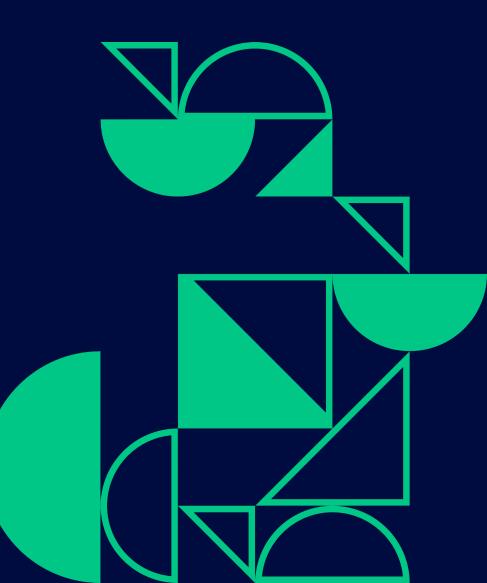
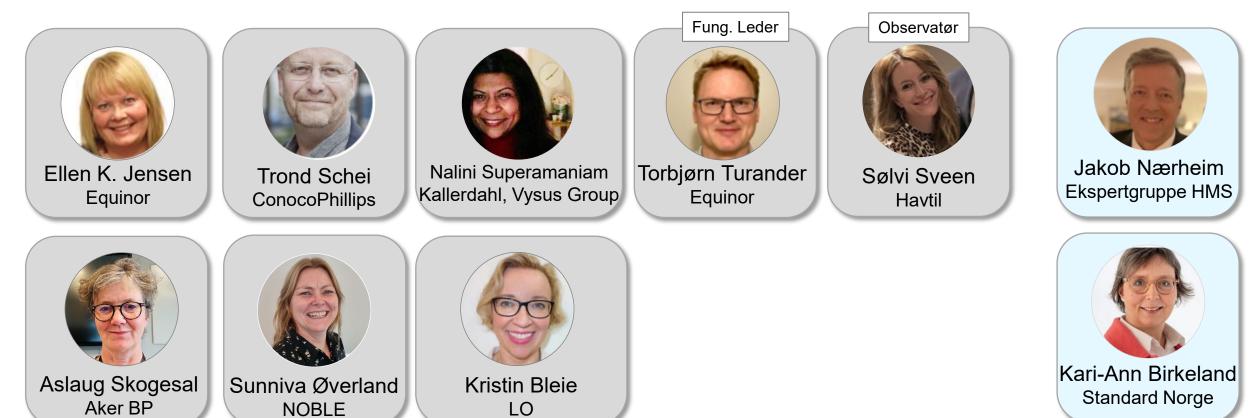


## S-002 Working Environment, 2025 Public Enquiry

Torbjørn Turander Standard Morgen 03. februar 2025









#### S-002 development rules – A-001 and ISO/IEC Directives Part 2

Norsok A-001 refers to the ISO rules of standardisation in <u>ISO - Directives and</u> <u>Policies</u>.

Part 2, Principles and rules for the structure and drafting of ISO and IEC documents, includes writing rules. Chapter 7, 8, 9 and 10 are particularly relevant.

Chapter 5 provides principles for structure and writing (performance principle, verifiability, consistency).

#### 7 Verbal forms for expressions of provisions

- 7.1 General
- 7.2 Requirement
- 7.3 Recommendation
- 7.4 Permission
- 7.5 Possibility and capability
- 7.6 External constraint
- 8 Language, spelling, abbreviated terms, style and basic reference works
  - 8.1 Language versions
  - 8.2 Spelling reference works
  - 8.3 Spelling and abbreviated forms of names of organizations
  - 8.4 Abbreviated terms
  - 8.5 Linguistic style
  - 8.6 Inclusive terminology

#### 9 Numbers, quantities, units and values

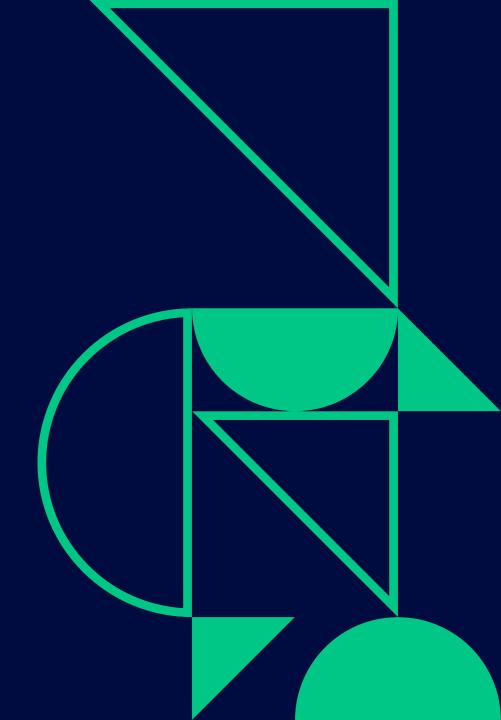
- 9.1 Representation of numbers and numerical values
- <u>9.2 Representation of numbers, symbols for variable quantities and numerical values for programming languages, pseudo-code and mark-up languages</u>
- 9.3 Quantities, units, symbols and signs
- 9.4 Values, intervals and tolerances

#### **10 Referencing**

- 10.1 Purpose or rationale10.2 Permitted referenced documents10.3 Presentation of references10.4 Undated references
- 10.5 Dated references
- 10.6 References in a document to itself

## S-002:2025 Public Enquiry document

Main changes comparred to 2018 revision



#### Foreword

Changes from the previous revision are based on user experiences and comments received:

- Requirements in the normative part of the document now include text that was previously in the informative annexes B, C and D;
- Significant amendments to annexes B, C and D;
- The inclusion of a new sub-section on radiation;
- Modification projects have been given a clearer set of requirements;
- Clearer differentiation between "shall", "should", "may", "can" provisions, examples and notes;
- Updates to tables and data sheets, which are now available in formats which make them easier to use;
- A requirement for system for removal of mercury has been included.



#### **Terms and definitions - summary of main changes**

Hearing comments on inconsistency in type of terms included have been adressed. Fewer terms are included.

• New definition of 'closed system'

In general:

- Terms should only defined if it impacts the understanding of a requirement
- Definitions should be aligned with other ISO standards
- Avoid generating new definitions



### 5 Management process - summary of main changes

- Minor changes
- Tidying of language and clear destininction between Shalls, Shoulds, Mays and Cans.
- Requirement included about handover report from project organisation to operations.
- 5.7 Verification validation is removed
- 5.8 Experience transfer changed from a one off workshop to a continous process
- 5.8 requirements for modification projects included
- **5.9 Requirement removed** "Package suppliers shall have an ongoing process for identifying problem and improvement areas, as well as verifying solutions against requirements and documenting this."



### 6 Area design - summary of main changes

Tidying of language and clear destininction between Shalls, Shoulds and Cans.

- 6.1 Added requirement regarding handwashing and toilet facilities
- 6.2.1 New and clearer requirement regarding permanent access
- 6.3.2 New chapter on design of control rooms and control cabins
- 6.3.3 Drilling and wells New and revised requirements regarding chemical exposure and handling



# 7 Working environment factors design - summary of main changes

- 7.2 Noise and vibration
  - New requirement regarding tonal noise in "quiet areas"
  - Reverberation times requirements changed back to v.4 (2004) of S-002
  - New section on evaluation of flow induced noise for gas piping
  - New section on evaluation of noise in modification projects
  - Vibration isolation requirement made clearer
- 7.3 Chemical exposure
  - References to legislation removed
  - New 'shall' requirement on system for removal of mercury
  - New requirements related to benzene, diesel exhausts and pigging
  - Requirements for cleaning rewritten and collected



# 7 Working environment factors design - summary of main changes

- 7.4 Lighting
  - New shall requirement regarding LED
  - Revised requirement regarding emergency lighting
- 7.5 Radiation (new section)
- 7.6 Indoor Climate
  - In dialogue with Norsok H, hope to move most of the design requirements to H standard and functional requirements in S standard.
- 7.7 Physical ergonomics
  - Separated from HMI
  - Some requirements for doors and operator chairs from v.4 of S-002 reintroduced
  - Valve access requirements introduced



# 7 Working environment factors design - summary of main changes

- 7.8 HMI
  - Separate chapter
  - Examples of control rooms and cabins included
  - Normative reference to EEMUA 191 included
- 7.9 Outdoor operations
  - Safety equipment requirement moved from here to 7.3 Chemical exposure



### **8 Working Environment Area Limits**

- Table vertical and horizontal clearences and distances
  - min or max requirements tidied
  - 700mm space for working is now diameter
  - Distance between handwheel/wrench on valves and an obstruction added comment regarding finger operated valves
  - The centre height of control devices min 1100 added
  - Maximum variation in platform level without intermediate step, now 300



### 8 Working Environment area limits

- Table Working environment area limits
  - v.4 version of S-002 vibration limits and categories reintroduced
  - New temperature requirements for helicopter hangar
  - Noise requirements for helicopter noise in day sleeping cabins, Lp,AS,max unit included
  - Notes on cabin temperature and mud processing room noise removed



#### **Annex A - summary of main changes**

Major changes to normative Annex A

- A2 minor changes
- A3 Manning study requirements are changed significantly. New focus is to give input to WE analysis.
- A4 New section related to Package follow-up, list of analysis included, requirements are moved from informative annex
- A5 Noise section changed significantly, list of analysis included, some requirements moved from informative annex



#### **Annex A - summary of main changes**

- A6 Ergonomics section some changes and updated with more modern evaluation methods
- A7 Chemicals clearer requirements that the process stream, H2S, mercury, benzene and diesel exhaust shall be included in assessments
- A8 Weather protection minor changes
- A9 HF Major re-write, list of analysis included, some requirements are moved from informative annex
- A10 WE Design review minor changes
- A11 WEAC requirements changed to focus more on verification and datasheet is remade

### **Informative Annexes**

- B Packages and machinery some text moved to normative Annex A. Significantly rewritten and shortened. Checklist updated.
- C Human factors –. New Annex C rewritten from scratch. Significantly shortened. Some text from old Annex C moved to normative Annex A
- D Noise some text moved to normative Annex A. Significantly re-written and shortened. New noise datasheet template.
- E Chemicals Changes hopefully leading to better logic in applying the method. Tables updated
- F Job hazard minor changes
- G Ergonomics Changes hopefully leading to better logic in applying the method. Tables updated
- H Weather protection Changes hopefully leading to better logic in applying the method. Tables updated





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