

Asset Optimisation by Safety and Risk Engineering

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Case study- Hazards between design concepts

- Compares some key differences in hazards between design concepts

Case study- RAM Analysis

- RAM study that has been carried out for offshore facilities, during the pre-FEED phase of the project. The RAM model includes:
 - Sub-sea wells, equipment and risers;
 - Central Processing Facility;
 - FPSO;
 - Gas export pipeline to the beach valve.

Case study- Internal/External Turret



Case Study – The Wandering Fire Pump

- **FPSO with internal turret located in COT No 1**
- **Original design concept was diesel driven forward fire pump located in fo'c's'le space.**
- **Hull modelling showed in certain sea conditions sea chest draft would offer insufficient NPSH**
- **Percentage unavailability was significant**
- **Clearly unacceptable for a key safety system**

Case Study – Flare Design

- Process design to API 521 gave high initial flare rates
- Flare system required was large and flare tower was unmanageably high (>110 metres)
- Blowdown to 50% of design pressure was considered for some vessels
- Fire risk analysis showed this was unacceptable due to long duration jet fires and escalation potential