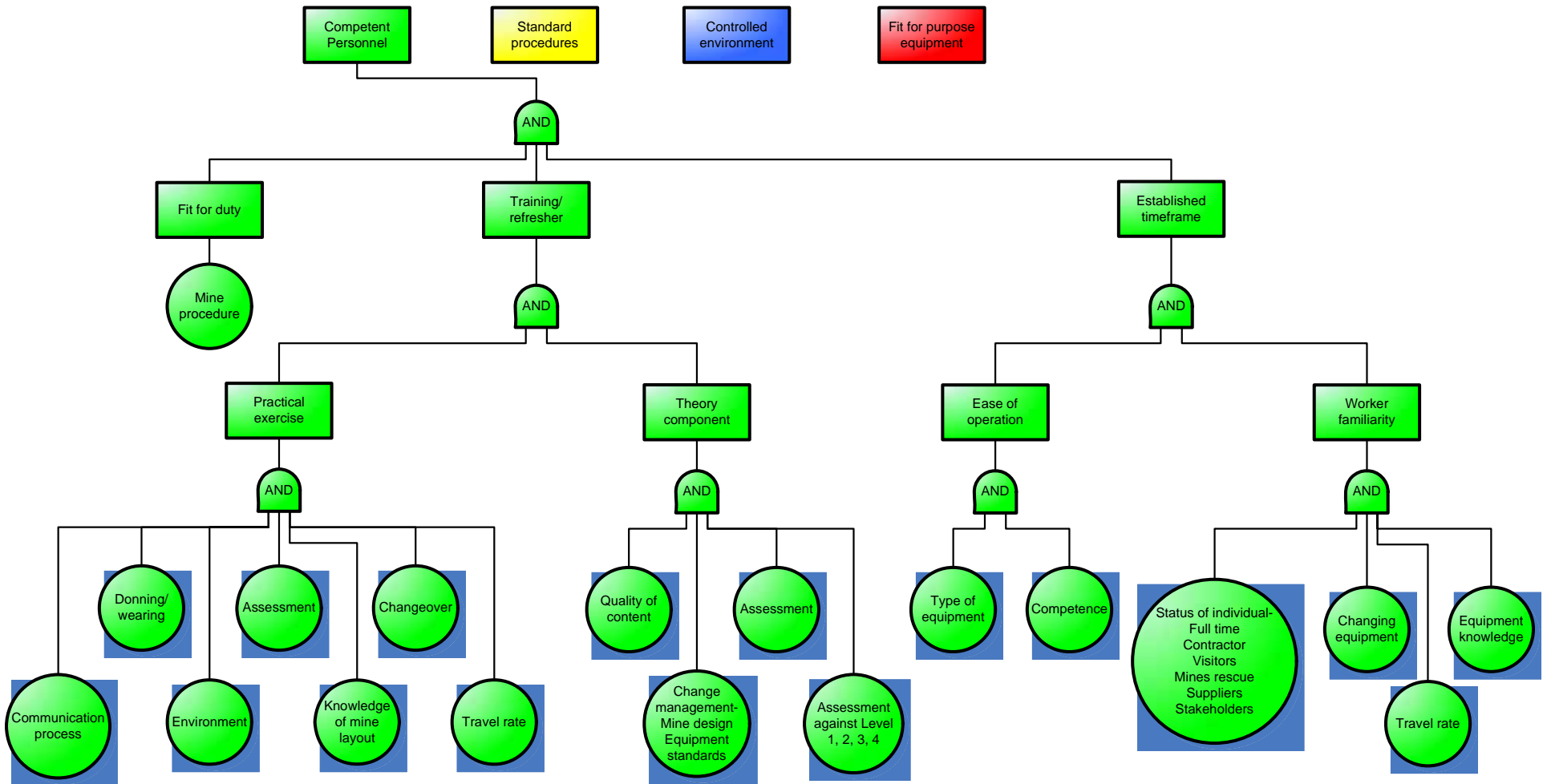


Facilitated Workshop

- Fault Tree Analysis developed for each sector of escape process from Self Escape to First Response
- Separate workshops held for each sub-committee
- Aim to examine best current practice in each element of the Fault Tree

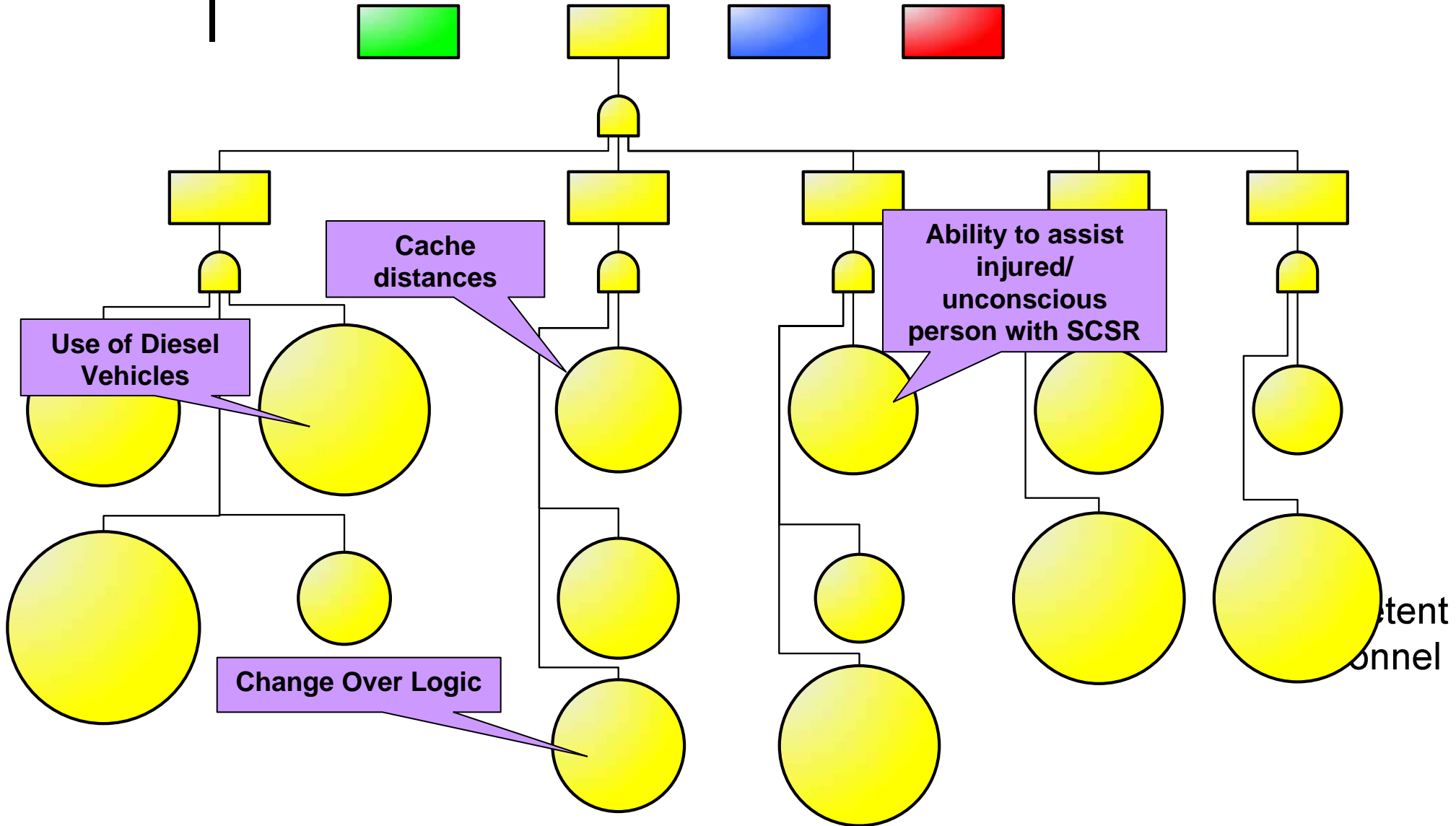


Fault Tree Analysis



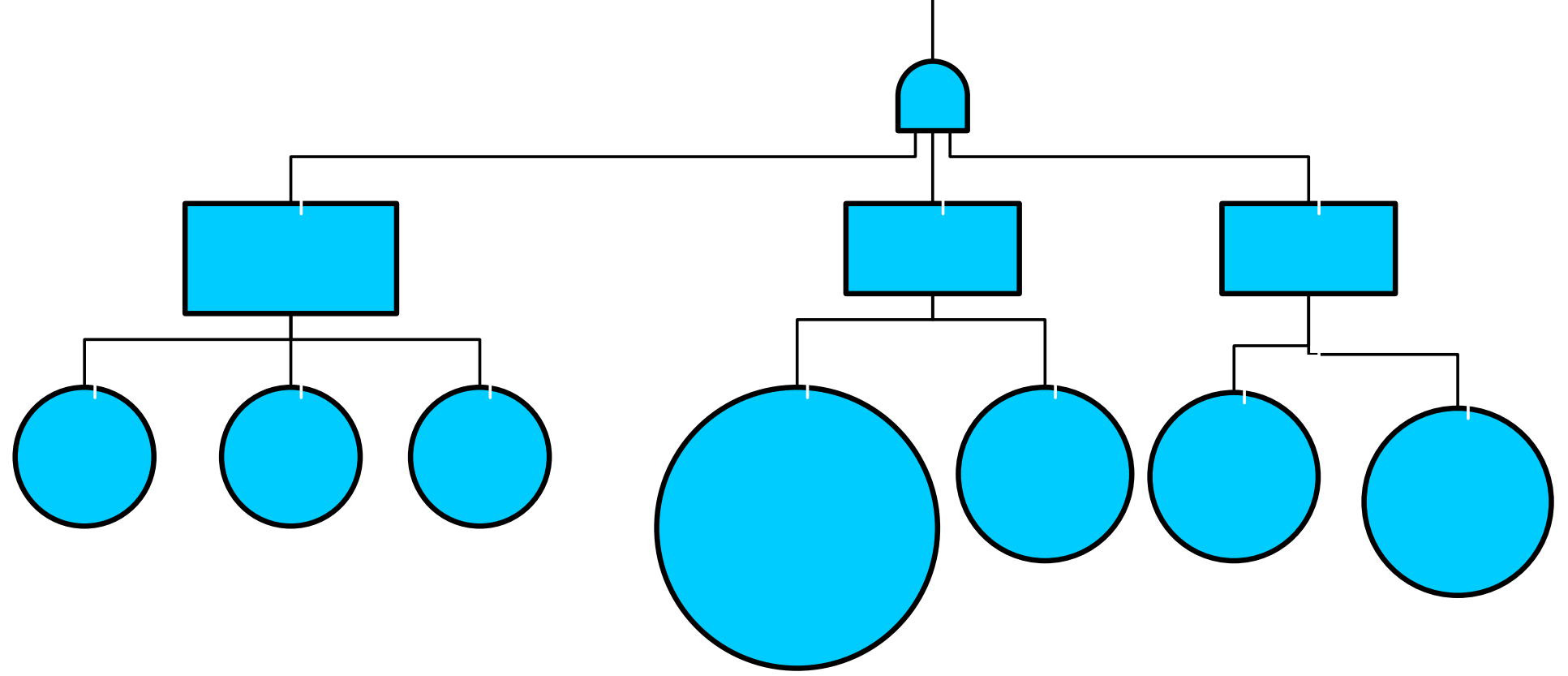


Fault Tree Analysis



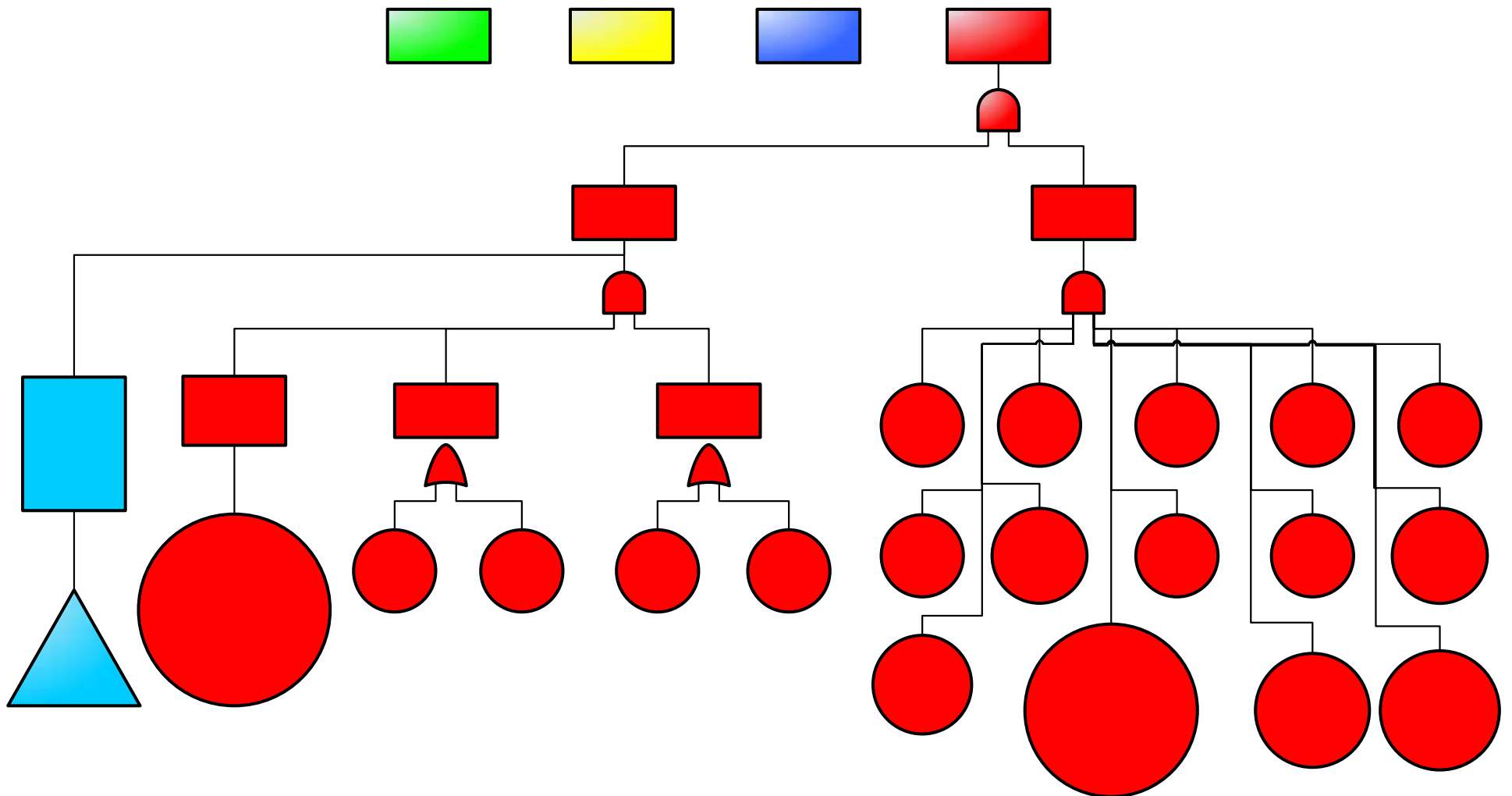


Fault Tree Analysis





Fault Tree Analysis





Options being considered

- Smoke hoods as a potential alternative to SCSRs (as used by aviation industry)
- Non verbal communication systems
- Standard design for underground caches of Breathing Apparatus
- Potential changes to breathing apparatus testing to accommodate future use of smoke hoods



Outcome

- An Industry Guideline developed via a risk based approach.
- Identify options and best practice.
- Identify options for further evaluation of alternative apparatus from other industry sectors
- Establish a focus to achieve High Order controls to manage the known risks to self escape