

# Endringer i NORSOK og ISO

Konstruksjondagen 2024

Tone M. Vestbøstad, EG-N leder







- Digitalisering
- Tilpasning til havvind
- Eksisterende konstruksjoner

Tenk deg en verden uten ...



# EG-N komiteen

## Mandat

- Ivareta industriens behov for utvikling av standarder innen sitt fagfelt
- Koordinere nasjonale og internasjonale aktiviteter
- Gjennomføre vedtatt arbeidsprogram
- Faglig møteplass

## Representert i komiteen

- Aibel AS
- Aker BP ASA
- Aker Solutions ASA
- ConnocoPhillips NORGE
- DNV AS
- Dr Techn Olav Olsen AS
- Equinor ASA
- Norges Teknisk-Naturvitenskapelige Universitet NTNU
- Havindustritilsynet
- Vår Energi ASA

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# Oversikt over NORSOK N- og ISO19900-serien

- N-001:2021 Integrity of offshore structures
- N-003:2017 Action and action effects
- N-004:2022 Design of offshore structures
- N-005:2017 In-service integrity management of structures and maritime systems
- N-006:2015 Assessment of structural integrity for existing offshore load-bearing structures

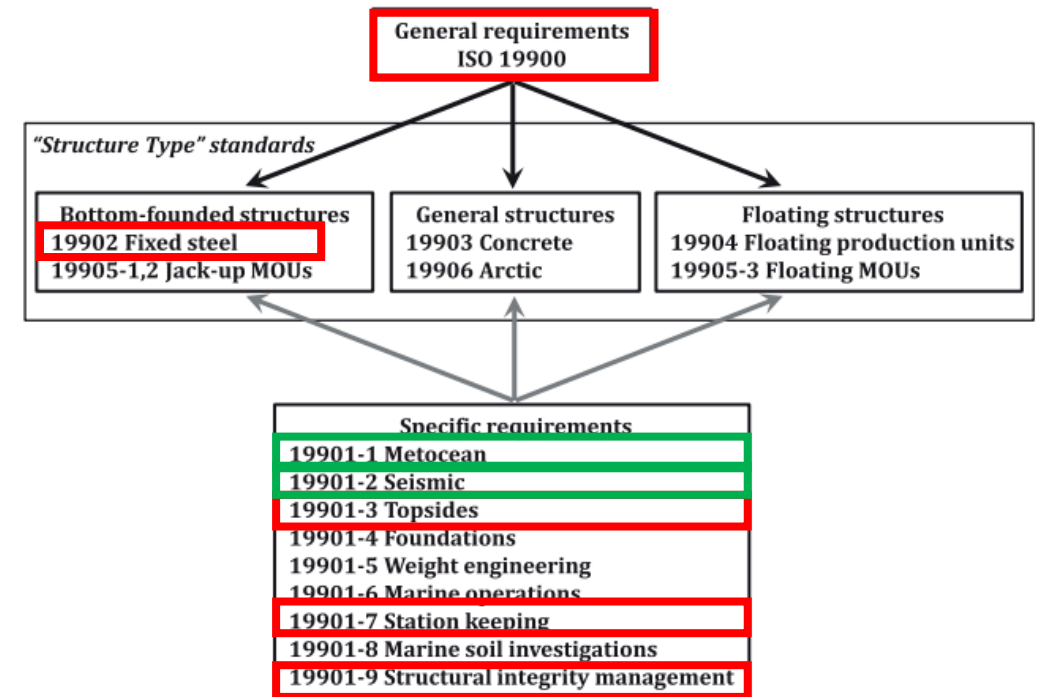


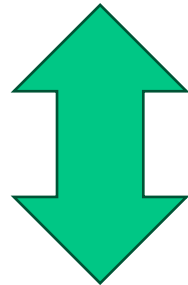
Figure 1 — Relationship of International Standards on offshore structures prepared by TC67/SC7

Tidsplan: ~~Høring Q1 2024, Publisering Q4 2024~~

Høring Q1 2025, publisering Q4 2025

# Tilpasning for Havvind

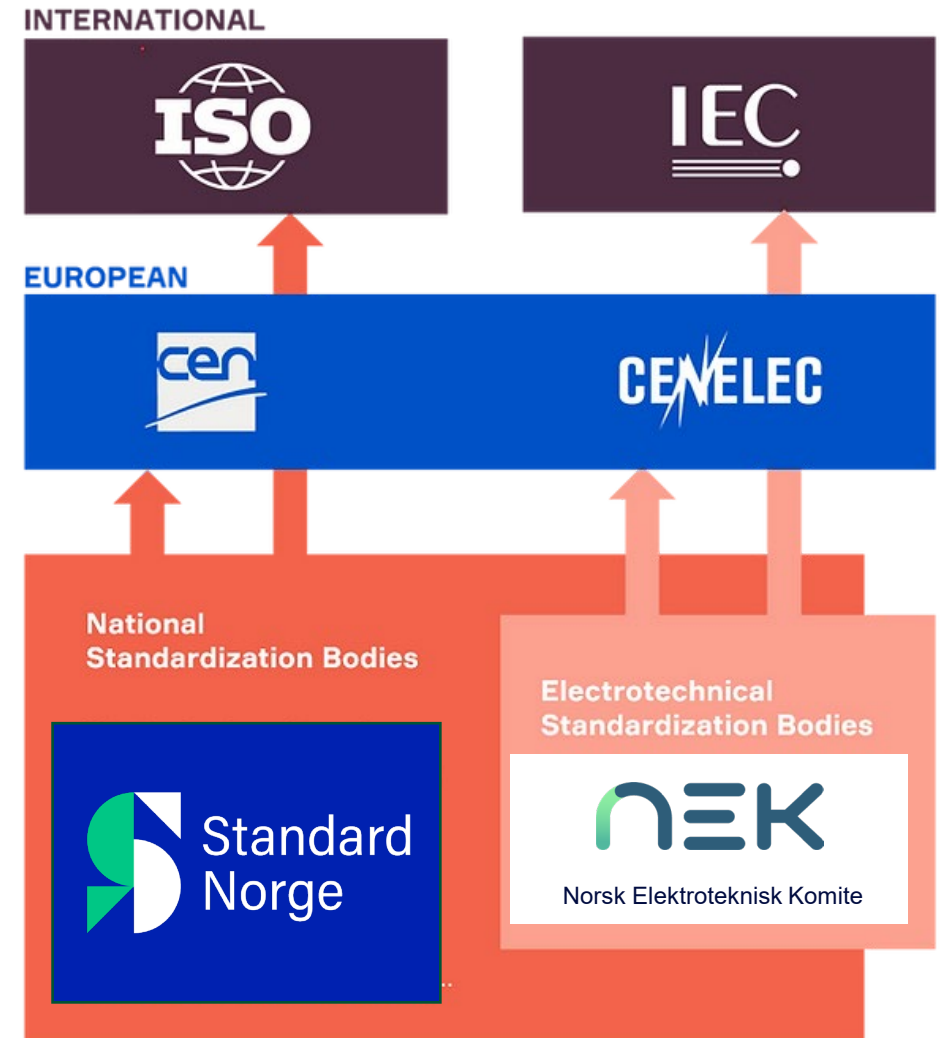
IEC/TC88 –Wind energy: 61400 series



ISO/TC67/SC7 – Petroleum & natural gas industry: 19900 series



JIP35 Phase 4



# Normative referanser i IEC 61400-3-1

| <u>Publication</u> | <u>Year</u> | <u>Title</u>                                                                                                                                     | <u>EN/HD</u>   | <u>Year</u> |
|--------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------|
| IEC 60721          | series      | Classification of environmental conditions                                                                                                       | EN IEC 60721   | series      |
| IEC 61400-1        | 2019        | Wind energy generation systems - Part 1: Design requirements                                                                                     | EN IEC 61400-1 | 2019        |
| ISO 2394           | 1998        | General principles on reliability for structures                                                                                                 | -              | -           |
| ISO 2533           | 1975        | Standard Atmosphere                                                                                                                              | -              | -           |
| ISO 19900          | 2002        | Petroleum and natural gas industries - General requirements for offshore structures                                                              | -              | -           |
| ISO 19901-1        | 2015        | Petroleum and natural gas industries - Specific requirements for offshore structures - Part 1: Metocean design and operating conditions          | EN ISO 19901-1 | 2015        |
| ISO 19901-4        | 2003        | Petroleum and natural gas industries - Specific requirements for offshore structures - Part 4: Geotechnical and foundation design considerations | -              | -           |
| ISO 19902          | 2007        | Petroleum and natural gas industries - Fixed steel offshore structures                                                                           | EN ISO 19902   | 2007        |
| ISO 19903          | 2006        | Petroleum and natural gas industries - Fixed concrete offshore structures                                                                        | EN ISO 19903   | 2006        |

# IOGP JIP35 Phase 4 Wind project

- Formål
  - Foreslå en «bruker rute» som skal følges for havvindkonstruksjoner
  - Identifiser endringer i ISO19900-serien for å fasilitere dette
  - Arbeidsantagelse: Laster i IEC 61400, kapasitet i ISO19900
- Deloppgaver:
  1. Gapanalyse (mangler og overlapp i standardene, inkl DnV m.fl.)
  2. Ønsket sikkerhetsnivå
  3. Kalibrere av returperioder og sikkerhetsfaktorer
  4. Identifisere endringer i ISO19900-serien
  5. Revidere relevante standarder





- Digitalisering – **AI?**
- Tilpasning til havvind
- Eksisterende konstruksjoner
- **Bærekraft**

Tenk deg en verden uten ...



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