Developing Human Factors Maturity®

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Human Factors Maturity® Model

- Process/ policy
- Organisation and planning
- Relevant methods
- Measurement
- Audit/ review

Nickleby, 2002
Twelve HFM®M topics

- Human Factors in Design
- Design & Development of Procedures
- Managing Human Failure
- Safety-Critical Communications
- Fatigue & Shift work
- Safety Culture & Behaviour
- Staffing & Workload
- Managing Organisational Change
- Human Factors in Incident Investigation
- Managing Performance under Pressure
- Training & Competence
- Contractor Management
Performing an HFM® Assessment

• 6-8 Managers: safety, engineering, operations, support functions
• Card sort in pairs – select 1 of 5 cards for each element
  • *best describes the current situation*
• Review / reveal the ratings across the group
• Discuss each element & define the evidence
• Gain consensus on the level ratings
• Select top 3 priority issues
• Outline action plan, guided by the facilitator
Chemical Plant, North America, 2018

Level of Maturity

Formalise approach → Methods/techniques → Capability

- HF in Design
- Procedures
- Human Failure
- Critical Communications
- Fatigue and Shift work
- Safety Culture
- Staffing & Workload
- Organisational Change
- HF in Incident Investigation
- Performance under Pressure
- Training and Competence
- Contractor Management
Shipping Manager, HK, 2019

- Capture structure, improve tools & capability
- Use objective tools & push back on staffing pressures
- Link system to safety critical tasks

Level of Maturity

- Human Factors in Design
- Development of Procedures
- Human Failure
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- Staffing and Workload
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- Contractor Management
Shipping Operator, India, 2019

Improvement of existing process
Define structure & approach
More effective HF tools

- Design
- Procedures
- Human Failure
- Critical Communications
- Fatigue and Shift work
- Safety Culture and Behaviour
- Staffing and Workload
- Organisational Change
- HF in Incident Investigation
- Performance under Pressure
- Training and Competence
- Contractor Management
Prioritising and Action Planning

• Focus is on:
  • Consolidation of existing practices
  • Incorporating human factors within existing systems
  • Progressing to the next level of maturity
  • Staying relevant to the organisational priorities

• Approaching human factors in a suitable order
  • E.g. Safety critical task analysis is a core requirement
Importance of Safety Critical Tasks

Major accidents → SCTs → Analyse SCTs → Reduce risk → Analyse new SCTs → Human Factors Engineering → Engineered controls

Staffing → Comms → Procedures → Manage Fatigue → Org Change → Culture → Competence → Human & Organisational controls
Summary

• Great improvements in human factors in our industries
• Easy to stagnate or have an ad hoc approach
• HFM®M - measures management of human factors
  • Benchmark arrangements
    – Even if they are not labelled as human factors
  • Identify gaps
  • Clarify the next steps and way forward
  • Support overall human factors strategy
    – Process / approach
    – Methods / tools
    – Capability / resources