2002

Revised method for reviewing Human Factors in the design of CCR`S

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Human Factors Solutions

Revised method for reviewing Human Factors in the design of CCR`S

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Human Factors Solutions - Norway

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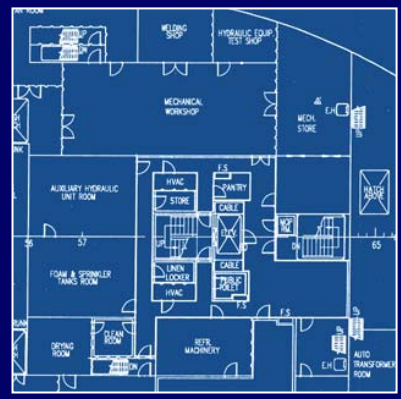
- Idea
  ABB – NPD – Safetec
- Concept
  Super Eva – Kristin
- Detailed
  Grane – Balder – West Future II
- Operation
  Jotun A
- Modification
  Eldfisk – Petrojarl – MMI-2
- V & V
  Kristin – Kvitebjørn – Oseberg C



ABBREVIATIONS

MMI-1

”A method for reviewing Human Factors in Control Centre Design”, NPD June 2000.

MMI-2

Revision of ”A method for reviewing Human Factors in Control Centre Design” , NPD October 2002

HFW 2002 GOALS

- MMI-2 - October 2002
- Share experience - MMI -1
- Gain YOUR experience - reviewing HF in CCR design

AGENDA

MMI-1

- Background
- Goals
- Preliminary results

MMI-2

- Goals
- Project plan
- Preliminary requirements
- Preliminary Concepts

ISSUES

1. _____
2. _____
3. _____

MMI-1

BACKGROUND MMI -1 - NPD - AUDITS

- Too many alarms
- New functions in CCR
- Increased complexity and demand on staff
- New technology challenges established safety philosophy
- Reduced manning in CCR
- Remote control - onshore

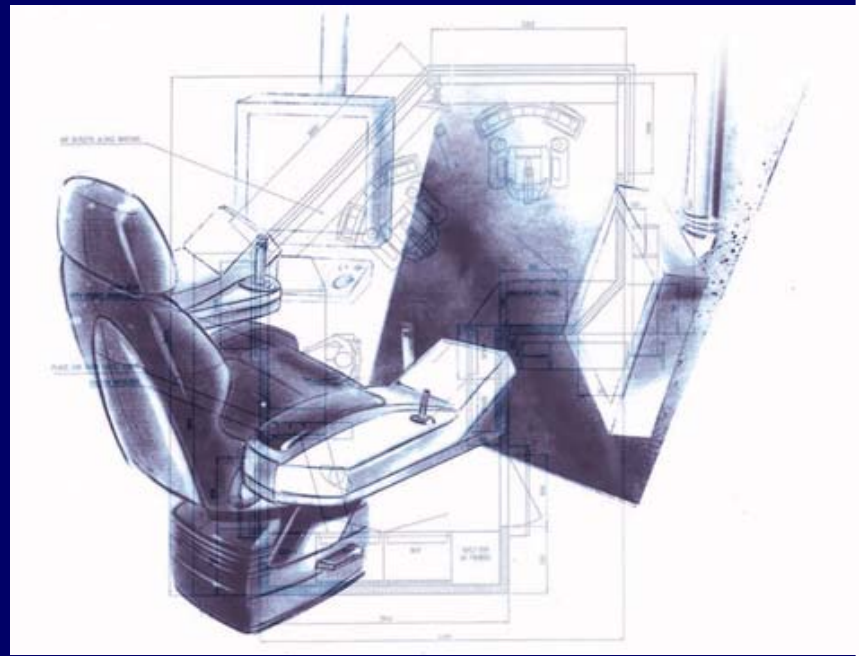


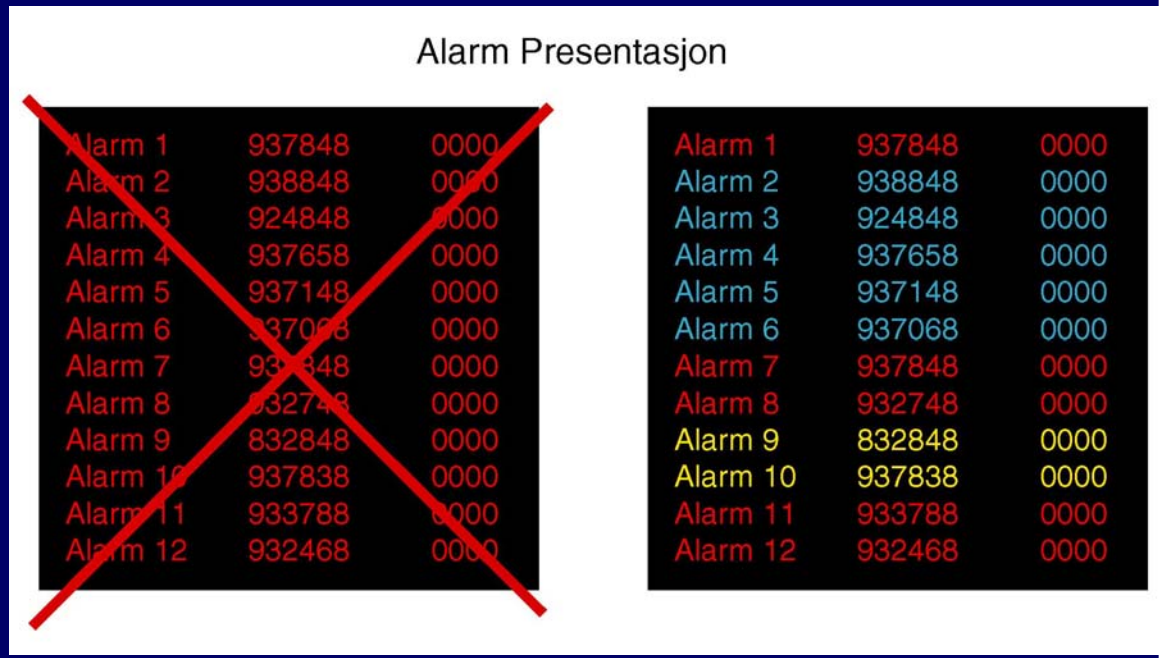
Illustration: Courtesy of Maritime Hydraulics, Norway

Consoles

- Space for paper, pens
- Location - contrast
- Large fixed keyboards
- Not adjustable

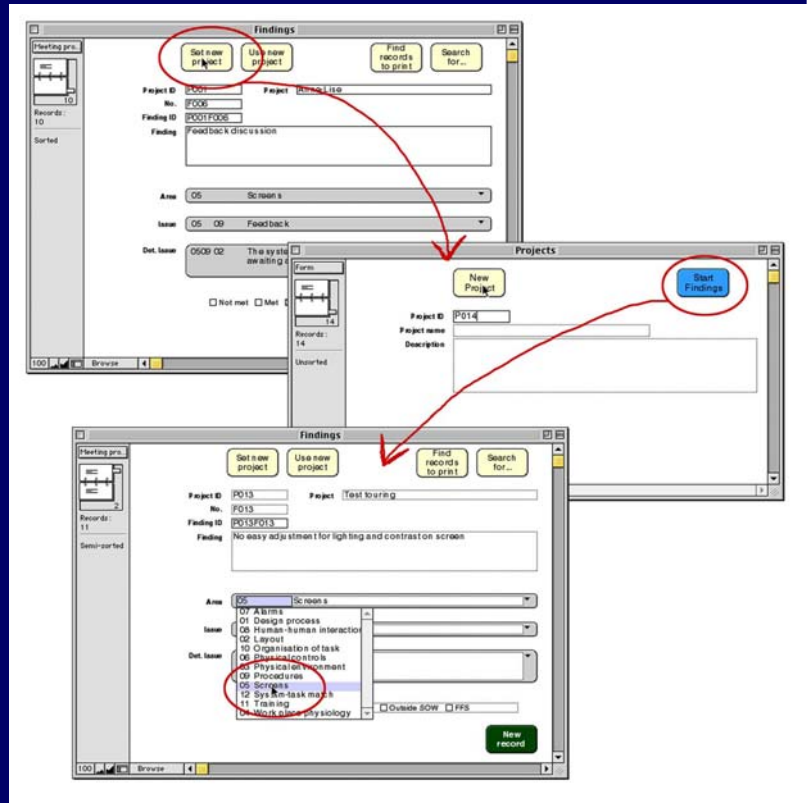
Alarm systems

- No philosophy
- Alarm list
- Too many
- Inconsistent
- No priority
- No grouping
- Incomprehensible

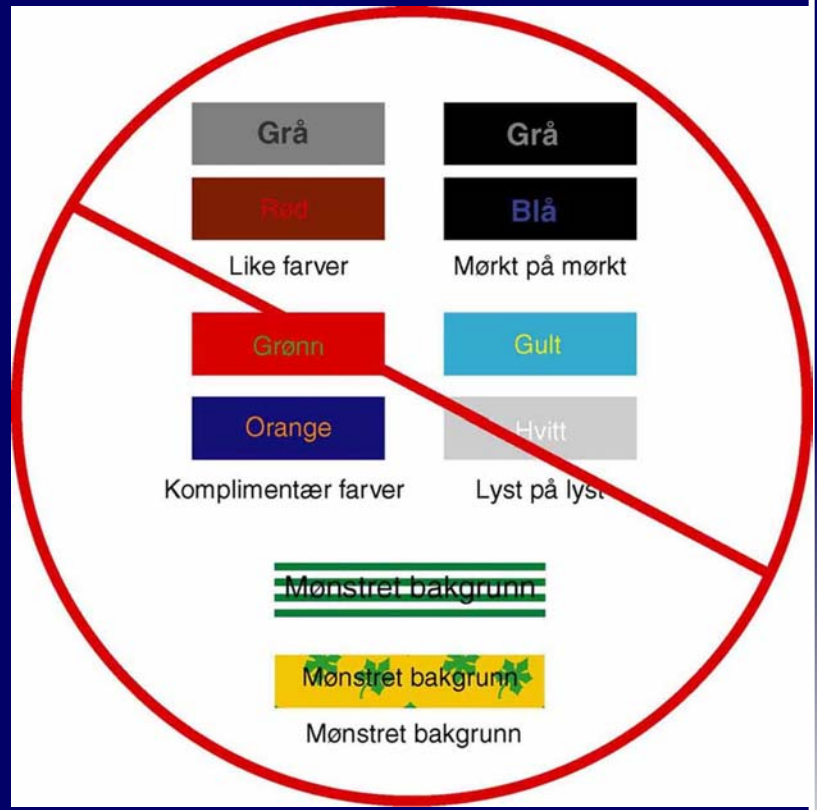


Navigation

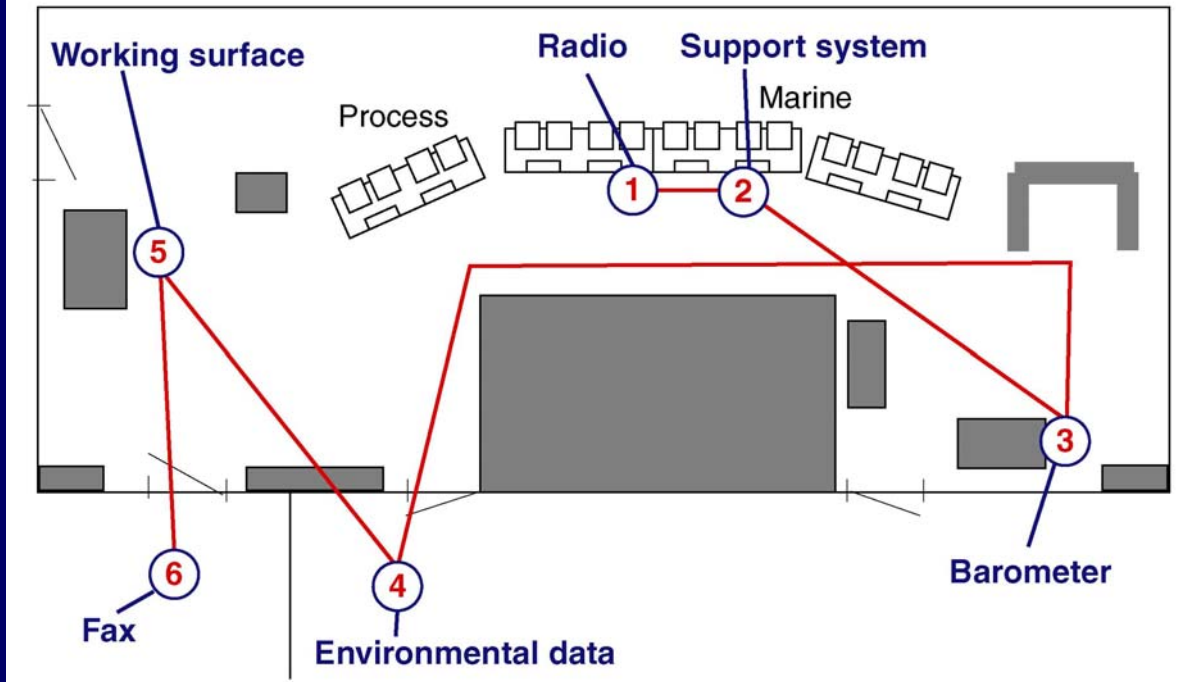
- Inconsistent
- Difficult - hierarchical
- Remember screen nr.
- Limited search functions



Colour /graphics



CCR Layout

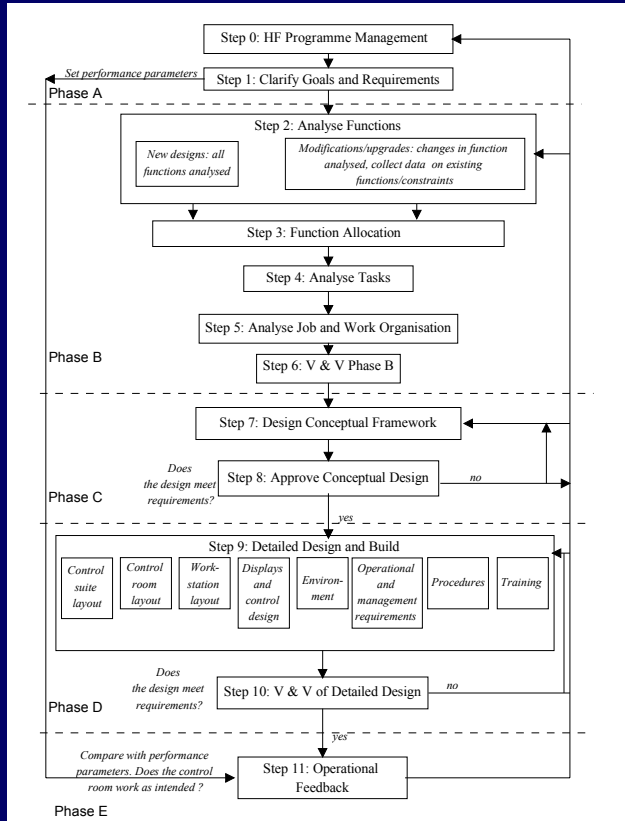


GOALS MMI-1

Goals :	Provide NPD & industry with common basis for: - safe working practices in CCR - acceptable total workload in CCR - reduction - human error - structured HF methods - evaluation of solutions vs regulations
Product:	Systematic CCR audit tool (design - mod -incidents)
Users & Use:	Authority- revision, incidents
	Industry - management, planing, development revision, updates, modification
Based on:	ISO 11064 structure and requirements

MMI 1 = ISO 11064 +

- Introduction
- Information sources
- Review guidance
- Audit questions
- 167 pages in English



MMI-2

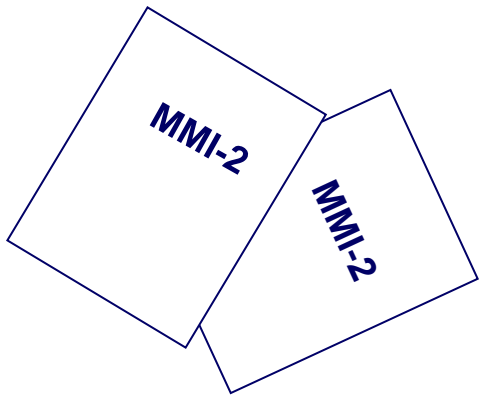
GOALS MMI-2

As for MMI -1

Revise and update, simplify and improve

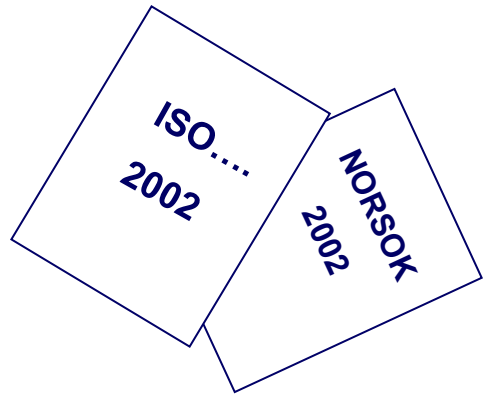
DELIVERABLES MMI-2

1. Revision - Norwegian and English
2. Presentation material - MMI-2
3. Project plan - other cabins



PROJECT PLAN MMI-2

1. Clarify goals, requirements and specification
2. Interview stakeholders
3. Observe use/audit of MMI-1
4. Test use of MMI-1
5. Review alternative methods, standards etc.
6. Develop and test concepts
7. - Develop MMI-2
   - Presentation material
   - Project plan for other cabins



PRELIMINARY RESULTS - MMI 1

+

Systematic / useful

Professional content

Checklists useful

Puts HF on map

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Not easy to use / Too large

Where to start ?

Iterative process unclear

Not related to oil industry

No change - human error

PRELIMINARY REQUIREMENTS 1/2

TECHNICAL CONTENTS

- Reduce volume - BUT more examples, checklists, guidance !
- Simplify / userfriendly - navigation
- Prosess vs results based ?
- Audit tool / design guide ?
- Add Human Error Assessment, HCI, Alarm Philosophy, +++
- MMI-2 - tool to get 1 answer from 10 different operators

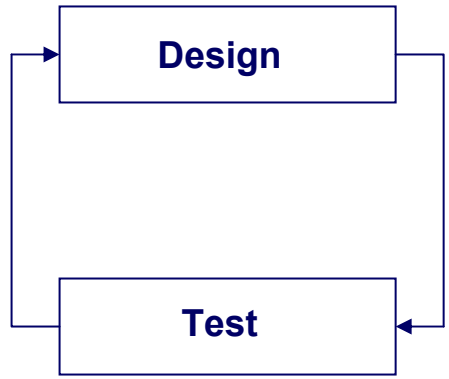
PRELIMINARY REQUIREMENTS 2/2

ORGANISATION

- Experience transfer first
- Merge chapters
- Emphasize iteration
- Seperate parts: Users

INTRODUCTION MMI-2

- Involve industry: (Ref. group)
- Overview & detailed workshops

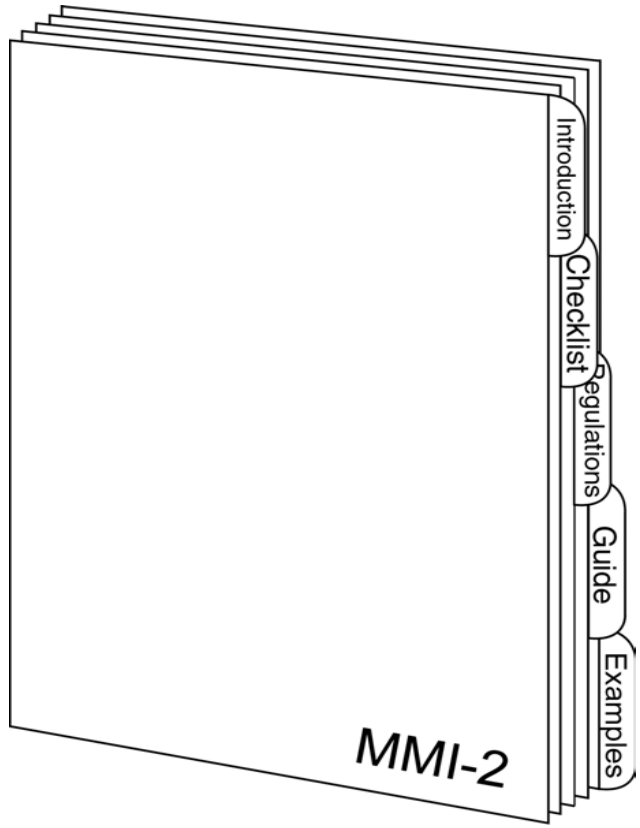


PRELIMINARY CONCEPTS

ORGANISATION

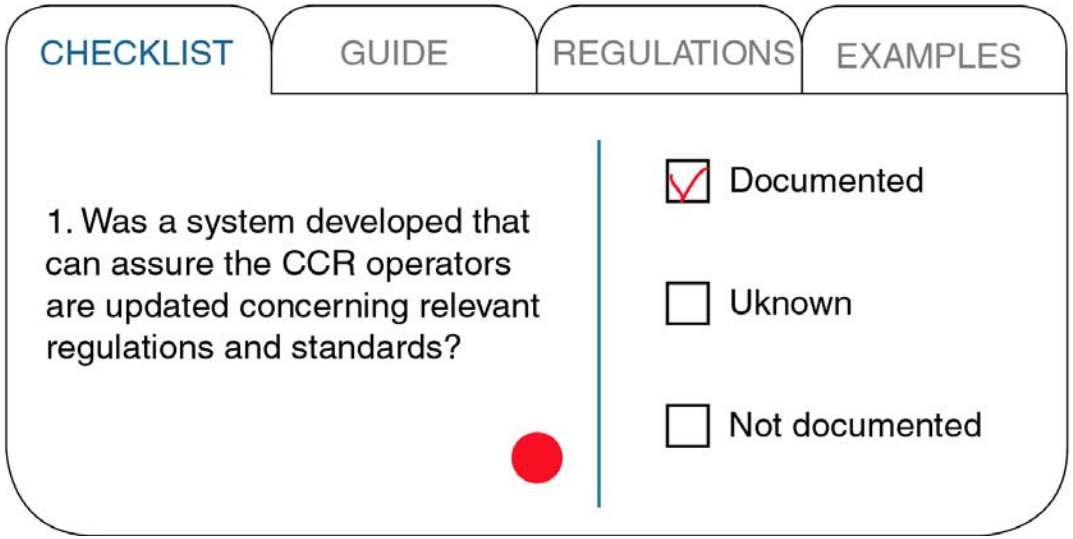
- Requirements
- Regulations
- Topic
- Design prosess
- Users
- Examples

Combinations Etc.



Picture book / Designguide / Revision tool

DATABASE



ISSUES

- Who should ”own” HF / MMI -2 ?
- How should HF requirements be presented? (process, performance criteria, detailed specs.)
- Your experience with ISO 11064 ?
- Your experience reviewing Human Factors in CCR design prosess?