HF IN NORSOK S-002 WORKSHOP AGENDA

HØVIK, 15–16 OCTOBER 2014
ADAM BALFOUR

WORKSHOP SCHEDULE

- Common introduction 1305 – 1350
- Parallel workshops 1400 – 1500
- Plenary wrap up 1500 - 1545

DRAFT - WORK IN PROGRESS

COMMON INTRODUCTION - AGENDA

- DRAFT - WORK IN PROGRESS!
- Presentation of sub-group for Human Factors
- Goals for workshop
- Standardisation basics
- Introduction to NORSOK S-002/S-005
- Scope, limitations, language etc
- Overall structure of NORSOK S-002 and Annexes
- Hi-level walk through of current HF sections in Chapter 6 and Annexes (A, C & F)
- Presentation of Annex C “Human Factors” - structure, studies/activities
- Status of NORSOK S-002 work
- How YOU can contribute: provide comments and lobbying
- Introduction to workshops (how, where, who)

NORSOK COMMITTEE – SUB GROUP HF

- Members:
  - Hilde Heber, BG Norge
  - Ranghild Ulsnes, NOV (Molde Kran)
  - Marius Fernander, DNV - GL
  - **Andy Kooijmans, SHELL**
  - **Håkon Augensen, Norsk Ergonomi og Human Factors Forening**
  - **Adam Balfour- HFS – Sub group chair/ Editing Committee**

REPORTS TO:

- Editing Committee (6 – Committee Leader, HF, Acoustics, Chemicals, "General" & SN)
- NORSOK COMMITTEE – 18 organisations

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STANDARDISATION BASICS

- What is a standard?
- Regulations/standards/guidelines hierarchy
- How/who make standards (process)
- "Human Factors standards"? Standard people?

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MEETING GOALS

- Inform about update of NORSOK S-002
- Opportunity to contribute
- Inform about process
- Heads Up - Public Hearing
- Feedback NORSOK HF sub-group
- Network

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STANDARD BASICS – WHAT IS A STANDARD?

- Technical agreement between 2 or more

- Goals
- Interoperability - WTO
- Reduce costs!
- Reduce risk
- Build trust
- Precondition for Info Soc.

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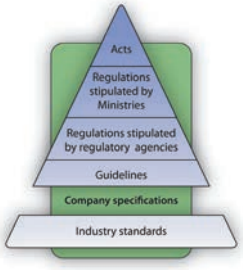
STANDARD BASICS – REQUIREMENTS HIERARCHY



NORSOK S-002 IS REFERENCED BY PSA

Facilities Regulations

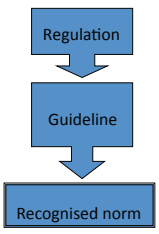
Guidelines - Section 20 Ergonomic design

- *"In order to fulfil the requirements relating to design as mentioned in the first and second subsections, the following standards should be used: NORSOK S-002..."*

Guidelines - Section 21 Human-machine interface and information presentation

- *"During design as mentioned in the first subsection, an analysis should be conducted of the human- machine interface, including necessary task and function analyses. The standards NORSOK S-002 Chapter 4.4.5 and NS-EN 614 Part 2 should be used for such analyses… NORSOK S-002 Chapter 5.2.2 should be used for requirements regarding human-machine interfaces."*

STRUCTURE OF ACTS + PSA HSE REGULATIONS



- functional requirement
- express level for health and what to achieve

- elaborates requirements
- "should use" reflects the recommended way of fulfilling the requirements – usually by means of recognised norms

- standards or other recognised guidelines with specific solutions

NORSOK S-002 IS REFERENCED BY COMPANIES & CONTRACTS

- Oil & Gas Majors in Norway
- Projects outside Norway
- Companies outside Norway
- In Contracts!
- Possible input to/adoption by ISO

NORSOK: CONSENSUS - 3 PARTS COOPERATION (NOT ALWAYS)

SCOPE, LIMITATIONS, LANGUAGE, ++

- This NORSOK standard applies to the design of new installations and modification or upgrading of existing installations for offshore drilling, production, and utilisation and pipeline transportation of petroleum, including accommodation units for such activities.
- This NORSOK standard stipulates design requirements related to the working environment of petroleum installations as well as requirements regarding systematic management of working environment issues in project development and the design process.
- The purpose of this NORSOK standard is to ensure that the design of the installation promotes the quality of the working environment and human factors during the operational phase.

INTRODUCTION TO NORSOK & S-002/S-005

- Over 80 NORSOK Standards
- Different committees
- S = Safety Standards
- S-002 Working environment, 2004
- S-005 Machinery – WE Analyses, 1999
- 4 + NORSOK standards relevant for HF
- S-001, S-005, C-001, C-002, I-005, +

- In addition many ISO, EN Standards – HF
- Many, many guidelines for HF – e.g OGP

SCOPE, LIMITATIONS, LANGUAGE, ++

- Scope – Norway!
- Not in operations!
- Precedence for referencing
  - ISO, EN, NS, Guidelines.
- No references to commercial products/tools – describe content
- Language – English and then Norwegian

ISSUES, CHALLENGES, POSITIVES

- Achieving consensus (different agenda)
- Working Environment vs Human Factors
- Work is unpaid "Dugnadsarbeid"
- ROI (difficult to get/keep people)
- Practical issues – Documentation system
- Inconsistencies within NORSOK & between standards
- Too many standards/ guidelines
- Deadline to be finished
- Structure "Old Chapter 5"

- Achieving consensus
- Understanding different viewpoints
- Relationship building
- Good technical discussions
- Promoting HF & HF community
- Getting HF into document & structure

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OVERALL STRUCTURE NORSOK S-002 & ANNEXES

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OVERALL STRUCTURE NORSOK S-002 & ANNEXES

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OVERALL STRUCTURE NORSOK S-002 & ANNEXES

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6.12 Working environment area limits 39

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HF REQUIREMENTS IN MAIN DOCUMENT

- 6.1 Arrangement and facilities
  - e.g Access, handrails, reach, controls and displays
- 6.2 Specific Task related design requirements
  - e.g. Material handling, maintenance
- 6.3 Special Area related design requirements
  - e.g. LQ, control rooms, drilling and well area

OVERALL STRUCTURE NORSOK S-002 & ANNEXES

Normative Annex A – General Working Environment Activities

- Project Screening of Working Environment and Human Factors Activities
- Experience transfer
- Situational analysis of Brownfield projects
- Working Environment Input to the Design Basis
- Input to technology evaluation including BAT
- WE Programme
- Manning and Organisation Study
- Task Analysis
- Working Environment Risk Assessments
- Working Environment Area Limits and Charts
- Working Environment Area Chart (WEAC)
- Validation and Verification Activities
- Working Environment Inspections
- WE Summary Report

NORSOK S-002 ANNEX OVERVIEW

- Normative Annex A – General WE activities
- Normative Annex B – Follow Up procurement packages (old S-005)
- Normative Annex C –Human Factors activities
- Normative Annex D – Procedures for Noise and Vibration Controls
- Normative Annex E – Chemicals

- Informative Annex F –Methods for WE Risk Assessment

OVERALL STRUCTURE NORSOK S-002 & ANNEXES

Informative Annex F - Methods for WE Risk Assessment

- Task analysis
- Working Environment Risk Assessment (WERA)
- Chemical Health Risk Assessment
- Job Hazards Analysis
- Ergonomic Risk Assessment
- Guidelines for Valve Criticality Analysis
- Noise Exposure and Noise Risk Assessment

ANNEX C STRUCTURE, STUDIES /ACTIVITIES

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4.10 Access (previously Valve) Criticality Analysis 13
4.11 Skid Analysis 14
4.12 Physical workload / handling 14
4.13 Psychosocial Evaluation 14
4.14 Organisation and manning analysis 15
4.15 Mental workload 15
4.16 Illumination (Include in Chapter 6 Requirements & HF for control rooms) 15
4.17 Command, Control and Communication environments 16
4.18 Human Machine Interface 18

HOW TO PROVIDE COMMENTS / TYPE OF COMMENTS

- In workshops to workshop reporter
- Reporters to summarise - forward text
- Written e-mail comments: adam@hfs.no
- Through own company - standard is for comment

NO
- More of this/less of that
- Text does not mention this/that
- Why is this included/not included?

YES
- Replace text in 6.3.2.1 with "xxxxxxx".
- Rationale: ISO/EN/…

STATUS/PROCESS NORSOK S-002

- Main document & annexes being edited (October)
- Formatting – Standard Norway
- Rationale for changes made
- Public hearing Q4/Q1 – **YOUR COMMENTS**
- Handling of comments by HF sub-group
- Approval by Standards Norway "Sector" Committee
- Publication 2015

INTRODUCTION TO WORKSHOPS

- Workshops A - E
- Workshop leaders A - E
- Scribes for workshops A - E
- 8 – 10 participants/workshop
- Rooms/locations Workshops A - E

WORKSHOP A: NORMATIVE ANNEX C "HUMAN FACTORS"

- **Workshop leader: Adam Balfour, HFS**
- **Tasks**
  - Review / fill in table in Annex C
    - show what HF activities should be performed when in design process
  - Critique Normative Annex C "Human Factors"
    - go systematically through document and identify areas that are good, missing, need improvement
  - Critique HF activities relocated from Annex C to Normative Annex A "General Studies"

WORKSHOP B: MAIN DOCUMENT – REQUIREMENTS SECTION

- **Workshop Leader: Andy Kooijmans, Shell**
- **Tasks**
  - Critique structure of Chapter 6 "Requirements" in main document (old chapter 5 in 2004 version)
  - "Screening activities"
    - Define/describe "screening activity" including HF screening.
    - What HF competence should be involved in HF screening?
    - What process should be gone through?
    - Describe a method including documentation requirements.
  - "Competence"
    - Define/describe "competence" (for performing studies in general)
    - Define/describe competence requirement for performing HF activities/analysis

WORKSHOP C: HMI AND ALARMS

- **Workshop Leader: Håkon Augensen, Norsk Ergonomi og Human Factors Forening**
- **Tasks**
  - Review HMI and Alarm related requirements in main document, Annex C and Annex F

WORKSHOP D: TRENDS IN OIL & GAS / HF /STANDARDS ISSUES

- **Workshop Leader: Bjørn Hellesøy, DNV**
- **Tasks**
  - Trends - what are the major trends (societal, technological, financial etc)?
  - What are implications for Oil and Gas?
  - What are the HF issues that should be addressed in the NORSOK standard?

WORKSHOP E: OPEN WORKSHOP

- **Workshop Leader: To be appointed by group!**
- **Tasks**
  - Open workshop where participants decide topic/theme to discuss
    - Present argument for why NORSOK S-002 should be called “Working Environment and HF” as opposed to just “Working Environment”
    - Trends – efficiency/cost reduction. How can HF contribute to reducing total costs in design/construction of installations? Where should this be described?
    - Annex F - Informative - Methods - Review methods - add as appropriate in format given in Annex F

PLENARY WRAP UP

- Report back from workshops A - E
- Summary from workshops
- Distributed by HFC

- Written comments to:
  - **Adam Balfour:** adam@hfs.no
  - **Andy Kooijmans** Andy.A.Kooijmans@shell.com
  - **Håkon Augensen** hakon@hfs.no

- Other NORSOK information meetings:
  - *“Norsk Forum for Olje ergonomi”*, 13.11.14. Human Factors Solutions, Ski
  - *“Norsk Ergonomi og Human Factors Forening”*, TBA, Oslo
  - Public hearing – Standard Norway, TBA.

DRAFT - WORK IN PROGRESS